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Original Articles.

ON THE HEALING OF TUBERCULOSIS (CLINICAL FEATURES).[*]

By HERBERT MAXON KING, M.D.,
LIBERTY, N. Y.
PHYSICIAN TO THE LOOMIS SANATORIUM.

THE work of Naegeli, Franz, and others showing the apparent almost universal diffusion of tuberculosis, at least among the residents of more thickly populated communities, has necessarily somewhat modified our views with regard not only to the distribution and curability of the disease, but to its etiology and history, and especially to the clinical features characterizing its onset, progress, and decline.

It seems to be a reasonable and certainly a growing conviction that practically all who reach 20 or 30 years of age have become infected and harbor in some obscure corner of the organism latent tuberculous foci lacking only suitable conditions to spring into activity. That tubercle bacilli effect anatomical changes sufficient to be recognized post-mortem would imply that at some time subsequent to the infection there must certainly have been an active lesion, however minute and whether or not clinically demonstrable. Thus, in a sense, practically every apparently healthy adult is, after all, but an arrested case of tuberculosis. It seems probable that if our knowledge of the etiology and early history of the development of the disease were more accurate, or, in other words, if we were able to differentiate decisively early and obscure foci of tubercle from a hundred other causes of slight departures from the normal, we should find at some time in the early life of nearly every individual that clinical evidence which would support the startling and almost sensational announcements from the autopsy chamber.

It is inconceivable that tubercle formation can progress to a point histologically recognizable without, to some extent, disturbing metabolism at least temporarily. Undoubtedly there is always an attending symptomatology, which, so far, we have failed to identify from clinical indications of other and comparatively insignificant disturbances. I cannot doubt, however, that tubercle formation, however remote from vital organs and however circumscribed in area, must give rise to distinctive clinical features, which an improved technique in diagnosis and, what is of greater importance, a more comprehensive knowledge of the disease shall enable the clinician to recognize.

If, then, we accept the conclusions which seem unavoidable from such experience as that of Naegeli, which we may do, at least tentatively and for the sake of argument, remembering always Adami's invaluable protest against accepting half-truths for whole truths, the old question once more arises why, if all are subjected to the infection, does the vast majority escape and only a comparatively small proportion develop a recognizable tuberculous lesion? Here we are almost forced to take refuge in what we might term Dr. Osler's parable: "The seed falls on stony ground," and the reason why tubercle does not go on to clinically recognizable lesions in those who escape lies in the unsuitability of the soil. But was the soil unsuitable *before* infection? Apparently not, for we find at the post-mortem even in these individuals unmistakable evidence of past or present lesions which seem to prove, in just so far as they have progressed, the degree of inhibitive immunity which the individual had acquired by the vaccination process of tubercle formation.

Both clinical and pathological experience indicate that there is a tendency to prompt reactionary phenomena on the part of the infected organism—that there is a tendency from the beginning toward limitation and healing of the tuberculous focus. It would, however, appear as hardly probable in the light of present views on immunity, that there is at birth an appreciable difference in susceptibility between individuals, unless we accept the theory of inherited predisposition or inherited immunity as the case might be. This seems true, at least so far as tuberculosis is concerned, since practically all carry the lesion or its scar as an evidence of original susceptibility. Those who have never given recognizable clinical evidence, therefore, are the fortunate ones whose physical condition at the time of the infection was such as to permit of the most immediate and sufficient production of antibodies in the blood and protective tissue changes at the seat of the lesion. In the unfortunate minority it is fair to suppose that either an increased quantity or virulence of the infecting virus or a lowered vitality (acquired) on the part of the infected organism is responsible for the appearance of distinctive clinical features of tuberculosis.

This, I am aware, is a digression, but as the clinical features of a healing lesion are chiefly concerned in the remission and disappearance of the symptoms which attended the development of the disease, and as these symptoms can so frequently be traced far back of an interval of comparative health to a period remote from the date of supposed onset of the disease, it seems desirable that we should make an effort to discover, if there be not clinical features attending tubercle formation in that class of individuals not recognized as tuberculous, and analyze these features, if they are found to exist.

With this end in view a painstaking and exhaustive inquiry into the past history of a tuberculous invalid is often full of surprises. One feature, for instance, recurs with such persistent frequency that it merits some attention; this is the striking difference in time between the first presumptive evidence of disease and the first demonstrable evidence, which is often a period of many years marked by apparently perfect health, so that at the onset of the recrudescence the original outbreak has been forgotten by the patient or regarded as having no relation to present trouble. During this interval the patient is supposed neither to have nor to have had tuberculosis, yet the subsequent development of demonstrable evidence justifies the presumption that a potential disease focus existed from the start, and was during the healthy interval merely in a state of arrest. Thus, it not infrequently happens that a history of the present attack and a physical examination of the chest justify a diagnosis of incipient tuberculosis, whereas a further inquiry into the past history shows the case to be one of recrudescence of a healed or arrested lesion.

---

[*] Read at a meeting of The Lænnec Society for the Study of Tuberculosis, Johns Hopkins Hospital, Baltimore.

More often than is supposed the real incipiency of the disease is marked by sharp constitutional disturbance. Indeed from clinical experience one might reasonably conjecture that such a reaction on the part of the organism were essential to the healing of the focus and the production of an immunity and to look with serious suspicion upon the supposedly ideal incipient case, where physical signs in the chest are very slight and constitutional disturbance *nil*, yet with scattered bacilli in the sputa.

Will you pardon an illustration in point? A few weeks ago a patient was admitted to the sanatorium who presented the appearance of as perfect a specimen of robust health and muscular development as can well be imagined. Three weeks prior he had consulted his physician because of chills and fever following violent exertion. Slight apical lesions with very little activity were discovered. The patient casually remarked that he had never been really sick, and weighed more than ever before in his life. There were a few bacilli demonstrable in the very scant expectoration. Appearances certainly seemed to point to this case as incipient, or at least as of very recent origin, and yet the very fact of the absence of constitutional symptoms, showing no little degree of immunity on the part of the patient, suggested a longer duration of disease than was otherwise indicated. The following history, which it seems to me is very instructive, was elicited:

The patient was the first child of healthy parents, who are still living. He was said to be a sickly child. Had measles, mumps, pertussis, and chickenpox before 11 years of age, when he was taken abroad and placed in a boarding school in Vevey, Switzerland. There outdoor athletic sports formed a part of the curriculum. His health and strength greatly improved, and at 14 years he was brought home and placed in a boarding school near Boston, where he continued outdoor exercise (football and later rowing). "German measles," with subsequent catarrhal affection of the throat, occurred at this time. At 18 years he weighed 150 pounds. In 1896, at 19 years, he entered upon his university course at Harvard, weighing 168 pounds. He went in enthusiastically for football and rowing, and was evidently overtrained during his freshman year, losing considerable weight. Appetite and digestion failed, and he was treated for "stomach trouble." During the summer vacation he recovered weight and general health.

The following three years of his university life were not marked by sickness, although he always complained of digestive disturbances during the periods of hard physical training, and remembers having a more or less constant cough at such times. After graduation, in 1900, he spent a year in a manufacturing business, which admitted to a great extent of an outdoor life. In 1901 he entered a banking house, and was much more confined. He still spent his leisure hours in the pursuance of outdoor sports, especially rowing. Within a few months, however, he noticed a recurrence of the hacking cough, which now was attended with expectoration, but, as his general health and weight were unaffected, he paid no attention to the symptoms.

In July, 1904, an unusual exertion (rowing in a
scull race) was followed by a severe chill, an
ably fever, although he saw no physician ar
tinued his exercise. In September he notice
and fever, the latter reaching 102° F. on on
sion, after very violent exertion. Finally,
the last of September, he sought medical o
and was found to have tuberculosis.

There are many interesting questions su
by such a clinical history, and some which, I
are not irrelevant to our present purpose. W
here a patient to outward appearance in
health, yet with indutiable evidence of pul
tuberculosis. The present entire absence of
tutional symptoms, together with a history
suspicious, though vague, attacks, recurring a
vals since 1896, a period of eight years, s
indicate that the disease is not of recent orig
we were to accept v. Behring's conclusions, it
require no great stretch of imagination to tr
original infection to the sickly period of his i
or early youth. But, without going so far, w
safely place the first presumptive evidence
ease at least three or four years prior to the
nation. During this time we have a recor
more or less constant struggle between the
and the organism. Injudicious physical ove
ing, and possibly temporary interference
nutrition as a consequence or concomitant, h
variably been attended with or followed by
appearance of certain symptoms. These, ho
do not assume definite meaning until the
gives up in part his life in the open for one o
confinement.

Ever since the infection occurred then, wh
this may have been, there have been repeate
tially successful, attempts on the part of the
ing forces of the organism to eradicate the d
There have been periods of apparently
health, when unquestionably the disease was
complete arrest, only to reappear, however,
the defense was, as it were, weakened for th
ment by excessive expenditure of energy and
ference with nutrition, requiring of the body
so to speak, increased work on decreased ra

The history of this one patient presents nu
instances of "recovery" from tuberculosis,
think we may so regard each rebound after th
eral attacks. Furthermore—and I would no
you think me pessimistic if I express the opi
these recoveries were perhaps as complete as a
achieved in tuberculosis. It is, of course, imp
of demonstration, but fair to suppose, that
patient had been made aware of the nature
disease and had intelligently governed his fut
tions and environment accordingly, let us say
time of his first supposed overtraining in 18
there would not have been a recrudescence, a
would have been well to-day, *i.e.* he would
presented no demonstrable evidence of disease

Will you forgive me if I cite one more case
ing on this point? In this instance unusual fa
obtained for getting accurately at dates and fac
the history has a proportionately greater value.
patient was the first child of healthy parent
living, born a full term, weighing five pound
breastfed, and grew rapidly. He was pe
healthy until taken from the breast at one y
age. From this time until after dentition h
subject to digestive disorders; he had "gastri
three years of age. After dentition he b
healthy and strong. Had measles at seven
chicken pox and mumps a short time after. I
mained well thereafter until 1900, when h
"jaundice." He was then 21 years old and in c
at Harvard. This attack, which was attended

fever, confined him to bed for three weeks. Convalescence was slow, but apparently complete.

Graduating in 1901, he left Boston in June, and spent four months prospecting for ore north of Lake Superior. The party at first consisted of an instructor and three students, a cook, and a canoeman. One of the students had a cough and expectoration. All slept side by side in a tent. In August the patient left this party to make up another of his own, consisting of himself and three Indian half-breeds. They proceeded north nearly to Hudson Bay. As in the former case, the party occupied a single tent and slept side by side. The youngest half-breed coughed and expectorated, and was said to have had consumption (much of the preparation of the food was left to this man).

The actual physical labor involved in this expedition was severe. The marches were long and toilsome, and the patient frequently carried on his shoulders more than his own weight over long "carries." He returned to Boston in October apparently in robust health. A few days afterward, however, he developed an acute pleuritis with effusion, and was in bed for three weeks. The lung was said not to have been affected. Recovery was apparently complete, and before January, 1902, he was in better health and weighed more than ever before in his life. In July following he went to Pueblo, Colorado (altitude, 5,000 feet), as chemist for a mining company, still apparently in perfect health. He was now closely confined to the laboratory and much exposed to the fumes of chlorine, bromine, and sulphuric acid. Three weeks later he was transferred to a mine in Mexico, where the altitude was somewhat greater; here he reports "catching cold," and cough, expectoration, and slight hæmoptysis followed; but, although the cough and expectoration continued, he did not seriously regard them until April, 1904, when he was transferred to Leadville (altitude 10,500 feet). Here the symptoms increased, and finally compelled his return to Boston in October. It is, of course, unnecessary to say that extensive structural changes were plainly evident in the lungs at this time; that and subsequent events in this case do not for the present concern us. The interesting points, it seems to me, are (*a*) the source and date of the infection; (*b*) the earliest clinical manifestations of the disease; (*c*) the phenomena attending the first prompt and apparently complete arrest of the disease, and the causative factors of recrudescence.

(*a*) As to the source and date of the infection, if one wished to support a theory, and that theory happened to be v. Behring's, there would be a temptation to take as sufficient evidence of infection the digestive disturbance and "gastritis" which occurred during the cow's milk drinking period coincident with dentition, but I think for present purposes we may pass over that incident, as well as the attack of jaundice during his college life, and with propriety consider the patient to have been healthy and without tuberculous infection when he left Boston for the camp life and hard, manual labor of his prospecting enterprise in the Northwest. Here, at least, we have a very plausible history of exposure to infection from close contact with two probable, coughing consumptives extending over a period of several months. Incidentally, it is interesting and somewhat surprising to discover that infection may occur even while one is living day and night in the open air in the wilderness and in an ideal climate if individual conditions otherwise favor it.

In the absence, then, of evidence to the contrary, it is fair to concede that in this case infection occurred during a prolonged, intimate contact with one or two presumably careless consumptives, and that a tuberculous lesion became manifest immediately at the close of this period of exposure.

(*b*) The earliest clinical manifestation of disease then was undoubtedly the attack of pleuritis with effusion, notwithstanding opinions to the contrary at the time of the attack and immediately afterward. And this brings us to the point of chief interest to the present discussion.

(*c*) The phenomena attending the first arrest of the disease. The attack was sudden and sharp—in fact, a typical, tuberculous pleuritis, and there followed the usual prompt and complete convalescence which so frequently lulls suspicion and encourages relaxation of after vigilance; indeed, even when recognized as tuberculous, this form of onset, by pleuritis with effusion, has, I think, come to be regarded clinically as most promising in prognosis. There seems to follow these sharp pleuritic invasions a more rapid and vigorous immunizing process in the organism, and I should say, though I cannot at the moment substantiate my opinion, that there are fewer relapses among patients of this class than is the case where the onset is characterized by intrapulmonary changes. After the absorption of the fluid, physical signs in the chest disappeared, together with all other symptoms; the return to normal was so complete in fact that every assurance was given to the patient, and family that the attack was not tuberculous, but with the knowledge of its true nature, which subsequent events made possible, one can see in this convalescence all of the clinical features, in miniature, as it were, which characterize the healing of tuberculosis; this arrest of the disease, moreover, was, perhaps, as I ventured to say with regard to the other case, as complete as is ever possible in this disease.

The chief causative factor in the recrudescence which occurred in this case was obviously the exposure to unhygienic habits and environment, and there is no sufficient reason to believe that such recrudescence would not have followed similar exposure, even if suitable precaution on the part of the patient had prolonged the interval of arrest to five years, *i.e.* the period generally conceded as justifying the term cured.

It is rather curious I think, and worthy of note, that in this case the infection took place while the patient was living in the open air and under fairly ideal climatological conditions, that arrest of the disease, followed by subsequent periods of apparent perfect health, occurred in a climate supposedly very conducive to the development of tuberculosis, and finally that recrudescence occurred in a climate and at an altitude world-famed for its curative virtues in this disease. Of course, there is a sufficient explanation in each instance, but it all goes to prove that care is a more important element than climate in effecting the development, as well as the cure, of tuberculosis.

Before turning from a subject, which, though necessarily interesting, is, I fear, an unpardonable digression, I wish again to call attention to the frequency with which it is possible to trace in the history of a tuberculous patient a first presumptive evidence of disease, followed by a more or less extended interval of apparent health before arriving at the demonstrable onset, which, in the light of the history, must be considered a recrudescence. Thus, in the last thirteen cases discharged "apparently cured" or "arrested" from the sanatorium, whose physical condition upon admission (irrespective of the history) justified a classification as "early with mild symptoms," *i.e.* incipient, the average time elapsing since the first presumable evidence of disease was found to be one year and ten months, with a maximum of six years and a minimum of four months. On the other hand, the early acute cases seldom give a history of more than a few months from the first presumptive evidence.

This seems to lend support to the view that the first development of tuberculosis is characterized by more constitutional disturbance than is generally imagined. It is probable that a very large proportion of the "grippes," "malarias," "typhoid fevers," etc., which find their way into our history charts represent in reality the acute constitutional manifestations of the early stages of the disease. Furthermore, it seems not unlikely that these early acute symptoms may be the result of definite reactions essential to the immunizing process in the organism.

To consider more specifically the various clinical features of a healing tuberculous lesion, it is desirable to assume a more or less typical clinical picture of the disease—one which shall present well-marked physical signs in the chest and the classical symptom complex. Assuming that such a case be brought under conditions favoring recovery, and that convalescence supervenes, the first and most important clinical evidence of the onset of the disease, the fever, will also be the first and most important symptom to disappear. Arrest of activity in a tuberculous focus can never be said to have been accomplished until there has been an absolute return to normal of the temperature, and a relative approach to normal of the pulse rate and arterial tension.

The disappearance of fever in such cases is a feature which suggests that a degree of immunity has been established without which the healing process cannot go on. With the subsidence of fever there follows an improvement in appetite and digestion, as a rule, and correspondingly an increase in weight. These features are especially marked in the convalescence which follows the first outbreak of the disease, and remind one of similar phenomena which occur after typhoid. An improvement in the general health and vigor of the patient follows, and altogether the rebound frequently carries the patient into a much better physical condition to all appearances than was the case prior to the attack. Unless, indeed, the tuberculous nature of the attack has been demonstrated beyond a doubt, the prompt and apparently complete return to health is often liable to be interpreted as an evidence that the attack was non-tuberculous, and subsequent precautions against relapse neglected in consequence.

In the arrest which follows a first onset of the disease physical signs in the chest disappear with comparative celerity, together with the fever and disturbances of nutrition. With the cause thus removed, cough and, if there be any, expectoration cease, and there is left in a surprisingly short time scarcely a demonstrable evidence of any departure from normal. With every subsequent recrudescence, however, as would naturally be expected, structural changes in the lung become more extensive, and the repartive process is correspondingly retarded. The fever may subside almost or quite as promptly as before, and the weight, if decreased, may be regained, while cough and expectoration and physical signs in the chest persist with a tenacity often discouraging to both patient and physician. Finally, when several relapses have occurred, or when healing has been for any reason much delayed in the case of a first outbreak, organic changes become permanent, and certain physical signs, which may be said to be indicative of a healed lesion, remain never wholly to disappear.

In the acute stage of the onset or recrudescence of a tuberculous lesion, as in most other toxæmias or
septic infections of an acute nature, there
abnormalities in the urine, both in chemical
and in the character of the formed elements,
unfortunately these are not sufficiently dis
with our present knowledge to be pathogn
They consist chiefly in a more or less transi
intermittent albuminuria and the presence of
casts and cylindroids, together with epitheli
cocytes, and not infrequently red corpuscles
sediment. Apparently these signs do not
more than a temporary renal congestion, sin
readily disappear early in the healing process
a transitory diazo-reaction may be present
the first acute onset without unfavorable pr
significance.

Dr. Neagle, of my staff, has recently sum
and tabulated from the sanatorium records t
cal features of fifty discharged cases. He
vided these into groups, according to condi
admission, as follows:

(*a*) Fourteen early cases, with slight pul
involvement.

(*b*) Twenty-five cases, presenting modera
stitutional disturbances, but more or less ex
pulmonary involvement, and an average pres
duration of disease of five years, including i
of arrest.

(*c*) Eleven cases with acute or otherw
favorable manifestations, either local or c
tional, and with a presumable average dura
disease of two years and two months.

Some of the results of his investigation
interest in the present discussion. In Grou
instance, he found that upon admission, or
time during sanatorium residence, there wa
ent a positive diazo-reaction in two patients,
whom were discharged "arrested," and are
parently well.

In Group *b* diazo-reaction was positive so
during observation in four patients, one of
died, and three were improved and are still
the reaction disappearing before discharge.

In Group *c* (the unfavorable class), on th
hand, diazo-reaction was positive in seven p
five of whom died in residence, and the oth
were discharged unimproved, and are probab
dead.

It would seem that the generally accepted
nostic significance of a diazo-reaction in tube
has application chiefly, if not solely, to the last
of the disease, and when temporarily present
early acute manifestations, or in acute exace
of chronic lesions, need not necessarily indi
unfavorable termination. It is unnecessary
that its disappearance, if present, would be
the first clinical evidences of improvement.

It seems probable that the work which ha
and is being, done on the blood will in the end
valuable and, perhaps, unexpected light upo
of the most obscure clinical problems of
and especially, I think, is this line of research
ising in tuberculosis. If we are ever to be
recognize the presence of tubercle during the
of arrest following first and unrecognized o
would seem to me that we are most likely to
through discovery of definite reactions in the
serum of the infected. Already much preli
work has been accomplished, and, although it
as yet of practical clinical value, there is no
to believe that it will not become so. The gr
pectations from this line of research, which
sults already accomplished certainly justify,
be sufficient to secure more than the necessary
and financial support to such invaluable insti
of research as the Saranac Lake Laboratory.

discovery of a means of diagnosis, more accurate, if not more safe, than is tuberculin in suspected persons who are supposedly non-tuberculous, would be as great a boon to humanity as that of a curative serum.

From the crude and more superficial methods of blood study now practically available to the clinician not much of importance is to be learned. As a rule, in the healing process there is a moderate anæmia and a slightly more pronounced chlorosis to be overcome, and the reparative process in the blood follows closely the reduction of fever and improvement in nutrition. In early and uncomplicated lesions without softening, there is, of course, no leucocytosis, but much earlier in the disease than is I think generally imagined there appears an increase in the white cells. This is not necessarily much, if any, above the limit which normal blood may reach occasionally during the day, but it is constant until arrest of activity is achieved.

In twenty-five cases discharged from the Sanatorium, apparently cured or with disease arrested, and who represented upon admission various stages of the disease, with a mean duration since the presumable onset of two years, three and one-half months, observations on the blood were recorded showing the following averages:

	Erythrocytes.	Leucocytes.	Hæmoglobin.	Color Index.
On admission....	4,890,000	10,760	86%	.879
On discharge....	4,950,000	9,360	92%	.929

In these cases there was an average gain in weight while under observation of 14 pounds 8 ounces. In every case reaching to or passing the previous greatest known weight there was a return to normal of temperature and pulse, but cough, expectoration, and bacilli were present upon discharge in some of them. In Dr. Neagle's Group *a* the averages were somewhat more characteristic. It will be remembered that this group was made up of fourteen early cases with slight local and constitutional disturbance (these cases were not all, of course, successfully arrested). The following table shows comparison of the average blood values upon admission and discharge:

	Erythrocytes.	Leucocytes.	Hæmoglobin,	Color Index.
On admission....	4.950,000	9,850	87%	.878
On discharge....	5,080,000	8,310	93%	.92

It must be borne in mind that these examinations were made at an altitude of something over 2,000 feet, which explains the rather high counts of both red and white cells, as compared with what is usually observed at sea-level in similar cases.

It appears unnecessary to dwell longer upon clinical details, which are familiar to every one who has had an opportunity of observing the progress of a healing tuberculous lesion. In a subject which has been so voluminously treated it is very difficult to offer suggestions for further clinical study which can have the least merit of novelty. Nevertheless, I venture to emphasize, in conclusion, one or two features which it seems to me are at least worthy of investigation. Let me state them as propositions:

(1) It is probable that the initial lesion following a tuberculous infection is often obscure in its clinical manifestations and frequently escapes identification.

(2) There is nearly always a prompt and very often successful tendency on the part of the organism to a more or less complete repair followed by an interval of apparent health.

(3) Following this interval, which may extend into a period of years, there is a strong tendency to relapse.

(4) What is in reality a recrudescence of an arrested lesion is very frequently mistaken for an initial onset.

(5) Whatever may be the facts in an individual case, the safest and most practical policy lies in regarding every apparent recovery from tuberculosis as merely an arrest of the disease, brought about by an acquired immunity which suitable conditions are very prone to destroy.

THE ART OF EATING PROPERLY (EUPHAGIA) AND THE HARM OF EATING TOO RAPIDLY AND TOO SLOWLY (TACHYPHAGIA AND BRADYPHAGIA).

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EATING or partaking of food is our principal means of sustaining life. Without this the organism cannot thrive, cannot gain in weight (grow), and can exist only a short while. During the time of total abstinence the body lives from its own substance, steadily losing in weight, and soon dies. It will therefore not be out of place to devote our attention to this subject.

In the animal kingdom as well as also among uncivilized peoples, the obtaining and taking of food forms the principal occupation during life. The necessity of obtaining food has remained the same with civilized man, but the manner of partaking of it has been changed partially to his disadvantage. New interests have arisen and the act of eating has been partially relegated to the background. Many busy persons scarcely take time to eat; they swallow hastily any kind of food without special selection, at times poorly prepared. The natural consequence of this is that under these conditions diseases of the digestive system develop quite frequently.

I may be permitted to describe first in a few words the art of eating properly (euphagia) and then discuss two improper modes of eating (tachyphagia and bradyphagia).

Euphagia.—Like all natural processes, the partaking of food, if done in a correct manner, affords the body pleasure and satisfaction. For this purpose, however, the organism must be prepared by previous work and subsequent rest. Already in the Bible the following quotation is found: "In the sweat of thy brow shalt thou eat bread." This shows the importance of work on eating. A similar proverb exists in the German language: "Arbeit macht das Leben süss" (Work sweetens life), which sentence naturally refers not only to eating but to all functions of life. Granted, however, that work is necessary, yet it must not be in excess or lead to exhaustion, as in this condition the appetite usually disappears and digestion becomes sluggish.

Meals are best taken during those periods when the body is at rest. The time for taking food must not be too short. During the meal it is better not to think of business, or serious, or, perhaps, even sad things. Our whole and undivided attention should be given to our meals. Pleasant company, light conversation, jokes, and stories add to the enjoyment of food.

It is generally known what a powerful influence the brain exerts over our digestive faculties. Great grief robs us of our appetite and may cause real disturbances of digestion. Pawlow has lately established the physiological importance of the mental state on digestion, having shown, for instance, that delicacies produce secretion of gastric juice as soon as they are perceived by the eye, even before they are eaten.

The food must not only be palatable, but must be served in an attractive manner (fine dishes, table decorations, etc.).

In eating we must take time to chew our food thoroughly. This serves a double purpose: (1) through the act of mastication the coarser particles of food are broken up; (2) more saliva is secreted and is thoroughly mixed with the food. The digestion of starch is thus materially aided, and the proteids are made more easily accessible to the action of the gastric juice.

Water should accompany each meal. It increases the appetite and the enjoyment of food. It also serves a useful purpose when substances are taken into the mouth, or even swallowed too hot. A mouthful of cold water will at once lower the temperature and obviate any danger of burning.

After eating we should rest a little while before returning to our work.

Tachyphagia, or hasty eating, is a common evil. The food is only half masticated, or not at all, and enters the stomach without being properly insalivated and comminuted. It is easily seen that thus the foundation for many a stomach or bowel ailment is laid. The coarse food causes too much irritation to the gastric mucous membrane, and it is not sufficiently acted upon by the gastric juice, which usually only affects the external surface, leaving the rest unchanged. This refers particularly to the digestion of albuminoids. Starch, however, under these conditions is also left without any alteration, because the ptyalin of the saliva is not present in sufficient quantity. The chyme, therefore, reaches the bowel practically unchanged, causing here almost a state of irritation. Besides the mechanical effect, however, tachyphagia has other drawbacks, because it encourages the taking of large quantities of food in too short a time, and the consumption of foods too hot or too cold. In eating correctly a provision is made that not too much food passes into the stomach at once, for mastication requires time; besides there is some time spent in conversation and in serving the different courses. The temperature of food and drink is partially equalized by the slow passage through the mouth and œsophagus. All these factors are absent in eating too rapidly, and we thus have the two obnoxious points spoken of above, viz., unsuitable quantity of food and unsuitable temperature—two conditions that often cause digestive disturbances.

Clinically the disadvantages of tachyphagia are so well known that it does not seem necessary to illustrate them by means of examples. Every physician has observed cases of gastric and intestinal catarrh, hyperchlorhydria, and other tedious digestive disturbances, the etiological factors of which could be found in the existing tachyphagia.

Bradyphagia.—By bradyphagia (eating too slowly) we understand a condition in which the eating is performed abnormally slowly, so that the body economy is thereby injured.

In general we as physicians, will more often have to battle against the above described tachyphagia, advocating a properly slow, or, more correctly, a rational mode of eating. This, however, may be, and is indeed overdone by some persons to their detriment. In such cases every morsel is masticated and remasticated, and before being swallowed is again chewed and everything carefully tested with the tongue, whether it has been thoroughly comminuted. An abnormal fear and suspicion develops in this manner, and for such a person eating is a difficult task. The enjoyment and pleasure of eating are transformed into a doleful process, an
frequently a smaller quantity of food is take
usual. Not rarely it happens that the bol
casionally remains in the pharynx or œso
and refuses to budge. It is not an organic af
that causes this variety of dysphagia, but mer
excitement and fear of eating. In these ca
course of time a chronic inanition develops
to bradyphagia and the added temporary dys
in consequence of which the patient gradua
comes weaker and occasionally dies, unless w
bat the evil energetically at once.

Since bradyphagia is a comparatively ra
currence, I do not hesitate to give a few ex
of it.

CASE I.—April 2, 1896. G. I. L., 32 yea
lawyer, has suffered for the last five or six
from digestive disturbances. He has lost co
able flesh, and has been unable for the last
years to attend to business. He complains
inability to swallow food and of intense pa
the upper abdominal region, particularly after
He has lost in all about 40 pounds, of whi
smallest quantity in proportion was lost duri
last six months. He keeps to a strict diet an
very slowly, taking a half hour to consume a
of milk.

Status præsens. The whole body is ema
examination of the thoracic organs gives ne
results; the stomach extends to about two fi
width below the navel. The epigastrium is sl
sensitive to pressure. One hour after test bre
the stomach contents showed the presence o
HCl, and an acidity of 78. The swallowing
occurred seven seconds after the drinking of

In the absence of any organic lesion the dia
of neurasthenia and hyperchlorhydria was
The difficulty in eating was explained by the p
excitement subsequent to the sitophobia and
phagia. The patient was put upon a more
diet and advised to eat more quickly. In
weeks he gained eleven pounds; he contin
gain in weight and recovered entirely.

CASE II.—March 23, 1903. Mrs. R. F., ab
years old, has been suffering from digestive di
ances for the last three years. She claims to
pains in the epigastrium after every meal, and s
much from belching, constipation, and lack of
She is much run down and has been unable f
last two years to look after her household
She says that she eats only the lightest foods
cipally liquid diet) with the greatest care, req
twenty minutes for the ingestion of half a pl
soup, and twenty-five minutes for a cup of
Owing to these important precautions, she is o
to take her meals alone. She is surprised t
spite of all this she does not improve. The
nosis of neurasthenia, hyperæsthesia of the sto
and bradyphagia was made. The patient was t
eat a variety of plain and simple foods, and
and drink more rapidly. In two or three m
she had completely recovered. She ate with th
of the family and was again able to attend t
household duties.

Treatment of Faulty Eating. (Tachyphagi
Bradyphagia).—All persons who eat too fast s
be warned by their physicians. They should b
to take more time for their meals and to chew
food thoroughly. If the time for eating is occa
ally too short, as in railroad journeys, etc., it is
to omit the meal or to take only something flu
glass of milk, a raw egg, or some beef tea).

To combat bradyphagia—observed in neura
nics, and only rarely even in them—we must
active measures, as it is impossible to cure the

of the nervous system and concludes that the toxins of infectious diseases may affect a whole neuron (cell and its axis-cylinder) or several segments of it simultaneously.

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The Treatment of Lupus Erythematosus by Repeated Refrigeration with Ethyl Chloride.—Five cases are reported by M. B. Hartzell. The diseased areas should be thoroughly frozen and kept so from five to eight minutes and the treatment should be given every two or three days. Occasionally considerable inflammatory reaction follows, in which case the intervals between freezings should be from four to five days or even longer. After from ten to fourteen days of this treatment considerable desquamation occurs and the diseased areas grow much paler. In the course of six or eight weeks, small and superficial patches of recent origin may completely disappear. In connection with the local treatment large doses of quinine are given internally.

Diseases of Children Occasioned by Affections of the Nose.—L. J. Lautenbach refers particularly to disturbances of the digestive tract, eye and ear. Nasal abnormalities causing obstruction lead to naso-pharyngitis and a dry throat evidenced by a hacking cough, impaired lung action, chest deformities and weak heart action. Then ensue digestive disturbances leading to mal-nutrition with its stomach and intestinal pains, anorexia, cold extremities, bowel inaction, liver congestion, eczema, and boils. At the same time there develops as a result of the nasal obstruction a catarrhal or phlyctenular conjunctivitis with ephiphora, or closure of the ductus ad nasum, or even a keratitis. There usually is an involvement of the eustachian tube, with a loss of hearing power either as the result of direct extension of the nasal inflammation, infection, or closure of the tube, or as the result of pressure alone. In these obstruction cases the memory, the mentality and judgment are more prone to suffer if the posterior nares is considerably involved. The obvious deduction from these facts is not to neglect the ordinary colds of early years, to keep the nasal and pharyngeal channels free and clean, to give such internal remedies as each case calls for and to follow out a carefully regulated hygiene.

Treatment of Chorea by Prolonged Warm Baths.—W. C. Hollopeter emphasizes the virtues of prolonged warm baths in shortening choreic attacks. He finds the baths soothing to the exhausted twitching muscles, productive of sleep and strength-giving. The mode of giving the baths is thus described by the author: The child, when once placed in the bath, is entertained by the nurse or mother by placing some plaything or floating toy in the water, and while the child's attention is so occupied the time will pass rapidly and the attendant's duty will consist in avoiding draughts and in maintaining the temperature of the water sufficiently high (from 90 to 96) so as not to produce any immediate or secondary shock to the child. In this way the child may be entertained for a long time in the water, the whole body being immersed except the head and neck for at least one or two hours, twice a day. The last ten minutes of the time can be properly devoted to a gentle superficial massage of the arms, legs and trunk; after which the child will be sufficiently weary to take a nap. Hollopeter has treated some forty or fifty cases in this way and finds that the duration of the disease is reduced from twelve down to six weeks.

The Resistance of the Peritoneum.—C. M. Echols reports a case of gunshot wound of the abdomen in which laparotomy was not done till seventeen hours after the shooting when the gastrointestinal contents were spread diffusely through the abdomen. The patient was a man of twenty-five years. The author says that with reference to injuries of the peritoneum we should bear in mind (1) that it is by far the most extensive and complicated of the serous membranes; that it is capable of absorbing a large quantity of liquids in a short time; that it can in some patients resist the invasion of large numbers of pyogenic bacteria and withstand considerable handling and trauma with apparent impunity. (2) That a low mortality rate, in any limited series of laparotomies, is not to be construed as demonstrating the operator's superior technic and careful asepsis. The patient's vital resistance may be, and perhaps is, after all, the chief factor in determining whether or not septic peritonitis will follow these operations.

The Lancet, December 17, 1904.

Appendicitis and Pregnancy.—H. A. Lediard and R. E. Sedgwick refer to Pinard's monograph on this subject, published in 1898, in which forty-five cases are collated. Thirty were operated on with a maternal mortality of thirty-three per cent., and a fetal mortality of thirty-six per cent. The authors then report a personal case in which the mother recovered from the operation, but aborted (at the sixth month of pregnancy) four weeks later. Their patient was a married woman of forty years who had borne eight children in nine years and had had one miscarriage. Her symptoms came on in the usual way and she was operated on about a week after their onset. She had had two attacks of "inflammation of the bowels," both occurring in the same part of the abdomen (appendix region) at two previous and separate pregnancies at about the fifth month. Operation was done under chloroform, but healing was slow, as the movements of the child were both seen and felt and obviously did not tend to the formation of a good scar. Healing was not complete until two weeks after the miscarriage. For some days after the operation the wound seemed to get more and more extensive and gaping and omentum was protruded. It was felt that when the wound did heal several unpleasant possibilities might present during labor. The scar, recent and thin, might rupture; a large ventral hernia in all probability would form either during labor, with possible intestinal constriction as a result, or afterwards, in which case a second operation would be necessary for its cure. The risk of procuring miscarriage was thought to be sufficiently great to counterbalance what were after all only reasonable possibilities or probabilities, and nature finally and fortunately came to the rescue and solved all difficulties.

Acute Lymphocythemia.—L. S. Dudgeon reports one case, his patient being a man of 37 years with the usual symptoms. An elaborate table is given of the results of various analyses of the blood. The symptoms during his stay in hospital are summarized in the following statements: There was pyrexia of an irregular remittent type during the whole period of the patient's illness while under observation in the hospital. There was never any very high temperature recorded. There were never any subcutaneous hemorrhages or petechiæ seen. The condition of the mouth gradually became worse and on several occasions the patient had a severe hemorrhage from the gums. Two hemorrhages were seen for the first time four days before he died, in the right disc and retina and one or two dark spots which might have been due to capillary thrombosis. There was never any true glandular enlargement. The urine remained normal during the entire course of the illness. There was never any diarrhea or vomiting. The bones were never tender. The author calls attention in connection with the case to the agglutination of the erythrocytes which occurs in severe anemia, concerning which he thinks no satisfactory explanation has yet been offered, though he thinks it probably takes place in the capillaries. The autopsy revealed large, soft, red succulent glands along the vertebral column downward from the level of the celiac axis; otherwise, the glands were scarcely at all enlarged. The marrow of the ribs was soft and not in excess. It looked like thin, reddish-yellow pus. The femur showed chronic osteitis, the medullary cavity being obliterated, while the outer surface of the bone was rough and irregular. A small quantity of bright yellow fat was obtained from the center of the bone. The lymphocytic infiltration was most marked in both kidneys, though all the organs showed it to some extent.

Operative Treatment of the Conditions of the Gastro-intestinal Tract which Result from Chronic Obstipation.—After an analysis of the various causative factors implied in the title of his paper, W. Arbuthnot Lane states that he has had considerable success from dividing constricting bands and adhesions and from subsequent attention to the functioning of the bowel, but when he finds that the mechanics of the intestines have been altered to a degree that cannot by the divisions of bands be satisfactorily rectified, he divides the ileum some five or six inches from the cecum and then examines the sigmoid flexure and rectum to determine the most readily accessible and safe conduit into which the ileum can be made to drain. In some cases the adhesion of the mesosigmoid and sigmoid flexure is so considerable, and the fixation and wasting of this piece of gut are so great, as to make it advisable to effect a junction with the dilated rectum where the muscle wall is hypertrophied and easily dealt with. In most cases, however, by carefully separating the adhesions it is possible to bring out between the edges of the wound a piece of sigmoid flexure of sufficient length and mobility to effect a perfectly secure and safe junction with the ileum. Having determined on the piece of large bowel which is most suitable for the purpose, the proximal extremity of the ileum is placed alongside the chosen portion and sufficient lengths of each are secured together by suitable forceps, gauze packing being placed about. Longitudinal incisions are made in the approximated pieces of bowel and by means of a continuous silk suture penetrating all the coats, the aperture of communication, which should be of sufficient length, is rendered perfectly secure. To avoid any possible risk this junction is supplemented by an encircling continuous silk suture which does not enter the lumen but obtains a secure hold upon the peritoneum and muscle coats.

divided, so far as concerned the conditions of their possible exposure to infection, into the following classes: (*a*) Adults and minors living in the main buildings, (*b*) adults and minors living at a distance, spending only the day on the hill, and eating a daily or occasional meal at the Inn, (*c*) families living in certain separate residences on the hill, and (*d*) families living in the southern valley or on its southern slope. Those belonging to class (*b*) practically all left after the explosive outbreak, and almost all of the younger people of every class, except those already sick, went away when the alarm was taken, or ceased their daily visits. Cases of typhoid fever occurred among all of these groups except the fourth, whose houses were supplied with water derived from an entirely separate watershed.

At the time of my arrival there was only one of the permanently resident adults down, but soon afterwards two cases developed among those who were still in residence, and one case among those who had left; so that it became evident that the common source of infection was to be sought in some condition that was capable of affecting all of the first three groups indiscriminately. The milk supply was not long under suspicion, as none of the local dealers was bringing milk to all of the houses in which the disease had manifested itself. No other possible point of origin for the epidemic suggested itself as probable except the drinking water, to which pointed in itself the explosive character of the outbreak, and all attention was accordingly directed to the reservoir and the tributary spring. Samples from both these sources were taken and submitted to bacteriological examination, while the distribution of the cases on the grounds was looked into with some care, in the hope of obtaining some accessory evidence of value. As it happened, the facts furnished by this inquiry were in themselves practically adequate to the solution of the problem, had the bacteriological laboratory not been accessible.

Considerable local prejudice existed against the water obtained from the new reservoir,—it contained a large number of a minute alga, *Uroglœna* (?), and was brownish and turbid, besides developing a nauseous odor when heated, the hot water from the pipes being less than agreeable for bathing purposes. The spring water, on the other hand, was clear and of an agreeable quality for drinking, having no suggestion for sight or taste of anything unhealthful. On March 20 the pipes had been emptied, while the residents were ordered to use none but boiled reservoir water for any purpose. These instructions were probably carried out to the letter.

It was found that the people on the hill, with the exception of those belonging to group *c*, who occupied a separate row of residences overlooking the southern ravine, had been drinking habitually the mixture of the water from the reservoir and spring, as it was delivered to the Inn. These separate dwellings are new, and have a common water supply, derived from the reservoir alone, without any admixture from the spring. It was this fact that furnished the clew we were seeking. In these houses, sheltering altogether about 45 individuals, including servants, there were no cases of typhoid, nor did any occur subsequently, except in the house of Mr. F. Here, out of six inmates, four came down with the fever, including two guests who had been visiting during the month preceding the outbreak. On inquiry it developed that the F. family had been in the habit of using the spring water, unboiled, and had so used it, on account of its pleasant taste for drinking purposes, up to a time well within the period of incubation require of these cases.

In the meantime the bacteriological repo
by Dr. Ford, of the Johns Hopkins Hospi
a clean bill of health to all the sources fro
samples of water had been taken, and th
were convinced that the infection arose fr
tamination of the water supply, it was fea
it might be impossible to discover the origi
contamination, and that the conditions un
the situation had been of a purely temporar
and might now be indeterminable. We fe
ever, that the evidence afforded by the oc
of the disease in the F. house, with the
immunity enjoyed by adjacent families usin
voir water continuously, was not a mere coin
and that if it should eventually prove impo
obtain any confirmatory bacteriological data
clinical facts were sufficient to condemn th
as the probable cause of trouble. This fee
accentuated by the history of the first cas
was in the infirmary from January 26 to
4. The bowels of this patient had been v
stipated, the stools hard and scybalous, ar
fection had been attempted by means of
sublimate solutions. The action of bichlo
mercury in coagulating the proteids of th
and the particularly hard consistency of th
tions in this case, made it seem at least prob
disinfection by this method had been ina
and that active typhoid bacilli had been
down the sewer pipes leading from the i
during the whole period in which they had b
off from the patient's intestine. Assuming
leak had existed in this pipe system anywhe
the level of the spring, whose situation h
described above, it would have been impos
any matter escaping through such a leak no
almost directly into the spring, through bu
feet of soil as an intervening filter. The g
very rocky at this point, and fluid materia
be subject to but little filtration from the o
earth.

Fresh samples of water were taken fr
spring, both by Dr. Ford and by the bacte
of the Board of Health. It would have be
desirable to have secured water from the s
a much earlier time, when the contaminati
evidently not considerable, had been at its wo
was found possible to obtain some water wh
been standing at a bend in the supply pipe
not been run off when it was emptied, an
had probably left the spring as early as the
of February. From this water, and on th
sion from that of the spring itself, both D
and the State bacteriologist were able to is
intestinal organism pronounced by Dr. For
an unmistakable variety of the human colo
lus, and a necessary bacteriological proof of
contamination of the spring water had be
nished. The situation of this spring, and
that it was covered with an iron plate, made
incredible that the influx of fecal matter ha
place in any other manner than by seepage
the soil. It had at one time been consider
remote possibility that a direct accidental
of the spring might have occurred through th
of the first case, while convalescent; but apa
the unlikelihood of such an act, and from a
inquiry into this patient's habits during that
having failed in any way to confirm this pos
the finding of the colon bacillus left no hyp
open but that of contamination with fecal m

The sewer of the infirmary passed in its to its final outlet in a distant stream, within about one hundred feet of the covered spring. No point of leakage in the pipe could be found anywhere in the vicinity of, or above the spring, and it was evident from the bacteriologist's findings that any leak that presumably had existed was at the time of our investigation not open, or at least was not allowing the escape of sewage in any considerable amounts. The suggestion was made of choking the sewer at some lower point, and so artificially producing a condition of heightened hydraulic pressure within the drainage system, to determine if in this way sewage could be forced from it into the spring; but it was decided to wait until later, and then to uncover the whole length of the pipe between the infirmary and the spring, with the idea of getting directly at the seat of trouble. It would be vastly interesting to know the results of such an investigation. Just below the infirmary is a manhole leading into an elliptical brick-walled vault, some four or five feet deep and of about the same larger diameter; through this vault passes all the kitchen and closet drainage from the infirmary. During the months of March and April, while our investigation was in progress, the floor even of this vault was never entirely covered, even when the closets were simultaneously flushed, and all the water taps turned on above it; but there was visible on the wall of the vault, at a height of some two and a half feet above the floor, a stain which evidently marked the height to which sewage had reached, at some time in the few weeks previous. That at the time when this high level was attained, probably during the period of thaw and freshet that occurred in January and February, sewage was forced out, either through a crack in the wall of the vault or at some lower point, the defect being in all likelihood a small one and one which was covered only at a high state of the water—seems as certain as anything can be which rests on circumstantial evidence alone.

The further course of the outbreak confirmed our conclusions. The interdict on the use of the reservoir water was removed, the spring was closed and made inaccessible, and the community returned to the use of raw milk according to their usual habits. Of the new cases arising after the spring water was cut off, all were among those who had been accustomed to use this water, and in all the invasion occurred within the period of incubation, as calculated from the date when spring water ceased to be supplied to the Inn. This statement neglects two cases, both arising considerably later than would be probable if their only exposure had been through infected water; both of these cases, one of which was in a nurse, undoubtedly arose by infection through immediate contact with patients, and had nothing to do with the condition of the water supply.

The conditions of this outbreak, as set forth above, teach no lesson that is new, but they serve to give an additional and very vital emphasis to long-recognized principles, which do not always receive the respect which is due them. Of these, the two most important concern the choice of the sources of drinking water in small communities, and the very essential matter of the proper use of disinfectants in the effectual prevention of the spread of typhoid fever. Palatable water is not always pure, and that containing an unpleasant looking or offensive smelling sediment is not necessarily polluted with sewage. The choice of a source of supply should be determined not only by the quality of the water at the time of its examination, no matter how pure it may be shown to be on analysis, but by the location of the source as well, and the opportunities that *might* occur for its contamination, under the usual conditions of community life. It may be safely stated as an absolute rule that no surface spring should be used to supply drinking water, which is situated below a dwelling-house in such a position that excrementitious matter could be carried from the neighborhood of the house to the spring by natural agencies, under even the most unusual conditions of storm and weather. Still more to be condemned is the laying of sewer pipes in proximity to a source of water supply. When the dwelling shelters patients suffering from a communicable disease, and the sewer, no matter how perfect its construction in the opinion of sanitary engineers, drains such a house, the use of water from the source in question is nothing short of foolhardy. Esthetically it is abhorrent, and its recommendation by any authority carrying a dangerous conviction is as criminal morally as it is negligent professionally.

And yet the main point to be noted concerns the problems not of engineering, but of purely medical prophylaxis. There is nothing more worthy of thoughtful attention than the absolute certainty with which we, as physicians, can control the dissemination of the bacillus typhosus, provided that we recognize with certainty the disease which it produces, and provided that we know how to isolate patients suffering from it, once it is recognized. The isolation of a case of typhoid fever so that it will not be a source of danger to other people is such a comparatively simple matter, and one that is so little liable to injure the susceptibilities of the patient or his family, that it would appear to be of all prophylactic measures one of the most easily carried out. Cole's* conclusions, summing up all the experience of the last few years in this field, are brief and easy to remember. The lime preparations, formaldehyde, etc., are not safe or efficient in the disinfection of stools and urine, except when very carefully controlled. They may be, in the individual case, perfectly safe and absolutely to be relied upon, but under unfavorable circumstances they are worse than useless. Solutions of bichloride of mercury may be safely used to render the urine harmless, but they are never to be relied upon in the case of stools. The bichloride after a time hinders its own germicidal action, and even in the case of a fluid stool, covers any formed particles with an impenetrable coating of albuminate, which effectually protects the bacteria deeper in the center of the fecal mass. With scybala, the disinfecting power of bichloride is almost nil. The only method of disinfection of typhoid stools which is beyond criticism, besides cremating them or boiling them in antiseptic solutions, is by the use of carbolic acid in the strongest possible solutions. Carbolic is cheap, and on that account may conveniently be used in excess; it does not coagulate the proteids of the stools, but on the contrary penetrates deeply after continued exposure. It should be used in 5 per cent. solution, in volumes exceeding by two or three times that of the stool, and it should be left in contact with the fecal matter, after very thorough admixture, for at least two hours, three hours being advisable. Carbolic acid may also be used with advantage in the disinfection of the urine, every ounce of which should be sterilized before it is thrown out, whether manifest bacteriuria is present or not. For soiled linen, boiling, or else immersion for two hours in carbolic solution, is as necessary as is the care of the dejections. The bath water, also, should always

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*The Prevention of Typhoid Fever, *Journal of the American Medical Association*, May 28, 1904.

be regarded as capable of disseminating the virus of the disease, and should be disinfected before being thrown away, the purpose being satisfactorily accomplished by allowing it to stand for an hour after the addition to it of fresh chloride of lime, a quarter of a pound being sufficient for the contents of the ordinary tub.

Whether the sewerage of the locality where we see our patients is surely and absolutely separated from the water supply or not, the manifest duty of the physician in attendance upon every case is to make perfectly certain that not one particle of infectious material from his patient enters the drain pipes without first being rendered harmless. Only in this way is typhoid fever ever to be controlled in this country, and only when efficient precautions are taken in every case will this disease cease to be "the scourge of autumn."

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THREE CASES OF EXCESSIVE FETAL DEVELOPMENT.*

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If a fetus weighs ten pounds or more its weight and size are excessive and delivery will be difficult and complicated. Oversize and advanced age of the parents, also multiparity and pregnancy protracted beyond the normal terminus, are said to predispose to excessive development; and this is apparently borne out by my observations. Children having such abnormal dimensions are too large for the normal pelvis and cause complications similar to those met with in pelvic contractions. It is a most difficult condition to diagnose, and as a rule is not discovered until labor has been prolonged and attempts to deliver have proved futile. The opportune time for successful cesarean section has then passed, and the mothers are served best by perforating the dead or moribund child.

This appears to be the opinion of most writers, and the rule is a good one never to overcome bony resistance by protracted forceps traction, but rather diminish the size of the child through embryotomy.

Case I.—A normal pelvis and a normal position of the fetus generally indicate in the absence of other abnormal conditions a normal labor and puerperium. In this case the woman had a normal pelvis and the fetus was in L. O. A. position; the case, nevertheless, was one of the most difficult I ever attended, and in which every obstetrical operation, symphyseotomy and cæsarean section excepted, was performed.

Dr. W. requested me to see with him Mrs. O., I-para, 36 years old. The doctor stated that the woman had been in labor almost 24 hours, and because labor did not progress he had ruptured the membranes six hours before my arrival. I found a large fleshy woman, weighing little short of 200 pounds. The external pelvis measurements were: Spin. ant. sup., 25 cm., crist. il., 27 cm., trochanters, 31 cm., conjug. ext., 19 cm. The abdomen was large and distended, but not sensitive. The uterus contained one fetus with the head movable above the brim. Heart sounds to the left of the umbilicus and normal. The promontorium could be reached with difficulty and I estimated the true conjugate diameter to be about 11 cm. The os barely admitted two fingers. The head, as mentioned before, was movable and not engaged. Pulse and temperature normal. Labor pains not very strong, about every five minutes. In the absence of urgent symptoms I a to wait. Forceps and version were impractic the mother's and child's condition did not j cæsarean section or craniotomy.

After 24 hours I again saw the patient w finding much change in the patient's conditio the size of a silver dollar, head still above the brim, temperature normal, pulse slightly accele stomach irritable. Fetal heart-sounds n While fully appreciating the desirability of nating labor, the conditions were such that f delay was advisable. It should be remembere the membranes had been ruptured thirty hou fore, and all liquor amnii having drained awa sion was difficult if not impossible. The unc cervix with the head above the brim certainl traindicated the application of the forceps. living fetus in the absence of urgent indicatio cluded craniotomy, and the normal pelvis dia ruled against symphyseotomy and cæsarean se Thus I was forced to advise further delay, h that under the influence of stronger pains, the would mould and enter the pelvis. I agreed, ever, to apply the forceps should there be no pr after a further lapse of twelve hours.

Twelve hours later, the conditions concerni advance of labor remained unchanged, bu patient showed unmistakable symptoms of ex tion. I therefore decided to apply the force bring the head into and through the pelvis. cervix was dilated until it admitted my whole after which I applied the forceps. In spite o orous traction the head did not advance, and satisfying myself that the forceps would not a plish delivery I removed the instruments. I realized that symphyseotomy would offer no a tage, the disproportion between head and being apparently more than three-quarters inch, the space gained from a division of the joint. Cesarean section gives most disastrou sults after protracted labor. I therefore ad although the fetus was alive, immediate cranio which however was refused for religious reaso waited until the heart-sounds had become inau and then perforated with Naegele's perforato moving the cranial contents through irrig The cranioclast brought the head down and int pelvis, but the shoulders, in spite of strong tra did not follow. Seeing that delivery of the could not be accomplished in the usual man applied the blunt hook in the axilla, but the s ders did not descend although I now made tra with both hook and cranioclast. As the head only an obstruction I decapitated, brought dow arm to be used as a tractor, but even this dimin diameter proved too large for the pelvis. I performed version, a most difficult procedure only after eventration and removal of the tho contents, could I deliver the fetus. The fetus n brain and blood weighed fourteen pounds. woman sustained a vesicovaginal fistula s quently repaired, otherwise she made a goo covery.

In reviewing this case, the first question t answered concerns the loss of the child, wheth not its life could or should have been saved. T is absolutely no doubt in my mind, that only thr cæsarean section a living child could have bee cured. I knew at the beginning that the uterus tained a large fetus, but this in itself is no indication for cesarean section. Hirst rightly (Textbook of Obstetrics, p. 508), "Overgrowt the fetus is the most difficult condition in obst practice to diagnosticate with precision. A ca palpation of the head and body and an attem push the former into the pelvic inlet may give one an approximate idea of the relative size of the fetal body and pelvic area, but as a matter of fact the large size of the fetus is usually discovered in practice only after prolonged delay, when attempts at artificial delivery have failed." The early rupture of the membranes by Dr. W. was not a wise procedure, but the doctor was an inexperienced physician and had thus been advised by a neighboring practitioner. Nevertheless I am positive that in this particular case, nothing would have been gained by preserving the membranes, as the fetus could not have been brought through the pelvis alive no matter whether head or feet first.

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* Read before the Obstetrical Section of the Eastern Medical Society.

As stated before, symphyseotomy was not indicated because the additional space obtained through division of the pubic arch would not have sufficed for the delivery of the child, and cæsarean section in addition would have become necessary.

The forceps was tried under the most favorable condition obtainable, but its uselessness was quickly demonstrated. There then remained only craniotomy as a means of delivery, and while I grant both the possibility and probability of a successful cæsarean section at the time when I first saw the patient, I of course could neither foresee nor foretell the outcome of the case and could not advise cæsarean section, which might well have been unnecessary. This case belongs to that fortunately small class, in which the child's life must be sacrificed for the sake of the mother, and I for one maintain that craniotomy to-day and ever will be an operation not only justifiable but necessary in certain cases and under certain conditions.

CASE II.—Mrs. R., III- para, age 38 years, consulted me when about seven months pregnant. Two previous confinements difficult, necessitating craniotomy because, as patient stated, children were very large. Pelvic measurements: Sp. ant. sup., 25½ cm., crist. il., 28 cm., trochanters, 31 cm., conjug. ext., 19½ cm., diagonal conjugate about 12 cm. I advised the woman to come to my office in five weeks, and should the child be very large I would end pregnancy before the normal terminus. However, I did not see the patient until ten weeks later, when she was really beyond full term and labor pains had already begun. Examination showed a much distended uterus containing an apparently very large fetus. Breach in fundus, head above the brim. Cervix half dilated, membranes intact. Face presentation with chin pointing to the right iliac synchondrosis. The problem presented was a rather difficult one. Here was a woman with an abnormally large child in utero, which in itself was a probable obstacle to delivery. Besides, the presentation of the face, unless changed, constituted a positive obstruction. Posterior position of the chin demands active interference with a normally developed fetus, for the head may enter but cannot pass through the pelvis. Version in my opinion is the proper treatment. My experience with Schatz's method to convert the face into a vertex position has not been very happy. It usually necessitates the introduction of the hand in utero, and I prefer podalic version as a more simple and efficient corrective operation. In this case I awaited almost complete dilatation, then administered chloroform and turned. Extraction proved very difficult. One arm slipped up in spite of care and baffled the usual manipulation. However, the blunt hook brought it down, after which the head was delivered without difficulty. The child lived and weighed almost thirteen pounds. The recovery of the woman was uneventful.

CASE III.—Mrs. L., II- para, age 36 years, was seen in consultation when in labor twenty hours. First labor difficult and protracted, child still-born. Pelvic measurements normal. Uterus contains a large child. Os fully dilated. Membranes ruptured four hours ago. L. O. A. position, head movable above the brim. I gave the opinion that version offered the best chance for the child and but slight danger to the mother, as the uterus still contained a considerable quantity of liquor amnii. There was an apparent disproportion between the pelvis and the child although the dimensions of the former were normal. I was dealing with a pelvis relatively contracted, that is, too small to permit the delivery of a child unaided. Under such conditions version offers undoubtedly the best chance and is both more efficient and sure than the forceps. The latter should not be the operation of choice unless the head has entered the pelvis, when version is of course contraindicated. As, in spite of regular and strong pains, labor did not advance, I performed podalic version. The turning and extracting of the child was comparatively easy, except that the head resisted every effort of delivery. I perforated the after-coming head of the dead or certainly moribund child. The fetus, minus blood and brains, tipped the scale at 12½ pounds, and its probable weight was about 14 pounds.

This case again would have been an excellent subject for cesarean section, provided the difficulties encountered could have been foreseen. Nothing is more uncertain than to determine and foretell the fetal diameters and weight ante or intra partum. To urge and perform cesarean section upon such unreliable evidence is in my opinion a very radical position. The only safe and reliable guide are the external and internal pelvic measurements, and if these measurements are normal or approximately so (with hardly any exception) cesarean section is not indicated. Patients with a prior history of abnormal fetal development should not be permitted to go to full time. If not seen until labor has begun the case should be conducted with extreme care and conservatism. Membranes are preserved until interference has been decided upon, as nothing can be gained by rupturing the bag of waters, but there is increased liability to infection, and version may be made impossible. Symphyseotomy is never indicated, as the slight increase in pelvic diameters is not in proportion to the dangers of the operation. Cesarean section is hardly more dangerous, requires less complicated after-treatment, and abdomen and uterus once opened there is no doubt about our ability to deliver the fetus.

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SPLEENLESS MEN.*

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DETROIT, MICH.

THAT a human being can live without a spleen has been now thoroughly established. At one time it was supposed that the spleen produced the red blood corpuscles or the white ones, or changed the one into the other; but since it is known that the bone-marrow has something to do with the production of corpuscles, and that spleenless men can live in perfect health, more and more operations are being performed for the removal of this organ. However, the spleen is very often removed when the operation can do absolutely no good, and the patient will die as the result of the operation. There are some well-marked indications when splenectomy is justifiable.

In malaria, which often causes enlargement of the spleen, an operation is not indicated, as the organ will be reduced when the malarial toxæmia is cured. Still, many operations have been performed for this condition, with a mortality of fifty per cent. Splenectomy is seldom justifiable in these cases. Cystic tumors can often be removed without removal of the spleen. Inflammatory conditions and abscesses can often be drained without removing the organ. In leukæmia, the operation should not be done if the red blood corpuscles have been diminished one-half or more; in fact, it is a serious question whether it is often justifiable in such cases, as the mortality is over eighty-five per cent.

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*Read before the Mississippi Valley Medical Association, Cincinnati, O., 1904.

Those rare cases of so-called splenic anæmia are cured by splenectomy. The mortality of the operation in these cases is only twenty per cent.

In the case of a floating spleen, I do not think that the removal of a healthy organ is indicated, any more than the removal of a healthy floating kidney. We can stitch the spleen in its place.

Injuries of the spleen furnish quite a list, and removal often affords the only chance for recovery.

In cases of malignant growths, of course the spleen must be removed, provided the growth is not too adherent to other organs. It may be impossible sometimes to make a diagnosis without a microscopical examination, but as a rule the blood examination and the general symptoms will enable us to make the diagnosis.

CASE I. Sarcoma of spleen. E. H., aged 32, a telephone line worker; a short, stout young man, who has always been well, and whose family history is negative. He was taken during the winter of 1902 with a distress in the abdomen, followed by gradual emaciation and weakness. He also became anæmic and pale, so that in the course of six months he gave the impression of one suffering from Bright's disease. In the spring an enlargement was noticed in the abdomen, starting on the left side and working downwards, a hard, solid tumor. Dr. John N. Bell was finally called to examine him, and made a diagnosis of an enlarged spleen. He treated him in the usual manner for a few weeks without any improvement, and finally called me. I had him taken to the hospital, and a blood examination was made by the Detroit Clinical Laboratory, with the following report: "Oct. 2, 1902. Erythrocytes, 3,282,688; hæmoglobin, 75 per cent.; color index, 1.15; leucocytes, 11,408; polymorphonuclears, 65.4 per cent.; large mononuclears, 10.8 per cent.; small mononuclears, 25 per cent.; eosinophiles, 0.8 per cent.

"The hæmoglobin is reduced about one-quarter, while the red cells are reduced one-third. The leucocytes are slightly increased in number, but the leucocyte balance is not disturbed. The red cells show marked evidences of degeneration—poikilocytosis and endoglobular changes. A few nucleated red cells were found. The blood has many of the characteristics of a pernicious anæmia, but the count is too high for that condition. The character of the anæmia, together with the presence of the nucleated red cells, leads to a laboratory diagnosis of a severe secondary anæmia, probably due to malignant disease or some long-continued intoxication." Signed, Joseph Sill, M. D.

There was no malaria; the patient never had any; the blood examination also showed there was none. Repeated careful examination of the urine showed no kidney trouble whatever. The blood examination, however, indicated the possibility of a malignant growth. In a man so young it could only be sarcoma, and an operation was urged and agreed to.

Operation October 8th; incision at the outer edge of the left rectus, from the ribs downwards. There were only slight adhesions of the omentum to the
spleen, which was easily removed, and the v
were tied separately and covered with perito
The shock was profound, although he had rec
two quarts of saline solution by rectum; bu
usual hypodermic stimulants revived him. Stil
a week he was quite weak, and his recovery d
ful. He gradually picked up, and in eight
he recovered sufficiently to leave the hospital.
spleen weighed four and a half pounds, an
microscopical examination showed a small-
sarcoma.

During the later part of his stay at the ho
he developed a voracious appetite. This conti
for some months. He became very fleshy
strong, with rosy cheeks, and was in every resp
robust man. He follows his vocation, and c
up and down telephone poles as though he
had been sick. He has remained so to this
Every three or four months he reports, when I
the blood examined, the last report being the
as that made a year after the operation.

"August 3, 1903: Erythrocytes, 5,500,000;
moglobin, 100 per cent.; color index, 1; leucoc
7,111; polymorphonuclears, 74.4 per cent.; m
nuclears, 25.6 per cent. The blood appears t
practically normal."

CASE II. Splenic Anæmia. This case was
ported in full in the *Journal* of the American
ical Association, October 1, 1904, and is in shor
follows:

Mr. B., aged 38; family history negative; n
sick; no malaria or syphilis. Six months prev
to coming under observation became anæmic, w
and incapacitated from work. He complained
distress in the abdomen, which increased in
and the diagnosis was made of an enlarged spl
Dr. Peterson brought him to me for consultation
verified the diagnosis of an enlarged spleen,
had a blood examination made by the Detroit C
ical Laboratory, the result of which was as follo

"July 20, 1903: Erythrocytes, 3,804,000; hæ
globin, 75 per cent.; color index, 0.94; leucocy
1,250; polynuclears, 10 per cent.; mononuclears,
per cent.; eosinophiles, —."

This shows an anæmic condition; the leucoc
reduced to 1,250 and the hæmoglobin reduced
abled us to make the diagnosis immediately.

That peculiar condition was first described by
C. Wood, in 1871, as splenic anæmia. Reports
quite a number of cases by Osler, Sippy, and ot
show that this condition is not serious, and so
times exists for years, generally, however, endin
death as the result of complications. The only c
promptly cured are those operated on. This
was a wreck, and had been subjected to system
treatment without avail. The only chance see
an operation.

July 21, 1903, I made an incision, under chl
form, at the outer edge of the left rectus; there w
slight adhesions; the spleen was very soft and bro
tremendous hemorrhage occurred; I clamped
pedicle and removed the organ rapidly. I closed
abdominal incision by sutures of dry sterilized
gut. The man recovered from the shock and
fairly well for some days, but had a good deal
nausea; pulse, 110; temperature, from 99° to 1
The temperature jumped the sixth day to 1
Blood count, 11,000 leucocytes; sepsis. A sti
abscess was found, which was opened and clean
The number of leucocytes dropped the next day
4,000. There was some delirium during this ti
and one day he got up and walked around, w
the abdominal incision separated. He was chlo
formed and the incision was closed with silk-wo
gut sutures. From now on rapid improvement

lowed. The man returned home four weeks after the operation, perfectly well. The last blood examination before leaving the hospital was: Erythrocytes, 3,325,000; leucocytes, 3,000; hæmoglobin, 70 per cent.

He weighed 97 pounds when leaving the hospital. I had him return April 5, 1904, when the following condition of the blood was found: Erythrocytes, 5,448,000; hæmoglobin, 100 per cent.; color index, 1; leucocytes, 9,250; polymorphonuclears, 58 per cent.; mononuclears, 42 per cent.; eosinophiles, —.

His weight has increased to 193 pounds, and he is the picture of health and in every way is well.

These two cases will help to prove the great value of splenectomy in some cases. In modern aseptic surgery the mortality should be low, about that of other abdominal operations that are not septic. The cases also show the great value of blood examination in these obscure cases. The blood examination will enable us not only to make the diagnosis as a rule, but will also point the way to an operation or to non-interference, as the case may be. Sometimes it may not be of much value in other kind of cases, but in diseases of the spleen it is of great importance.

In conclusion I would say:

1. In diseases of the spleen, blood examination must be made.

2. Splenectomy will cure a certain number of cases.

3. Spleenless men can live in perfect health, as we are unable to find any difference between the blood of such men and the blood of those who have not been subjected to splenectomy.

610 Woodward Avenue.

AN EXPERIMENTAL STUDY OF THE MOVEMENTS PRODUCED IN THE STOMACH AND BOWELS BY ELECTRICITY.*

By G. G. Marshall, M.D.,

Wallingford, Vt.

The animals experimented on were three cats, one rabbit, and one white rat. The stomachs of the cats were full of milk at the time of the experiment; the rabbit's stomach was partially distended with half-digested grass, on which it had been feeding, and that of the rat was filled with food of a semisolid nature.

The currents used were the faradic (two cells), the galvanic (thirty-two cells), and the faradogalvanic. The faradic current was used in varying degrees up to the full strength of the two cells; in using the galvanic battery 32 cells were used, and in the faradogalvanic a mild current was first used, increasing the strength up to the full capacities of the batteries.

The animals were put under the influence of ether, and the mode of making the experiments was then as follows: The hair over the front of the abdomen was cut away and a median incision made through the abdominal wall, exposing the stomach and bowels. First, a moist sponge electrode was applied to the exposed stomach, and the other pole was applied to some indifferent part of the animal's body; next both poles were placed on the stomach, one at either end. A similar application to the bowels was then made. In these and subsequent experiments the three currents—faradic, galvanic, and faradogalvanic—were used consecutively. When the galvanic current was used the current was interrupted and reversed.

Next a small incision was made through the cardiac end of the stomach, just as it appears below the diaphragm. One pole was inserted into the stomach through this incision by means of an insulated copper wire. The other pole, consisting of a damp sponge, was applied to the exterior of the animal's body at different points, and finally was placed directly on the outer surface of the stomach.

By none of these means could contractions be produced in the stomach or bowels, though when the outer pole was placed on the voluntary muscles the latter were contracted.

In some of the experiments the electrode on the interior of the stomach, which I will call the internal electrode, was in immediate contact with the stomach wall, while in others it was in contact only with the stomach contents.

Now the outer sponge electrode was replaced by a metal electrode. This electrode was applied in turn to (1) The outer wall of the stomach, (2) various points on the intestines, and (3) in the rectum.

In the experiment with a metal electrode in the stomach, and a metal electrode on its outer wall, feeble contractions of its pyloric end could be produced, but none at its cardiac two-thirds.

By applying the external electrode to the intestines distinct circular contractions were produced at the point of contact. Where the metal electrode touched the intestines the latter immediately became blanched, and then a somewhat prompt constriction took place, making the bowel look as if it had been ligated by a coarse string, leaving scarcely any lumen to the gut. This constriction would not disappear for several minutes. It was only necessary to make a momentary contact to the bowels, when the contraction would begin and continue after the electrode had been removed. If the end of the electrode were wound with a thin layer of wet cotton no contraction of the bowels would be produced.

With one pole in the rectum, the other electrode still being in the stomach, no movements of either the stomach or bowels could be produced, but the muscles of the back were contracted. The readiness with which the bowel contractions were produced was nearly the same with the faradic, galvanic, and faradogalvanic currents, and the contractions were equally strong with either pole of the galvanic battery.

Next, one of the pneumogastric nerves was cut down upon and isolated from the surrounding tissues. To this exposed nerve the external pole was applied, the other pole still being in the stomach. No contractions or increased peristalsis of the stomach or bowels could be produced by stimulating this nerve.

Finally, another incision was made in the stomach, near the pyloric end, and through this opening the second metallic electrode was inserted, the same as had been done at the cardiac end. Now, with both poles in the stomach, no contractions of this organ could be produced.

The conclusion formed as a result of these experiments is that the stomach and bowels do not readily contract under the direct application of electricity.

While the pyloric end of the stomach feebly contracted, and the bowels contracted uniformly under the immediate application of a small metal electrode, they would not contract when a thin layer of wet cotton was placed over the metal. A stronger current might have produced stomach contractions, but the currents used were stronger than would be employed for therapeutic purposes, and certainly the current would never be directly applied to the stomach or bowels by a metal electrode, as was necessary to produce contractions in these experiments. It should be made clear that the contractions produced in the bowels had no semblance to peristaltic movements, only the circular fibers being constricted.

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*Read before the Vermont State Medical Society, 1904.

Hence we may conclude that electricity, as generally administered, either percutaneously or directly, never causes contractions or increased peristalsis of the stomach or bowels.

Other experimenters have obtained similar results, as will be shown later on, yet many modern writers are of the opinion that gastric and intestinal contractions can be produced by electricity.

Butler, in his work on "Diagnosis," says that the peristalsis may be made more active by electricity, and Edwin Martin, in Hare's "Practical Therapeutics," reports the successful treatment of intestinal obstructions by faradism; one pole over the bowels and the other in the rectum. Kussmaul reports having seen contractions of the stomach in a patient with thin abdominal walls, produced by having one electrode in the stomach and the other held in the patient's hand.

Einhorn and Ewald also believe stomach contractions are produced by direct electrization. I, too, thought I was able to produce contractions of the stomach and bowels, and had so stated in a paper published in MEDICAL RECORD of August 8, 1903.

While making the preceding experiments it was observed that when the external electrode was applied over the front of the chest, the diaphragm and the intercostal muscles were violently contracted, and thus depressed the stomach and liver much below their normal positions.

I believe it is the contraction of the diaphragm that gives the patient the sense of stomach contractions, and in thin persons a visible distention of the abdominal wall, by the pressure downward of the stomach, caused by contraction of the diaphragm, may have been mistaken by some observers for peristalsis of this viscus.

Other experimenters do not believe that the stomach can be contracted by intragastric electricity. Thus Hemmeter, in his work on "Diseases of the Stomach," says: "We do not wish to imply that it is absolutely impossible to contract the human stomach by electricity, but the currents required to effect this must be so strong that the experiment becomes hazardous." Goldschmidt, Manges, and others drew similar conclusions.

Meltzer, in the *New York Medical Journal* of June 15, 1895, reports his experiments on animals' stomachs and bowels by the use of the faradic current. The results of his experiments were very similar to my own, except that he was able to produce more marked contractions of the pyloric end of the stomach by applying the two poles on its outer surface.

Meltzer concludes from his experiments that the mucous membrane of the stomach and bowels, especially of the former, is nearly a nonconductor of electricity, and that it is with difficulty that a current can be passed through it. He says: "A very strong current will finally penetrate the stomach wall," and again he says: "The mucous membrane of the stomach offers the greatest resistance." While he says the stomach muscles are less susceptible to electrical currents, he attributes this in large part to the nonconductive character of its mucous membrane. He states further that by removing the normal membrane from the tongue and placing over this a piece of mucous membrane of the stomach, no contractions of the tongue could be produced.

Hemmeter has stated in his work, quoted above, that the passage of electricity through the stomach may be due to detached particles of mucous membrane.

To determine the conductivity of the st
mucous membrane, I further experimented a
lows, using the faradic current:

1. With one electrode in the stomach an
outer pole applied to the skeleton muscles, the
always reacted to a (weak) current, essential
same as though the pole that was in the stomac
been placed on its outer surface, demonstratin
the current had passed through the stomach.

2. The finger was used for the external pol
applied to the outer wall of the stomach, the
pole remaining in the stomach; here the fe
current was detected by the sensory nerves
fingers, which would not be possible if the c
did not pass through the stomach wall.

3. The stomach was incised along its lesser
ature; its contents were removed, and the
whole organ was lifted out and laid on th
dominal muscles, just to one side of the m
incision. One pole was then placed on one ex
ity of the animal, and the other pole was
through the incision in the stomach to the m
membrane of that part of the stomach whic
resting directly on the abdominal muscles.
this was done the abdominal muscles beneat
sponded quickly to every touch of the electr
the mucous membrane of the stomach, the sa
when the muscles themselves were touched, sh
that the current passed through the mucous
brane, though the stomach itself did not contr

These experiments demonstrate to my min
the mucous membrane of the stomach offe
unusual resistance to electric currents, and th
failure to produce contractions of the stomach
no way due to a nonconductive character
mucous membrane.

Since making the above experiments I hav
ther experimented on the human subject, fo
purpose of determining if, by the percuta
method of electrization, any of the currents
entered the stomach. For this purpose I constr
a stomach electrode, having two poles, each
being connected to a telephone receiver by ins
wires. This electrode is introduced into the
ach, and its two poles being immersed in the
of the stomach about three inches apart.

Then by placing the poles of a faradic b
over the stomach, one in front and the other o
back, the make and break of the vibrator wa
tinctly heard in the receiver, demonstrating
tively that the current had entered the stomach

It will be understood that there was no m
connection between the telephone and the fa
circuit; that the telephone circuit simply shun
part of the current flowing through the sto
and that the presence of the telephone receive
its electrodes in the stomach could in no way
the current to flow through the stomach, but s
indicated its presence there.

In making these experiments I was assiste
Dr. J. H. Buffum.

Alcohol and Marksmanship.—In order to
mine the effect of alcohol in the power to
straight a Swiss battalion was detailed for t
practice under varying conditions of alcoholic s
lation. One test was made after total abstin
another after drinking the previous evening, a
after drinking in moderation on the same day
lastly, a short time after a heavy drinking bout.
results apparently show that alcohol is helpful t
marksman for short distances and harmful for
ranges.—*The Sun.*

DEFINITION AND CLASSIFICATION OF GASTRIC HEMORRHAGE.

By F. GREGORY CONNELL, M.D.,

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A WORD to signify hemorrhage from the stomach, or gastric hemorrhage, seems to be lacking in our nomenclature. To be sure there are different terms employed to convey the idea of the vomiting of blood, and the passage of blood per rectum. But there may exist a hemorrhage into the stomach without either of these signs appearing, and on the other hand, either or both of them may be present, with no hemorrhage into the stomach. It would seem, therefore, that the words "gastric hemorrhage" must be employed, as hæmatemesis, gastrorrhagia, and melæna all may give rise to confusion.

Hæmatemesis may present itself in different varieties. That in which the vomiting comes on very suddenly and is very profuse has been dignified by the special and characteristic term, gastrorrhagia. The opposite kind, in which the amount of blood is so small that a very careful examination is necessary to discover its presence, has been termed "occult" by Boas.

Melæna, or morbus niger, as originally employed by Hippocrates, likewise signified the passage of blood either per os or per anum, but in this instance the blood was dark in color, it being originally supposed to be of venous origin. Aretæus was the first to point out that such blood was not of necessity venous, and that arterial blood, if acted upon by the gastric or intestinal juices, would soon have this same dark color. At the present writing the term melæna signifies the escape of blood through the intestinal canal.

Generally speaking, melæna, without the clinical history, may be disregarded in considering gastric hemorrhage, on account of its late appearance, and the inability to differentiate that arising from the stomach, and that originating in the bowel. With the clinical history, at times, it may be of great value. Although gastric hemorrhage may occur without hæmatemesis, still this is the only reliable, substantial, and practical sign of this occurrence. Therefore a study of gastric hemorrhage must necessarily be one of hæmatemesis.

To aid in the study of this symptom it will be convenient to make various divisions and sub-divisions of the subject. First into chronic and acute, as has been emphasized by Moynihan. These two varieties of hæmatemesis can usually be differentiated with ease, and the necessity of doing so in all reports of cases is urgent, so that a proper understanding of the conditions may be arrived at.

The main differential feature between these two varieties of stomach hemorrhage is that chronic hæmatemesis has not been looked upon as a clinical entity, but merely as one of the symptoms of some gastric pathology, usually ulcer. It is always moderate in amount and repeated at longer or shorter intervals. And while the acute hemorrhage is still a symptom, it is one of such magnitude as to become the all important condition, demanding immediate attention, and for the time being completely overshadowing the pathological lesion of which it is but a symptom.

Chronic hæmatemesis includes all forms of hemorrhage from the most insignificant, such as the occult, to one that can be with difficulty differentiated from the acute form. The ordinary type of chronic hæmatemesis has been very succinctly described by Moynihan, as the hemorrhage from a chronic ulcer, as follows: "The onset after a long history of digestive disturbances culminating in acute discomfort for a few days, the tendency to recurrence, with brief intermission of a few hours or a day or two, the moderate quantity of blood ejected in each outbreak, and the condition of anæmia produced by the repeated loss of blood."

While such an hæmatemesis is usually characteristic of a chronic ulcer, similar hemorrhages may occur from other conditions, and neither is it the only variety of hemorrhage from such an ulcer. It should be remembered that an acute hæmatemesis may spring from a chronic ulcer, but that the more usual source is an acute ulcer or erosions.

The same author characterizes the hemorrhage from an acute ulcer as follows: "Spontaniety, abruptness of onset, the rapid loss of a large quantity of blood, the marked tendency to spontaneous cessation, the infrequency of a repetition of the hemorrhage in anything but trivial quantity, and the transience of the resulting anæmia." This is typical of the acute hemorrhages, but is not confined to acute ulceration of the stomach. It may occur as a result of conditions other than ulcer, or during the course of a chronic ulceration.

Acute hæmatemesis may be further divided into symptomatic and nonsymptomatic, and as either of these may occur only once or be repeated, they may be again divided into single and multiple.

By symptomatic is meant an acute hæmatemesis which follows after a longer or shorter period of time, a history of some gastric affection which may or may not have included chronic hæmatemesis.

By nonsymptomatic is meant an acute hæmatemesis that occurs without the existence of any persistent or prominent prodromes. The latter is usually due to an acute gastric ulceration or an erosion, and the former generally comes from a chronic ulceration. The necessity of such a differentiation, whenever possible, from the standpoint of prognosis and treatment, is plainly of vast importance.

The term idiopathic might have been employed instead of nonsymptomatic, were it not for the danger of confusing this symptomatic use of the word with the pathological use, as employed by many to denote that form of hemorrhage from the stomach, in which, at autopsy, no plausible causative factor can be discovered.

The subject of hæmatemesis, therefore, may be outlined as follows:

- Hæmatemesis
  - Chronic
  - Acute
    - Symtomatic
      - Multiple
      - Single
    - Non-symptomatic
      - Mutiple
      - Single

This schematic presentation of gastric hemorrhage, and especially that of acute hæmatemesis, reveals a very complex subject, and one that is apparently in need of farther study, despite the very able and most complete monographs already published.

This fact will be again emphasized by a brief outline of the possible previous and after history of an attack of hæmatemesis.

As to the antecedents; it may follow: (1) an absolutely negative history; (2) a history of gastric ulcer (*a*) with hemorrhage, (*b*) without hemorrhage.

As to the outcome; it may terminate in (1) Perfect recovery after (*a*) a single hemorrhage, (*b*) repeated hemorrhages. (2) Imperfect recovery, with symptoms of ulcer (*a*) without hæmatemesis, (*b*) with hæmatemesis. (3) Death after (*a*) a single hemorrhage, (*b*) repeated hemorrhages.

A CASE OF SCIATIC NEURITIS WITH PARALYSIS FOLLOWING MALARIA.

By WILLIAM GEORGE RUSSELL, M.D.,
NEW YORK.

The following case may not be very rare, but it would seem to be one of more than ordinary severity. Mr. A., occupation postmaster, age 38 years, family history negative, save that father had two attacks of probably simple melancholia. The patient, prior to the present illness, three months since, had always been well, excepting two or three regular ill spells during August of each year, when he had some intestinal trouble for a short time only. This illness began with severe epigastric pain, later extending down the abdomen. He was seen once by a physician, who told him he thought he had grippe. Improvement followed this physician's prescription. Two or three days later intense headache began, accompanied by slight elevation of temperature, extreme restlessness, apprehension, and depression. I saw him then for the first time. I gave morphine to relieve the head symptoms, and told him I would see him later. Some hours later I called and found the headache decidedly relieved, a temperature two or three degrees above normal, nothing else unusual, excepting his fear of brain fever. I gave him calomel, followed by a saline. This acted well, and he also vomited a large quantity of bile. He seemed then decidedly better. Some hours later pain began in the lower part of the back, extending very moderately to the legs; the high temperature continued. This condition lasted for a few days. A diagnosis of remittent malarial fever was made, and I began giving large doses of quinine, alternating every few days with calomel. This gradually modified and controlled the pain. At the end of about a week or ten days I left him, apparently convalescent. He called me again, with complaint of intense pain in the thighs and down the legs, especially in the left thigh. There were no girdle pains. I examined him very carefully this time; the pupillary reflexes were normal, also the patellar; there was slight tenderness of the spleen, but there were no abdominal symptoms or anything else unusual. I was forced to resort to hypodermic injections to relieve the pain, and gave the quinine in larger doses. The pain continued most severe along the sciatic nerve, especially of the left leg; the patient was very restless and had mild delirium at night; there were no bladder symptoms, excepting an occasional retention of urine, which I attributed to the morphine and to the patient's highly nervous condition. Urinary examination was normal in its results. This condition lasted for ten or twelve days, the patient getting no relief, excepting for a few moments at a time, from counterirritants, hot packs, massage, and various other treatments. About this time the patient found he could not use his left leg, and his right not as well. Both the patellar reflexes were lost, the pupils were normal; the pain in the left leg especially was so intense that he could not rest, and had to be moved every few moments, and could get no relief, excepting from the hypodermics of morphine. This I now discontinued, as I did not wish the patient to become dependent on it. The condition of the patient remained unchanged for about ten days, at which time he began to receive vibratory massage. After the first application of this along the dorsal and lumbar nerves and down the thigh, over the muscles, and along the sciatic nerve, the pain disappeared, but returned again with less severity. Similar treatment given each night for about ten days was followed by gradual improvement in the patient; he had less pain, some use of the right leg, which had been similarly affected, but in a more moderate degree than the left. He could now sit up for
or two a day, but was unable to walk or use
leg at all. In order to change his environ
his business gave him much worry, I sent hi
a short distance to a private sanatorium, w
was given baths and massage. He has gr
improved up to the present time, has absolu
pain, is able to use his right leg, and to drag
the left one along if he is helped on either sid
patellar reflex in the right leg is norma
in the left is still absent. There was some
of the muscles below the left knee.

71 EAST FIFTY-SECOND STREET.

The Genesis of Insanity.—J. Montgomery Mos
lines in a most vivid manner the steps of exhausti
nervous system. He states that the dominating
in resisting disease is that of the nervous system. A
nervous system gives the greatest immunity. "Ner
haustion" is termed the "American disease," but
the author declares, because in America has bee
pated the stress of life which is rapidly becoming
Ambition is one of the most potent causes of
breakdown. In immigration is seen a most striki
tration of the hazard risked for personal impr
The colonization of alien communities in the lar
of this country is "a menace to the physical, socia
and political security of the country." Nearly 70
of persons admitted to the hospitals for the insan
fourteen years ending 1901 were of foreign bir
this calamity does not befall the foreign populati
The country-bred boy and girl who leave the
good food, and free life of the parental farm, con
city and are overpowered by its strenuous life.
sign of nervous exhaustion is perverted sensation.
normal limits this is fatigue, and rest relieves it
this limit is overreached rest is no longer recuper
irritability develops. This is the first pathologi
Sensory symptoms follow fast—tingling, numbnes
cation, hot or cold flashes, and pain. Migraine
ralgias are common. Motor anomalies appea
Tremors, twitching, and peripheral spasms occ
sensory and motor symptoms are associated wit
mental states. Worry and loss of memory are co
of. Investigation shows that the sources of w
inadequate, and the loss of memory is rather a
concentration. Disturbances of digestion, dysp
palpitation form the basis of hypochondria. If th
is a woman, the gynecologist is consulted. The
of the patient changes. Mistakes are made. T
occurs. Rambling speech and violent action sudd
prise the patient's friends. Various diseases may
lated at different periods. The keynote of the
of nervous exhaustion is rest. The treatmen
always be recuperative and reconstructive. Long
amusement, and so on are detrimental by using up
force. Simple, nutritious food should be given
intoxication should be combated by keeping the
organs active. Electricity, massage, and passive m
are often indicated. Later, active exercise may be
in. At least four pints of water should be taken d
this should be measured. Plunge baths are very
Within a few months color, weight, and strengt
but vigor is still wanting. The patient tires rapid
and moderation must be exercised for at least a
order to avoid relapse. The physician has score
tory, but he must not cease his vigilance. He
termine the amount of work that his patient can
out injury to himself. He must determine the dang
and even if his investigations seem to pry into the
history of the patient, his courage must not fail, f
a part of his duty. He must establish the relatio
individual with his environment, for it must be rem
that "it is not given to man to surpass his destin
bany Medical Annals.

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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New York, January 7, 1905.

DR. FOSTER'S JUBILEE.

ON the last day of the year 1904 Dr. Frank P. Foster rounded out a quarter of a century of editorial control of the *New York Medical Journal.* This is a record of professional editorial headship which has been surpassed in this country only by Dr. Shrady, who guided the MEDICAL RECORD for thirty-eight years, and by the elder Dr. Isaac Hays in his management of the *American Journal of the Medical Sciences,* from its foundation in 1820 to his death in 1879. Dr. Foster became editor of the *New York Medical Journal,* then a monthly publication, in January, 1880, and has therefore controlled its policy for twenty-five of the forty years of its existence.

Every journal, like every individual, has a special character of its own, and Dr. Foster's paper is no exception to the rule; in its scientific bearing, its conservatism, and its dignified and ethical treatment of the questions of the day it has always mirrored faithfully the personality of its editor—a man so well known to the medical profession of this country that any attempt at a characterization of him would be superfluous. A cordial friendship always existed between him and the former editor of the MEDICAL RECORD, and this amity has ever been, and we hope always will be, reflected in the relations of the two journals. To Dr. Foster, as the dean of medical journalists in America, we offer our sincere congratulations on this termination of his quarter centenary in the conduct of the *New York Medical Journal* (his career as a medical editor covers a much longer period of usefulness), and we join with our colleagues of the medical press in wishing him yet many years of honorable devotion to the cause of medical literature.

THE NASAL TREATMENT OF ASTHMA.

ASSUMING the accuracy of the author's observations, the paper by Dr. Alexander Francis, in the *Journal of the Royal Army Medical Corps* for November, is of considerable interest. Since the days of Aurelian the association of asthma and nasal disease has been noticed, but not until Voltolini, in 1871, published 11 cases of relief by removing nasal polypi, was any great attention paid to it. Later, many observers recorded successful results from nasal treatment, and the belief in the nasal origin of asthma gradually gained ground, until Bosworth, of New York, stated, in 1886, that "a large majority of, if not all, cases of asthma are dependent upon some obstructive lesion in the nasal cavity." In 1889 he published a list of 46 cases of asthma, of which 28 were cured and 12 improved by intranasal treatment. Later he reported 86 cases of asthma, of which 42 were cured and 33 improved. In Schmiegelow's 50 cases of asthma, 32 were cured and 11 improved. But among the 32 cures, asthma recurred in 17 cases, with a recurrence of the nasal lesion. In the 53 cases treated by Heyman, 29 were cured and 14 improved. Lubinski, on the other hand, only claimed to have cured 27 and improved 13 out of 143 cases of asthma with nasal and pharyngeal lesions. Bosworth's belief that the majority of cases of asthma have some nasal lesion has been strongly combated, and Francis thinks that the general opinion among physicians now is that even when nasal trouble is found, little hope of obtaining permanent relief can be expected from nasal treatment. Most of the recent text-books on medicine merely mention that the nasopharynx needs attention if any gross lesion is found, but hope of relief is based chiefly on climate, diet, and drugs.

No one has suggested nasal treatment in the absence of obvious disease, yet actual experience has shown Francis that, paradoxical as it may seem *a priori,* it is just those cases without obvious lesion that are benefited or cured by nasal treatment, and that the only cases in which a poor prognosis must be made are those associated with such gross lesions as polypi. In the author's series of cases, of a total of 402, the nose was apparently normal in 346. In only 18 was no relief or but slight relief obtained, to which we may add 17, of which no record was made. The criticism that the rhinologist is apt to be deceived because he is consulted only when sensible nasal disease exists, does not apply to his series as the great majority of his cases came to him because he was known to treat asthma, not because he practised rhinology. His experience has led him to believe that asthma is a reflex bronchial spasm; that the initial irritation may be in the nose; that it is not directly due to any mechanical obstruction of, or any gross lesion in, the nasal passages; and that some part of the nasal apparatus has a controlling influence upon the respiratory center. The author then takes up these propositions seriatim, and fortifies his position by a goodly array of case excerpts. Nearly every case he has seen has tended not only to confirm the bronchial-spasm theory of asthmogenesis, but also the author's belief that the spasm is of reflex origin. That the irritation may originate in the nose is indicated by the intimate association between hay fever and asthma, the very common record of excessive sneezing at some period in the previous history of an asthmatic patient, and the not infrequent alternation between asthma and sneezing. He cites a number of cases to sustain his contention, *e.g.* two of immediate onset of asthma after fracture of the nose, with cure from nasal treatment; also two cases in which touching the septal mucous membrane provoked instant bronchial spasm ("It felt as if you were screwing my chest up in a vise").

That asthma is not directly due to mechanical obstruction and is not commonly caused by gross lesion is, Francis considers, proven by his and other case series. Polypus, he thinks, merely coexists with asthma and does not cause it. He cites a striking case, in which the two conditions being combined, and the patient being "a perfect wreck," believing he could do no good, he merely cauterized the septum. The result was that three years later the patient reported entire freedom from asthma, except for a very slight attack after a very long journey; the polypus, of course, persisting. This was the only case out of thirty-two similar ones of coexistence of the two conditions in which permanent relief was obtained. Francis also emphasizes the non-correspondence between patency of the air-passages and relief of asthma; for example citing cases in which the asthma was intensified after the removal of obstructive polypi.

The author concludes by saying that there is an asthmogenic zone on the septum nasi, by treating which one is able in the great majority of cases to relieve all bronchial spasm, and that we need not any longer take the view of an eminent authority that the asthmatic's only hope lies in potassium iodide.

QUININE AMAUROSIS.

The type of blindness subsequent to the ingestion of quinine is far less common than that known as wood alcohol blindness. According to Dr. Angus McGillwray, who writes on the subject in the *Scottish Medical and Surgical Journal* for November, there are only about one hundred cases of quinine amaurosis on record. In practically all the cases recorded, the drug has found its way into the system through the stomach. The toxic dose of quinine varies in man from fifteen grains to an ounce a day. Idiosyncrasy and a marked neurotic temperament are important factors in the production of quinine amaurosis. It is doubtful if there is any racial immunity, but the affection would seem to be much more prevalent among men than women.

Quinine blindness is invariably bilateral. In mild cases, the defect in vision is said to be limited to temporary amblyopia, but in severe cases the blindness is invariably complete, and is ushered in with great suddenness. The intensity of the blindness is more marked than in any other form of toxic amblyopia, in which recovery is possible, and the blindness is accompanied by extreme pallor of the optic discs and ischæmia of the retina from contraction of the retinal blood-vessels through spasm, together with contraction of the fields of vision. Other symptoms are diminution of the color and light sense, dilatation and immobility of the pupils during the acute stage, diminished accommodation, ptosis, nystagmus, and occasionally divergent strabismus.

De Schweinitz describes the pathology of the disease as follows: "In the earlier stages of the blindness, *i.e.* from the first to the fourth week (ophthalmoscopically pallor of discs and great contraction of vessels), the microscope reveals in the optic nerves imperfect differentiation of the fibrous trabeculæ and a spreading apart of the individual nerve fibrils, which are beaded and varicose, and beginning to be atrophic. At this time no marked changes are present in the vessels. There is no evidence of neuritis. Later, *i.e.* from one to three months after the onset of the blindness (ophthalmoscopically white discs and practically complete obliteration of vessels), there is nearly complete atrophy of the optic nerve fibers, thickening and collapse of the nutrient arteries of the optic nerve, increase in size of the perivascular lymph spaces, and occasionally partial obliteration of the central vessels of the nerve with a partly organized thrombus. The atrophy extends throughout the nerve, chiasm and tracts. E
sections of the nerves, which ophthalmosco
give every evidence of atrophy, and which
the microscope show extensive atrophic change
tain fibrils still remain unaffected, and, singly
patches, stain somewhat imperfectly with the
gert and Weigert-Pal reagents. This probab
plains why vision is sometimes retained, even
the degenerative process appears complete.
analogous to the retention of unaffected nerve
within the atrophic areas of the papillomacula
dle in cases of alcohol and tobacco amblyopia.

Other investigators differ with regard t
pathogenesis of quinine amaurosis, but the le
undoubtedly a peripheral one.

Concerning treatment, Dr. McGillwray say
during the acute stage of the disease, good
have followed inhalations of nitrite of amyl, a
internal administration of digitalis. Strychn
undoubtedly of service, if we are to judge by t
corded cases so treated, and galvanism has fou
advocate in Buller.

ONE HUNDRED YEARS OF PUBLISHING

Under this title Messrs. William Wood and
pany have issued a brochure recounting brief
history of the house since its foundation in 18
Samuel Wood, who opened a book-shop that
on Pearl street, in this city. With the excepti
the Methodist Book Concern, this is the oldest
lishing house in New York city, and througho
existence the management has remained in the
of one family—a fact worthy of remark in this
try of frequent business changes. Soon after
ing his store Samuel Wood set up a small pri
press and began to publish primers and other
books for children. The first of these publica
issued in 1806, was called "The Young Child's A
or First Book." In the course of time the
and sons' sons were one after another taken
partnership as the elders retired, and under t
fluence of William Wood and of his son, the
member of the present firm, the business of the
became gradually specialized in the directi
medical publications. This interesting histori
count of the house of William Wood and Co
is illustrated with pictures of the quarters occ
by the firm at various times, as the growth
city drove them gradually farther up town,
with portraits of the successive heads of the h

PERCUSSION.

Sir W. T. Gairdner, formerly Professor of
cine in the University of Glasgow, writes in th
vember number of the *Edinburgh Medical Jo*
on the methods of percussion, with special refe
to the importance of minimizing the stroke in
cases in the delimitation of areas. The mann
delivering the stroke in percussion differs t
appreciable degree in Edinburgh and Glasgow
Professor Gairdner discusses the point as to
is the better mode. He quotes largely fro
article by himself, which appeared in the *Me*
Times and Gazette of December 19, 1888. In
article attention was drawn to the fact that
persons—and almost all beginners—in emplo
percussion for the delimitation of organs, er
percussing too hard. The carefully mini
stroke gives approximately exact definitions,
the stronger stroke necessarily gives less exac

wholly inexact, limits of dull and clear areas under like circumstances. The writer criticises to some extent the methods of Piorry, the great master of mediate percussion, who proceeded throughout on the assumption that percussion operates directly downwards, or in the direction only of the impact, in the way of educing the characteristic sound. He thinks that Piorry left a legacy of fatal confusion to his successors, by teaching that for every organ or structure in the body there was a process of delimitation of its deeper relations, which he implicitly regarded as equally available for exact definition with the superficial. In short, Gairdner does not believe that the best means for deep percussion is simply a stronger percussion stroke, but holds that this so-called deep percussion is necessarily inexact percussion.

He describes his method, which he terms a carefully minimized percussion stroke, as follows: "You are to percuss so as to elicit the distinctions of sound depending on air-filled or not air-filled viscera when superficially placed in reference to the abdominal wall; but you are not, as a rule, to strengthen your stroke beyond what is absolutely necessary for this purpose, at least when you are in search of objects such as the thin edge of the liver, which closely underlies the surface, or rather, the wall of the abdomen." Gairdner deprecates the use of Wintrich's hammer—although he himself used it for some years—because it has the effect of cultivating a habit of too strong, and therefore inexact, percussion. In his opinion a carefully minimized stroke is essential to correct practice, and he thinks that it is vain to expect really accurate results unless this condition is systematically attended to. He is especially emphatic in his contention that for teaching purposes beginners should be started in the right line, and not involved in the intricacies of a terminology which is itself demonstrably out of accord with the laws of acoustics.

Actinobacillosis *vs.* Actinomycosis.

An article on the first of these conditions forms the substance of Bulletin No. 1 of the Health of Animals Branch of the Canadian Department of Agriculture. The two conditions above named were confounded until 1900-1, when Lignières and Spitz, by exhaustive work, showed that besides the well-known "lumpy jaw," caused by the streptothrix, a bacillus having none of the characters of the latter was responsible for the production of lesions which exhibited the same general characteristics as those of actinomycosis, with the exception of their microchemical characters. In 1902 Nocard showed that the disease was widely spread in France. The disease as found in Canada by the author, Dr. C. H. Higgings, is identical with the disease in France and Argentina, but in Canada it exists in an attenuated form. The extent of the disease in Canada has not been ascertained, but it is probable that a number of the cases hitherto ranged under actinomycosis would on investigation prove to be referable to actinobacillosis.

The author saw four cases, all in cattle. The gross lesions are very similar to those of actinomycosis, and consist of a connective tissue hyperplasia. In many instances the lesions can be differentiated from those of actinomycosis only by staining methods, particularly Gram's method, which involves decolorization of the preparations upon treatment by alcohol. The pus is characteristic, being semisolid, glutinous, almost transparent, and containing whitish granules scarcely visible to the naked eye, which under the microscope exhibit "bizarre" forms and under high powers show the peculiar bulb-like processes radiating from the mass. The bacillus resembles in a marked degree that of fowl cholera. It is aërobic (facultative anaërobic), non-motile, and usually measures 1-1.8 by 0.4-0.6 microns. It stains with the ordinary anilins (especially the acidified), but decolorizes by Gram. It agglutinates with the serum of infected animals. Guinea pigs intraperitoneally inoculated died in from nineteen to thirty-one days with generalized actinobacillosis, but without the development of peritonitis. They presented post mortem the characteristic lesions. Rabbits also succumbed under the same conditions.

The treatment as far as is known consists in the administration, as in actinomycosis, of large doses of potassium iodide. While beneficial, this treatment will, however, have no ultimate results unless adopted in the early stages of the disease. This is easily understood when it is remembered that from the location of the lesions in the large majority of cases in the region of the larynx and from the extensive tumor formation respiration is seriously interfered with, whereby the condition of the animal soon becomes such as to render treatment an unprofitable venture.

A Regiment of Health Officers.

At the coming meeting of the Pennsylvania Legislature a bill will be introduced providing for the better protection of life and health in the several counties and townships of the commonwealth by the establishment of county boards of health and county and township health officers, and for the notification by physicians of contagious diseases, with penalties for failure to comply with the provisions of the act. It is contemplated that the State Board of Health and Vital Statistics shall appoint in each county a practising physician of at least five years' experience, who shall have special knowledge of sanitary law and administration, to be the medical officer of the county. The health officer who is to serve in each township will be named by the County Courts, subject to the approval of the State Board of Health. This auxiliary organization to the State Board will comprise 1,500 physicians, each having the authority of a constable as to making arrests and that of a justice of the peace as to taking testimony and summoning witnesses. The object of organizing such a force of experts is to patrol the entire State, with the view of preventing epidemics such as have in the past devastated numerous communities. These health officers will have full power to investigate water supplies and distribution, drainage, pests of every description, as well as ordinary nuisances. Through frequent reports from these officers the State Board of Health will be kept in close and constant touch with the sanitary condition of every section of the State and have cognizance of the entire water supply, which will be kept under special observation. The medical officer of health, together with the township health officers and the county commissioners, will constitute the County Board of Health. Each County Board will meet once a year, unless called together more frequently by the county health officer, who is vested with power to call such meetings whenever necessity shall arise. These officers shall receive for compensation from $100 to $500 a year, with six cents for mileage. These charges are to be paid by the counties and are to be adjusted in proportion to the population. The county medical officer of health shall be the salaried secretary and executive officer of the board, and it will be his duty to notify immediately the secretary of the State Board of the existence of any case of smallpox, diphtheria, scarlet fever, typhoid fever, or cholera, or of an epidemic of any communicable disease affecting either human beings or domestic animals within the county in which he has authority. He will have power to issue notices for the abatement and removal of all nuisances and to enforce the same. Citizens may file with these health officers notices of infectious diseases and concerning nuisances, and have the same investigated without cost.

Spontaneous Recovery From A Cerebral Tumor.

A neoplasm, once developed, rarely disappears without surgical or other form of physical removal. Tuberculomata and syphilomata may break down and even be absorbed, either spontaneously or as a result of therapeutic measures, but these are not in the strictest sense of the term true new-growths. Nevertheless, other varieties of tumor-formation may occasionally undergo degeneration of one kind or another, and thus be gradually removed. An interesting case of recovery from tumor of the brain has recently been placed on record by Dr. George E. Rennie (*Australasian Medical Gazette,* September 20, 1904). Of course, as there could be no physical demonstration, the diagnosis must for the present be considered as lacking confirmation, while, on the other hand, the recovery may prove not to be permanent, although, at the time of the report, a period of more than two years had already elapsed without recurrence of symptoms.

The patient was an unmarried ship-steward, 31 years old, with a history of gonorrhœa, but none of syphilis, who two years before coming under observation had fallen a distance of twelve feet, striking the head. Though stunned, he was apparently but little injured, and he speedily recovered without ill effects. After two years severe occipital headache set in, and weakness and staggering developed. There was some difficulty in walking and speaking. The pupils were dilated, the right being slightly the larger. Both at first reacted sluggishly to light, but not in accommodation, although later the reaction to light also was lost. There was some diplopia. Each eye exhibited early optic neuritis, the more pronounced in the left. There was some dysphagia, but no vomiting and no alteration in sensibility. The knee-jerks were exaggerated and the Babinski reflex was present, although ankle-clonus was absent. There was general tenderness of the scalp, especially marked in the occipital region. After potassium iodide had been administered for some two weeks without improvement a trephine-opening was made in the left parietal bone. No excess of fluid was found in the ventricle, but the headache was for a time greatly relieved, although speech became thicker and the eyesight was not improved. The senses of hearing and smell were normal. There was slight ptosis of both upper eyelids. The vertical movements of the eyeballs were defective, while the lateral movements were good, though with some coarse nystagmus and some divergence of the visual axes. There was slight weakness of the muscles on the left side of the face. The mouth could be closed feebly and the tongue protruded only a short distance. The man was able to drink, but could swallow solids only with difficulty. The sphincters were not affected. The temperature was normal, the pulse 100. The heart was free from lesion, the urine normal. A diagnosis was made of tumor at the base of the brain and again potassium iodide and mercuric chloride were prescribed. The patient, however, continued to grow worse, and this medication was withdrawn in the course of three
days, while morphine had to be administered for
relief of the headache. Finally, contrary to expe
tion, he began to show signs of improvement, w
gradually went on to practical recovery.

The onset and the evolution of the symptom
this case are reasonably referable to a chronic
gressive lesion, most probably a neoplasm of s
kind at the base of the brain, and not to a vasc
or an inflammatory lesion. The actual nature o
neoplasm must remain in doubt, although syp
tubercule, or some benign growth, perhaps cy
suggests itself; but syphilis, probably a gu
seems the most likely.

News of the Week.

**The National Association for the Study and
vention of Tuberculosis.**—The first annual mee
of this association will be held in Washington, D
at the New Willard Hotel, on Thursday and Fri
May 18 and 19, 1905. There will be general
sions, and division of the work into the follo
three sections: 1. *Sociological.*—Chairman,
Homer Folks, New York; Secretary, Miss Li
Brandt, 105 East Twenty-second street, New Y
Executive Committee, H. M. Bracken, St. P
J. W. Brannan, New York; E. P. Bicknell, Chica
Ed. T. Devine, New York; Chris. Easton, Newp
Irving Fisher, New Haven; John S. Fulton, B
more; F. L. Hoffman, Newark; J. N. Hurty,
dianapolis; S. A. Knopf, New York; Ernest We
Buffalo; A. M. Wilson, Boston. 2. *Patholog
and Bacteriological.*—Chairman, Dr. Mazyck
Ravenel, Philadelphia; Secretary, Dr. D. J.
Carthy, Phipps Institute, Philadelphia; Execu
Committee, Ed. R. Baldwin, Saranac Lake;
T. Councilman, Boston; Wm. T. Howard, Jr., Cl
land; Hugh M. Kinghorn, Saranac Lake; Wm
MacCallum, Baltimore; Roswell Park, Buff
Wm. H. Welch, Baltimore. 3. *Clinical and Cli
tological.*—Chairman, Dr. Norman Bridge, Los
geles, Cal.; Secretary, Dr. S. G. Bonney, Sted
Building, Denver, Colo.; Executive Commit
Robert H. Babcock, Chicago; Frank Billings,
cago; Vincent Y. Bowditch, Boston; Lawra
Brown, Saranac Lake; J. P. C. Foster, New Ha
Chas. L. Greene, St. Paul; Ed. C. Janeway,
York; H. M. King, Liberty, N. Y.; Arnold
Klebs, Chicago; H. R. M. Landis, Philadelp
Chas. L. Minor, Ashville; J. H. Musser, Phila
phia; Ed. O. Otis, Boston; Wm. B. Stanton, Ph
delphia; A. Stengel, Philadelphia; Joseph Wa
Philadelphia; James C. Wilson, Philadelphia.

**The American Association for the Advancemen
Science** held its fifty-fourth annual meeting in Ph
delphia during the Christmas holidays. The m
ing was opened by the retiring president, Mr. Car
D. Wright, who was succeeded in the chair by P
W. G. Farlow, of Harvard. The vice-presid
elected, who are the chairmen of the various
cieties forming the association, were Prof. Alexan
Zwiet, University of Michigan; Prof. W. F. Ma
Princeton; Prof. L. P. Kinnicutt, Worcester P
technic Institute; Prof. D. S. Jacobus, Stev
Institute; Prof. Eugene A. Smith, University
Alabama; Prof. C. Hart Merriam, Department
Agriculture, Washington; Prof. B. L. Robins
Harvard; Dr. Walter Hough, National Muse
Washington; M. A. Knapp, Chairman of the In
State Commerce Commission, and Prof. H. P. B
ditch, Harvard.

A Luncheon to Dr. Foster.—On Saturday, Dece
ber 31, a luncheon was given at the Hardware C
by Mr. Elliott, of the A. R. Elliott Publishing Co
pany, in honor of Dr. Frank P. Foster, to c

memorate the completion of his twenty-fifth year as editor of the *New York Medical Journal.* The guests included the staff of the *Journal,* colleagues in the medical press, and intimate personal friends of the guest of honor.

Dr. Emily Dunning, the first, and, as yet, the only female ambulance surgeon to do service in this city, recently completed her term of service on the house staff of Gouverneur Hospital, and was presented with a set of complimentary resolutions by the attachés of the hospital. Soon after her retirement she married Dr. Benjamin S. Barringer, a former classmate in the Cornell Medical School, and together they have gone to Vienna to continue their studies.

Dr. Robert S. Woodward, who has been chosen head of the Carnegie Institute, has been dean of the School of Pure Science at Columbia University since 1895, and Professor of Mechanics and Mathematical Physics since 1893. He was born in Rochester, Mich., on July 21, 1849, and graduated from the University of Michigan in 1872. He was for a time in the astronomical and geodetic survey service, and is the author of several technical publications under the Smithsonian Institution.

Dr. Frank H. Lamb, of Glendale, O., has been appointed assistant to the Chair of Physiology, Harvard Medical School.

Dr. Edwin Sternberger has been appointed assistant visiting physician to the fourth division of Bellevue Hospital.

Dr. W. W. Bostwick has resigned as medical officer of Sailors' Snug Harbor, where he has served over seven years, to enter upon private practice.

Tuberculosis in the Tenement Districts.—Thomas C. F. Crain, Tenement House Commissioner, in his annual report to Mayor McClellan, demonstrates that the tuberculosis statistics of certain portions of the city are little short of appalling. Of forty-eight blocks in the Thirteenth Ward in Manhattan Borough there were only seven in which there were no deaths from tuberculosis during 1904. In several blocks there were as many as twelve deaths during the year, and in others there was an average of eight. Altogether, there were 187 deaths from tuberculosis during the year in this ward, which is bounded on the north by Rivington street, on the east by East street, on the south by Grand and Division streets, and on the west by Norfolk street. The ward contains 874 tenement houses, with a population of 12,008 persons. There were 516 cases of contagious diseases in this district last year, with a total of 571 deaths from all causes during the same period. The indifference of property owners to the welfare of their tenants is shown by the fact that last year 84,938 violations of the law were filled against landlords, an increase of 24,439 over the figures of the year before.

Hospital News.—The general prosperity has been reflected this year in a notable increase in the amount of the collection on Hospital Saturday and Sunday, the returns indicating that the deficit of last year will be more than made up in this. St. Thomas's, which last year fell from $2,700 to $1,700, now reports that more than $5,000 was collected, with several absent pew holders still to be heard from. Advances over last year are also reported from the trade auxiliaries, especially those collecting among bankers and the dry goods, clothing, and kindred trades. Collections on the exchanges are also making most favorable progress.

Cook County (Ill.) Hospital Staff.—A meeting was recently held by the Commission to select members of the County Hospital medical staff, and to adopt a report made by its special committee. It is proposed that nervous and mental diseases be established as a separate department of service; that the apportionment of the eclectic and homœopathic members of the staff in the departments be left to the decision of the representatives of those schools of medicine, and only in case they cannot agree that the nominating commission decide. All applicants must be citizens of the United States and residents of Cook County for at least five years, and in practice or study for at least five years after graduation. The following regular departments of service are to be created, with the number of attendants for each as indicated: Surgery, 12; medicine, 12; nervous and mental diseases, 4; diseases of children, 6; obstetrics, 4; skin diseases, 2; diseases of the eye, 2. and diseases of the ear, nose, and throat, 2. Seven committees were appointed to pass on the applications, one for each department. These committees are composed of physicians.

Staff for the Children's Memorial Hospital.—The following physicians were chosen for the medical staff of this institution at a recent meeting of the Board of Directors: Drs. Fernand Henrotin, M. L. Harris, Norman Kerr, J. N. Oswald, Henry G. Anthony, J. W. Class, Hugh T. Patrick, A. M. Hall, George F. Fiske, W. S. Christopher, W. D. Storer, W. W. Quinlan, S. J. Walker, J. P. Houston, and George Chapman. Drs. Frank Billings and Nicholas Senn are the consulting physicians.

Cincinnati Hospital Site Contest.—The Cincinnati Real Estate Exchange has passed a resolution that the city hospital should remain in its present location, at Twelfth and Central avenue, but be put in good and proper condition, in every respect. The Exchange favors the building of a branch hospital on the hilltops.

Endowment of Free Beds.—By the will of the late William McFatrick, of Philadelphia, his residuary estate is after the death of his wife and sister-in-law bequeathed to the Presbyterian, Episcopal, Jewish, Methodist and Howard Hospitals for the endowment of free beds. The widow is requested to donate a sufficient amount to St. Agnes Hospital for the endowment of a free bed.

Post-Graduate Hospital's Needs.—The annual report of the Post-Graduate for 1904 shows that this institution, like most others in the city, is sadly in need of funds. The directors appeal for a contribution of $100,000, which, if secured, will entitle the hospital to $100,000 more which has been promised, provided a similar amount is received from other sources. The home treatment of the tuberculous poor, as carried out by the hospital, has been especially fruitful, as is shown by the fact that more than forty cures of such patients are recorded.

Beth Israel Hospital.—The annual report of this hospital shows a surplus in the treasury, the actual running expenses for the year ending September 30 being $97,449.54, while the receipts were $99,979.08.

Head of Hospital Found Guilty.—The President of the Christian Hospital, Chicago, Dr. N. N. Wood, was held in contempt of court, December 30, for violation of an injunction restraining him from using the name of Dr. John B. Murphy in connection with the hospital. Judge Holdom, in rendering his decision, became very scathing in his remarks, and wound up by fining the Christian Hospital $250, Dr. Wood $100, and ordered him to the County Jail for ten days as punishment.

East Side Physicians' Association of New York.—At the annual meeting of this society, recently held, the following officers were elected: *President,* Dr. A. Brothers; *Vice-Presidents,* Drs. A. Rose and J. Solow; *Treasurer,* Dr. M. Caspe; *Secretary,* Dr. J. J. Rosenberg.

School Instruction in Tuberculosis.—The Franklin County (N. Y.) Medical Society recently passed a resolution requesting that the State Commissioner of Education urgently consider the advisability of public school instruction in the necessary hygiene for the prevention of tuberculosis. It also voted to submit a copy of the resolutions to the New York State Medical Society, the State Department of Health, and the National Association for the Study and Prevention of Tuberculosis.

The Cocaine Habit in Washington.—Major Richard Sylvester, in his annual report of the police department of Washington, recently submitted to the District Commissioners, calls attention to a bill pending in Congress to regulate the practice of pharmacy and sale of poisons, and urges its passage. The examination of the poison register of one dealer's place alone, he says, disclosed forty sales of cocaine in one day. The drug having been put in properly labeled envelopes, there was no violation of law. Such sales would be retarded very much if cocaine could be furnished only on the certificate of a registered physician and the prescription filled but once, as the proposed law provides.

Russian Red Cross Thievery.—Reports from St. Petersburg state that the Red Cross scandals are receiving a thorough ventilation in the papers, and measures are being taken effectually to put a stop to the wholesale pilfering that went on during the summer and early autumn. One hundred out of 120 bales from Moscow alone disappeared at that time, and since then 125 Red Cross wagons have mysteriously vanished on the way through Siberia. The precautions now taken will it is hoped, effectually prevent a recurrence of the disappearance of supplies, the Emperor having sent a personal aide-de-camp to see that their transportation is not interfered with.

Destitution in Mexico.—It is reported that terrible conditions are existing in the northern part of the State of Sinaloa. Food has been scarce in this region for some time, owing to torrential rains, and in consequence of the latter, malaria has become epidemic. From twenty-five to forty deaths a day are reported from starvation, as well as disease, and the authorities are unable to cope with the situation. In many instances bodies are simply thrown into ditches and canals, without any attempt at burial.

To Secure Brains of Eminent Men.—An attempt is being made to form a society which shall have for its object the education of the public to a realization of the advantages to science attending the study of the brains of illustrious personages. A committee, consisting of Dr. Alexander Hrdlicka, Dr. E. A. Spitzka, and Professor B. G. Wilder, has been appointed for the purpose of preparing a general form of brain bequest, which will hold in law and not be rendered null by any action that may be taken by relatives of the person making the bequest.

Medical Society of the Missouri Valley.—In response to an invitation from the Jackson County Medical Society, the semiannual meeting of the association will be held in Kansas City, Thursday, March 23, 1905. Those desirous of presenting papers should send their titles to the secretary not later than February. Papers will appear upon the programme in the order in which they are received. An invitation has been extended to the presidents of the State associations within the territory embraced by the Missouri Valley, and to the profession in general, and an interesting meeting is expected. The president of the society is Dr. S. Grover Burnett,
Kansas City, Mo., and the secretary, Dr. C
Wood Fassett, St. Joseph, Mo.

A Summer Home for Newark Orphans.—
Ackerman Coles of Newark, N. J., has don
large farmhouse and twenty acres of land near
field to the Newark Orphan Asylum Associati
use as a summer home for orphans. The gi
made as a memorial to the mother and sister
donor.

Medical Society of City Hospital Alumni.-
meeting of this St. Louis society, held De
15, 1904, officers for 1905 were elected as fc
President, Dr. John Green, Jr.; *Vice-Preside*
Louis H. Behrens; *Secretary,* Dr. R. Emmett
Treasurer, Dr. Hudson Talbott.

Chicago Medical Examiners' Association.
following officers were elected at the annual
ing of the Society, which was held Decemb
President, Dr. Walter A. Jaquith; *Vice-Pre*
Dr. Liston H. Montgomery; *Secretary,* Dr.
Snow; *Treasurer,* Dr. U. J. Grim; *Councilor*
Chicago Medical Society, Dr. Walter A. Jaq

The November Death Rate in New York.—
port of the New York State Board of Health
that the daily number of deaths in the State
November of this year was greater by fifty-nin
the average for the past fifteen years. Ther
1,220 deaths from pneumonia, 420 more tha
ing October, and 250 more than the avera
November. There was also a large increase
number of deaths from Bright's disease and
cancer.

Obituary Notes.—Dr. Henry Clay Clark
Woodbury, N. J., on December 27, at the
seventy-four years. He was graduated fro
Medical Department of the University of Pe
vania in the class of 1853. He was assistant s
to the Second Regiment, New Jersey Volu
during the Civil War, and was taken priso
the second battle of Bull Run.

Dr. William C. Haven, President of the T
County Medical Association, died at his hc
Coventry, Conn., December 26, of pneumonia,
age of fifty-three years. He was a graduate
University of New York Medical College
class of 1877. He had frequently been a fel
the Connecticut Medical Society, and he ha
taken a large interest in public affairs. In
he was a member of the Connecticut House o
resentatives, and in 1899 he was a State s
from the Twenty-third District. He leaves a
and one son.

Dr. William Alexander Ross died at the
of his daughter in Kansas City, Kan., on Dec
31, at the age of eighty-seven years. He
grandson of General Alexander Ross, who
member of George Washington's staff duri
American Revolution. Dr. Ross was the first
child born in Boone County, Ky. He had
resident of Lawrence, Kan., for many years.

Dr. John Greenbank died at Asbury Park,
on December 29, at the age of seventy-five
He formerly practised medicine in Philadelph
in New Brunswick, N. J., but retired from
work fifteen years ago.

Dr. Arthur C. Adams, of Washington,
died suddenly on December 31, at the age of
six years. He was a graduate of the Medic
partment of Columbia University in the cl
1853.

Dr. Hiram W. Young, of St. Louis, died
cember 30, 1904. He was thirty-three years
and graduated from the Missouri Medical C
(now Medical Department, Washington Univ
in 1897.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

EDINBURGH UNIVERSITY—ANOTHER TROPICAL EXPEDITION—HOSPITAL APPEALS—PAGET'S DISEASE—ENDARTERITIS—TREATMENT OF INTUSSUSCEPTION—ITEMS—OBITUARY.

LONDON, December 16, 1904.

At the Edinburgh University Court, on Monday, Sir Wm. Turner, as principal, made a most acceptable announcement, viz., that Sir Donald Currie had intimated that he would give £25,000 to be applied by the Court to the remuneration of a staff of lecturers such as the authorities of the university might from time to time think it advisable to appoint. But an option was given to the Court to apply £5,000 of the amount towards the purchase of a site for the new laboratories, if necessary. The Court gratefully accepted the gift and resolved to name the fund after Sir Donald. The principal further announced that in response to the appeal to other friends of the university, he had received and acknowledged intimation of further sums amounting to £15,000.

The thirteenth research expedition of the Liverpool School of Tropical Medicine started on Wednesday for West Africa. On the previous evening, on the invitation of Sir Alfred Jones, about sixty gentlemen assembled to meet the members of the expedition—Prof. Boyce, Dr. Arthur Evans and Dr. H. H. Clarke. The guests included Mr. Walter Long, president of the Local Government Board, who spoke of the unpayable debt they owed to Prof. Boyce, and wondered whether the world-wide extent of the labors of the Liverpool school were appreciated properly, even by those most interested in tropical diseases. Sir A. Jones hoped in a few years the tropics would be made healthy for English people, and with the men around them they could do much more. The American Consul in Liverpool, the Hon. Jas. Boyle, also spoke sympathetically of the work. Prof. Boyce said they who formed the expedition regarded it as a part of their laboratory work, the extension of their observations to other places. Expedition after expedition had been sent out, not only from this country, but from the United States and Germany, but more must follow to remove the prejudice and inertia that prevails by proving the reduction of mortality obtained by their labors.

Hospitals are still making frantic appeals for money to pay off their debts, but none of them seem to make any effort to balance income and expenditure, and most of them continue to dabble in bricks and mortar in a ruinous manner. The treasurer and chairman of Charing Cross Hospital say they are compelled to make a fresh appeal. The bulk of the work of reconstruction is finished, costing £26,399 for the purchase of freeholds, and £115,216 for new buildings, At present £9,000 is still due to the contractors, £3,000 is owing for furniture, and £20,000 is required to accommodate the nursing staff, and adapt the remaining part of the old building. For seven years the institution has been getting deeper and deeper into debt, and with an income of £16,000 average, it is announced that £60,000 must be raised to complete the works, and maintain the charity in working order during the next five years. Does it not seem that the evil system of hospital managers of recklessly running into debt, expecting the public to help them out of their difficulties, is as rampant as ever?

The Royal Surrey County Hospital wants £1,500 to pay off its debt. At a meeting on Saturday the High Sheriff said he would commemorate his year of office by contributing £500, and he hoped his successors would follow the example. Mr. Brodrick urged a determined effort to increase the annual income by £1,000. The present income is £4,200, and the expenditure £5,200. Many other hospitals are in similar straits.

Since Paget described, in 1874, a disease of the mammary areola which has been known by his name, it has been shown that the condition may affect other parts. At the Pathological Society, Mr. A. Hopewell-Smith brought forward a case which he thought showed the disease in the oral tissues. It affected the periphery of an epulis of three years' duration without pain. The specimen looked like a periosteal fibroma with patches of keratohyaline material on the surface. Microscopically there was a tendency towards desquamation of the stratum corneum, and its surface was covered with keratohyaline patches. The cells were ballooned. Some cell-nests, and some myeloid cells were detected here and there. There was some ingrowth of epithelium. Mr. Hopewell-Smith thought the appearance of the neoplasm and the infiltration of the interpapillary processes with small round cells, warranted the diagnosis of Paget's disease. As to the histogenesis of the case, he repudiated Cohnheim's embryonal theory, the mechanical sequestration hypothesis of Ribbert, and the anaplastic one of Hansemann. He thought there was some evidence in favor of the views of Thiersch and Waldeyer, as well as the recent researches of Farmer, Moore, and Walker.

Mr. Shattock considered that Mr. Hopewell-Smith had quite failed to prove his point. The specimens shown as ingrowing epithelium, he said, were only a normal appearance due to the direction of the section. The changes found in Paget's disease were not made out in the present case. Only a small part of a large tumor was examined and described, and it was impossible to form from it a satisfactory diagnosis.

Obliterative endarteritis came up for discussion apropos of a case communicated by Dr. Branson in a boy of 12. All the arteries that could be felt were hard and thickened, and at the post mortem patches of thickened intima were found in the aorta. He had only survived a few weeks after first coming under notice for an overgrowth of the gums, when he was found to have symptoms of granular kidney. He died from uræmia. The kidneys were not granular, but much distorted by deep furrows; the left one about twice the size of the right, the lower half of the latter a mere knot of fibrous tissue. The atrophy seemed to be due to arterial obliteration. Dr. Branson seemed inclined to think the case might have been syphilitic, but he had not been able to trace any evidence of this unless the mother, having had two miscarriages, might be thought so. But surely many women have miscarriages, and this can hardly count in the absence of other indications. Similar cases have been reported among the records of granular kidney in childhood. The marked features being extreme disparity in the size of the kidneys, gross distortion of their outlines and absence of granularity. In these cases the question of syphilis does not seem to have been investigated. In the conversation that followed Dr. H. D. Rolleston thought that all cases of granular kidney in children, except those due to scarlet fever, were syphilitic, or, at any rate, parasyphilitic. Dr. Parkes Weber referred to a form of arterial sclerosis in young Polish Jews, in whom a gradual obliteration of vessels gave rise to gangrene, necessitating amputation. The occlusion was partly arteritis and partly thrombosis. Syphilis was not the cause; many patients had been excessive cigarette smokers. Dr. G. F. Still suggested that the case before the society might possibly have a different explanation. Congenital hydronephrosis might be limited to one kidney. Hypertrophy of the heart would be secondary. Hypertrophy of the gums was usually associated with other congenital deformities.

After all, what is obliterative endarteritis? Dr. Branson noticed the confusion in the use of the term which was introduced by Friedländer in 1876, to describe obliteration of terminal arterioles in inflammatory areas; but was applied by von Winiwarter in 1879 to a lesion of the main arteries of a limb leading to gangrene, and for twenty years some such meaning was attached to it. In 1896 Thoma denied the specific identity of the cases and not much has been recorded of the condition since. Textbook definitions differ. One speaks of it as certainly syphilitic; others admit that no distinction can be shown between specific and nonspecific cases. Others again would call thus any arteritis that produces obliteration. No doubt intimal proliferation plays a part in chronic arterial lesions, however originating. In atheroma the tendency to fatty degeneration is associated in a marked degree; not so in syphilis.

The Treatment of Intussusception in Children was the subject at the Clinical Society's last meeting. Mr. C. S. Wallace read notes of twenty cases; nineteen involved both the small and large gut, the other one was of the colic variety; eleven were single tumors and nine double. The treatment was primary celiotomy, the most convenient incision being through the right rectus beside the umbilicus. He did not lay stress on reduction within the abdomen, thinking time the most important consideration. Deep sutures were rather favored to reduce the danger of the incision coming open from failure of union. Of the twenty cases, four died—twenty per cent. Excluding two cases of resection, the mortality was only 11.11 per cent.

Mr. C. H. Fagge contributed eighteen laparotomies, seventeen primary, one after failure of inflation. In sixteen a tumor was detected either in the abdomen or *per rectum*. The other two cases were fatal; in one no surgeon was called for twenty-four hours, and, though reduction was easy, the child died on the fourth day; the other was of enteric type, irreducible, and was resected. Five irreducible cases were fatal; in one an artificial anus was done; in four, resection. Thus, of eighteen cases, seven died, thirty-nine per cent.; of the reducible cases, thirteen in number, two died, 15.4 per cent.

Mr. Barker was surprised at the number of double cases reported, for he had not met one such in thirty operations. He thought it undesirable for the bowel to escape from the abdomen, as it lengthened the time of the operation and added to the shock; he rarely made an incision above two inches, and had never had the wound open. It was well to do the first dressing under opium and chloroform.

In gangrenous cases he had never seen a recovery after resection and did not expect to see one.

Dr. C. Box spoke of the medical aspect of the subject, and defended the custom of admitting all acute abdominal cases at first under physicians, an extra chloroformization for diagnosis being admissible for doubtful cases. He did not think there was additional shock from escape of intestines, and that was often the greatest aid to the operator. Opening of the wound from non-union he attributed to toxæmia, as in perforated typhoid ulcers after operation.

Dr. Douglas Drew had operated on thirteen cases. Two were gangrenous and died. One was double—the only one he had seen—and the patient died of toxæmia. He reduced within the abdomen, but withdrew the cæcum to examine it. He had not seen the wound burst open.

Dr. Brook had performed inflation with success, but asked whether it was justifiable. He also inquired as to irreducible cases, whether splitting of the outer layer or resection is advisable.

Mr. Wallace, in replying, attributed the number of his double cases to chance, though many might be overlooked in intra-abdominal operations. The length of incision was a personal matter. Some operators could not work with a small opening. Opening of the wound might occur with a one-inch incision; it was certainly due to toxæmia. Inflation should never be done; it was impossible to know if complete reduction had occurred. Disappearance of the tumor might only mean it had slipped behind a flexure or under the liver. He had not heard of successful resection under two years, and manipulation was the only resource. Some force must be used. In some cases, as those of prolapse of ileum through the valve, actual pulling must be tried, as well as pushing or squeezing. He had never seen a recurrence after operation.

Mr. Fagge also replied, agreeing that double cases might be overlooked, but as operation should always be done that was not an important matter. He always made a three-inch incision, even in a small child. He had seen one case of recurrence after operation, but many after inflation.

At an inquest on Saturday, on a girl of eighteen, who died while under nitrous oxide, given for the extraction of a tooth, the immediate cause was said to be cardiac failure. The coroner remarked that the percentage of deaths from the gas was one in a quarter of a million. The present seemed the unfortunate one. The parents testified that every care was taken by the dentist and their doctor, who was also present. Verdict, death from misadventure.

At another inquiry a week ago, concerning the death of a child, caused by playing with fire, the coroner (Dr. Danford Thomas) said that last year inquests were held on 1,684 young children, whose deaths were from burning, and 1,425 of these were because the fires were not guarded.

Dr. Vaudry Lush, physician to the Dorset County Hospital, was seized with cerebral hemorrhage during a meeting of the committee, which he was attending, on the seventh inst., fell from his chair, and died in a few minutes. He was born in 1834, took M.B. Lond. 1865, with three honors; M.D., 1866; F.R.C.S., 1870. In 1879 he joined the College of Physicians as member, and in 1889 its fellowship was given him. He contributed at times to the journals and he had a large practice to conduct, and, besides the county hospital work, he held other appointments, and was most exact in the performance of his duties. His whole career was not merely successful, but he was for many years the leading consultant of a large part of the country and everywhere regarded by the profession and the public as an upright, trustworthy adviser, as well as a philanthropic and Christian gentleman.

ALCOHOL IN THE TROPICS.

To the Editor of the Medical Record:

Sir: I have read, with interest Major Woodruff's plea for the dietary use of alcohol in the tropics, as printed in the issue of December 17, 1904. In making mental comment on the article, it has occurred to me to wonder if Major Woodruff has ever thought that it may be entirely within the bounds of possibility to meet all dietary requirements in the tropics, as well as elsewhere, with nutriments that, so far as they are suited to the ordinary needs of life, are sufficiently easy of digestion and absorption, and yet will give all the force necessary through the metabolic processes, and still be well balanced as to their constituent elements, and be devoid of the dangers and disadvantages which always pertain to alcohol when used as a food.

Granting that alcohol oxidizes in the body in certain amounts, and that in extreme conditions it is the only available source of force we can call on, it does not follow that it is desirable to use it as a food in any ordinary conditions. Used in connection with a completely balanced reconstructive nutriment, having a full share of the nitrogen that is indispensable to all vital activities, we all k that for a time, at least, alcohol can be used to imp the nutrition of the body. But when considered in its as a food, uncombined with such adjunct nutriments, Atwater, or any one else, is not in a position to prove the sum total of the complex influences of alcohol is f There is no known way in which the diverse results of hol in the human body can be so estimated as to emph or in any case to estimate as to whether the vitalizing o vitalizing influences prevail in dosages of any degre have never yet sat out a two-hour dinner in which alc had been used in so-called moderation, but what I not thought that the ultimate influences of its inhib has been loss of force before the dinner came to an The immediate effect of alcohol is agreeable and appar force-creating; but its anæsthetic, narcotic, and paraly influences prevail in the end.

In all discussions of the alcohol question by conse tives, so far as I know, the educational influence of ernmental attitude against the use of alcohol as a beve never referred to; and yet it is because of the *ulti* outcome of that attitude that the abolition of the car is defensible. What do the lives of a few dissolute, unrestrained individuals amount to in comparison wit welfare of the race! One might as well argue that Japanese were not justified in their individual sacri for the good of the nation. We are gradually learning nutrition for health is best attained by the inhibition very simple dietary, and that the exclusion of every necessary food is desirable. Alcohol is totally unneces under any climatic conditions, though unquestionab specialized diet for the particular conditions of a tro climate is necessary. So far as I can see, doctors, rule, know but very little in regard to the essential diet. How little, for example, is settled in regar cow's milk and its exhibition to infants and adults. few hours we all have spent in our college training in study of this all important subject, and what infin weary hours are given to drug exhibitions.

J. M. W. Kitchen, M.

East Orange, N. J.

THE OPTOMETRY BILL.

To the Editor of the Medical Record:

Sir: There appeared in your journal a few weeks a letter from Dr. Van Fleet, addressed to the medical fession, which should not be allowed to pass without s notice. The extraordinary statements made by the w are of such a character that I am reminded of the saying, that "whom the gods wish to destroy they make mad." It has always been considered a sure certain sign of a lost cause when such weapons as representation are resorted to. Permit me to point some of the extraordinary statements which he makes. asserts that "many of the names" of the physicians dorsing the bill "were fictitious," a rather serious charg bring against the committee of the State Optical Soc Again, he says that "every well-informed physician know that they (optometrists) are all incompetent." V about the hundreds of physicians of high standing thro out the State who send their patients to optometrists the reason that they believe that the work will be b done? This is a matter of record and cannot be nied or gainsaid. He says further that we "seek to t headaches, dizziness, and various reflex phenomena w may be due to affections of organs remote from the e How absurd and ridiculous! Our work is simply this measure accurately all mechanical defects in the const tion of the eye or its controlling muscles and to su lenses to correct these defects. Should headaches various other troubles be relieved as a result of our w so much the better for ourselves and the patient. Ano astounding statement he makes is to the effect that prepare physicians to do this work (optometry) the law quires that a four years' course in a medical college s be taken, after which a medical examination conducte the State must be passed." It is difficult to see how fair-minded man could bring himself to make such a st ment, for it is absolutely incorrect. Nowhere does law require any course, long or short, in medical coll or elsewhere, or any examination whatsoever by the S to prepare physicians or any one else to do this w (optometry). The field is now open to all comers, f the "well-informed" physician like Dr. Van Fleet, dow the common peddler and street fakir who stands on corner and sells his glasses to the unsuspecting and unw

Our object in seeking legislation on this subject is to vent incompetents (whether they are found in the ra of the "well-informed physicians" or elsewhere) f engaging in this work. All should be obliged to underg strict and searching examination before a State bo and those who refuse to do so, and who continue to oppose the enactment of this wise and beneficent measure, should be branded as incompetents. Is it not rather strange that the men who profess to be alone qualified to practise optometry by reason of a four years' course in a medical college have only allotted to them in the study of the eye in all its branches the maximum time of thirty-two hours during the whole four years' course, while those who have given years of study exclusively to optometry are declared by these aspirants to be "all incompetent"? But Dr. Van Fleet's closing statement is certainly the most ludicrous. We are told "opticians know that they are violating the law in following the occupation which they are now engaged in," and "that the enactment of the bill will give them the legal right to do what they are now doing in violation of the law." I would ask, if we are violating the law, why is it that the chairman of the committee on legislation of the medical society is neglecting his duty and does not prosecute us? Perhaps the recollection of the scene before the senate committee in February last still haunts him, when the Optical Society of the State of New York offered to furnish him with the money to prosecute the writer and his associates who practice optometry; but he left the committee room defeated in argument and strategy and forced to resort to other means to defeat the measure which otherwise would have been on the statute books of the State to-day.

Our cause is surely a just one and our purpose honorable. Sooner or later we shall receive recognition and suitable legislation, just as the dentists fought and won their battles against the self-same forces and many of the same arguments as are being used to-day. Who can deny that dentistry is infinitely better done to-day than before the dentistry laws were enacted! So it will be with optometry. The public will then know who are competent to do this work, and fakirs, peddlers, and incompetents will be relegated to the past. A. Martin.

The Relation of the Thymus to Metabolism.—Sinnhuber has conducted a series of investigations on this subject and comes to the following conclusions: The thymus is not an organ important to life in the post-embryonal period. The extirpation of the gland is without influence on the excretion of lime, and the thymus has no causal connection with rachitis in so far as this is concerned with the question of the intake and output of lime. When the gland is atrophied or hypertrophied in this disease neither the rachitis nor the thyroid lesion is either primary or secondary, both are the result of an underlying etiological process. The nature of this underlying process is associated with the lymphatic diathesis and this is usually the result of an interference with intestinal activity caused by insufficient or unsuitable nourishment. In feeding experiments the consumption of thymus gland is without appreciable effect on the excretion of lime, but the nitrogen output is increased. Large doses of throidin markedly increase the excretion of lime as well as the nitrogen output, which is even in excess of the intake.—*Zeitschrift für klinische Medicin,* Vol. 54, Nos. 1 and 2.

An Attempt to Produce a Therapeutically Useful Antibody in Anemia.—Engel, from the results obtained in a case of severe anemia, believes that the improvement was due to the use of a serum injection. Starting with the idea that the primary anemias are due to the effect of some unknown toxic substance circulating in the blood, the author endeavored to produce an antibody in the blood of the rabbit. A considerable amount of blood was abstracted in small quantities at weekly or biweekly intervals from an anemic patient and, after having been made inactive by heating to a temperature of 58° C. for half an hour, was used to immunize a rabbit. The serum obtained from the animal was then used for injection into the patient. The patient's hemoglobin before the treatment was begun was 30 per cent.; eight injections were given in all. After the first injection a considerable reaction was caused, which was less after the succeeding ones. The state of the blood immediately after the last injection is not given, but a year later the hemaglobin was 90 per cent.—*Zeitschrift für klinische Medicin,* Vol. 54, Nos. 1 and 2.

Progress of Medical Science.

The Boston Medical and Surgical Journal, December 29, 1904.

The Ultimate Results of Cauterization of the Lower Turbinate, with Therapeutic Suggestions Based upon Histological Findings.—J. L. Goodale gives a careful description of the histological structure of the nose, showing that the glands of the nose are of two kinds, the mucous and the serous, the distinguishing feature being the presence of secreting capillaries in the latter, and their absence in the former. He then considers the effects of cauterization both beneficial and harmful to the physiological functions of the nose. When the mucous membrane is relaxed, distinct benefit accrues from its contraction. In cases in which intermittent alternating nasal stenosis is due to relaxations or congestions of the tissues, the proper application of a caustic to the lower turbinate anteriorly may be recommended. In cases characterized by excessive secretion of mucus from the posterior nares, with healthy sinuses, but with relaxation of the mucous membrane of the septum, or of the lower turbinates, cauterization meets with improvement in suitable cases. In vasomotor rhinitis of moderate severity, the removal of anterior obstructions often affords marked relief to the symptoms. A caustic application to the relaxed mucous membrane of the lower turbinate anteriorly may be recommended. The most conspicuous alterations from caustic applications are superficial and extend downward in progressively diminishing intensity. The destruction of the ciliated epithelium impairs an important function of the nose, namely, the expulsion by the cilia of the inspired foreign particles from the mucous membrane. The obliteration of the canaliculi in the basement membrane prevents the normal outward flow of fluid intended to moisten the surface of the epithelium. To this may be largely attributed the dryness of the nose and throat of which hay fever patients complain. Another injurious effect of caustic applications is the secondary enlargement of the tissues due to cystic dilatation of the ducts of the glands which may result from stenosis of their orifices. Below the mucous membrane, the alterations consist of a more or less complete obliteration of the blood vessels, lymph channels and glands, with their replacement by connective tissue. Such changes are likely to result in a diminution of the warming power of the mucous membrane. The glandular secretion is also likely to be decreased. As to the method of making these applications, if the object is to contract relaxed mucous membrane, deep linear applications, as narrow as possible, of chromic acid, or of the galvano cautery, or submucous cauterization, offer the best methods. If it is desired to diminish the amount of nasal fluid, broad, superficial applications to a definite area of the septum and lower turbinates, posteriorly, are advantageous. In the event of recurrence of enlargement after cauterization, it is probably best to dispense with further cauterization, and proceed immediately to the excision of a definite amount of obstructive tissue.

Standard Records of the Leucocytes in Normal Blood for Reference in Clinical Work.—Henry F. Hewes has for two years been conducting an investigation upon a considerable number of normal individuals to determine the possibility of finding out the existence or non-existence of leucocytosis, and at the same time of making a differential count to determine the type—the entire determination being made by the examination of a stained specimen alone. He has found that this is feasible and practical. In order to fit himself for the application of this rapid method of blood examination, each man should make a set of records from the examination of specimens of normal blood with his own microscope, thus correcting his own technique, and standardizing his microscope. Thus he will obtain a set of standard normal records for his own use. It must be noted that the number of leucocytes is almost invariably higher in the mid-afternoon than in the mid-forenoon in the same individual. There is in normal conditions no definite variation in the character of the differential count corresponding to a variation in the number of the corpuscles per cubic millimeter, or between the forenoon and afternoon. The table records indicate that this method of computation will bring us within 2,000 of the actual count, which is accurate enough to clinch the diagnosis of the existence or non-existence of a leucocytosis and approximately of its extent. The writer gives the following standard normal rule for use in clinical work: In an estimation of the leucocytes by the method of the count by fields of a stained specimen, the number of leucocytes lies, as a rule, in normal blood during the 12 day hours, between 40 and 90 per 100 fields, the higher numbers occurring regularly in the afternoon. A record exceeding 90 per 100 fields in a good specimen at any time of day is, therefore, suggestive of a leucocytosis. A record of over 80 in a forenoon count is suggestive of leucocytosis, and indicates a further investigation in an afternoon count.

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Medical News, December 31, 1904.

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American Medicine, December 31, 1904.

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Polyneuritis Complicating Typhoid Fever, with Unu Localizations.—Gordon reports a case in which the ner phenomena pointed to a multiple neuritis, the associ unilateral facial palsy of peripheral nature making case unusual from the standpoint of etiology, and lea the writer to suspect possible trouble of a poliomy nature. The case is that of a young man who on fifteenth day of typhoid fever developed a right bra monoplegia with a facial palsy on the same side. Go analyzes the rôle of infection and intoxications in dise of the nervous system and concludes that the toxins of infectious diseases may affect a whole neuron (cell and its axis-cylinder) or several segments of it simultaneously.

Journal of the American Medical Association, December 31, 1904.

The Treatment of Lupus Erythematosus by Repeated Refrigeration with Ethyl Chloride.—Five cases are reported by M. B. Hartzell. The diseased areas should be thoroughly frozen and kept so from five to eight minutes and the treatment should be given every two or three days. Occasionally considerable inflammatory reaction follows, in which case the intervals between freezings should be from four to five days or even longer. After from ten to fourteen days of this treatment considerable desquamation occurs and the diseased areas grow much paler. In the course of six or eight weeks, small and superficial patches of recent origin may completely disappear. In connection with the local treatment large doses of quinine are given internally.

Diseases of Children Occasioned by Affections of the Nose.—L. J. Lautenbach refers particularly to disturbances of the digestive tract, eye and ear. Nasal abnormalities causing obstruction lead to naso-pharyngitis and a dry throat evidenced by a hacking cough, impaired lung action, chest deformities and weak heart action. Then ensue digestive disturbances leading to mal-nutrition with its stomach and intestinal pains, anorexia, cold extremities, bowel inaction, liver congestion, eczema, and boils. At the same time there develops as a result of the nasal obstruction a catarrhal or phlyctenular conjunctivitis with ephiphora, or closure of the ductus ad nasum, or even a keratitis. There usually is an involvement of the eustachian tube, with a loss of hearing power either as the result of direct extension of the nasal inflammation, infection, or closure of the tube, or as the result of pressure alone. In these obstruction cases the memory, the mentality and judgment are more prone to suffer if the posterior nares is considerably involved. The obvious deduction from these facts is not to neglect the ordinary colds of early years, to keep the nasal and pharyngeal channels free and clean, to give such internal remedies as each case calls for and to follow out a carefully regulated hygiene.

Treatment of Chorea by Prolonged Warm Baths.—W. C. Hollopeter emphasizes the virtues of prolonged warm baths in shortening choreic attacks. He finds the baths soothing to the exhausted twitching muscles, productive of sleep and strength-giving. The mode of giving the baths is thus described by the author: The child, when once placed in the bath, is entertained by the nurse or mother by placing some plaything or floating toy in the water, and while the child's attention is so occupied the time will pass rapidly and the attendant's duty will consist in avoiding draughts and in maintaining the temperature of the water sufficiently high (from 90 to 96) so as not to produce any immediate or secondary shock to the child. In this way the child may be entertained for a long time in the water, the whole body being immersed except the head and neck for at least one or two hours, twice a day. The last ten minutes of the time can be properly devoted to a gentle superficial massage of the arms, legs and trunk; after which the child will be sufficiently weary to take a nap. Hollopeter has treated some forty or fifty cases in this way and finds that the duration of the disease is reduced from twelve down to six weeks.

The Resistance of the Peritoneum.—C. M. Echols reports a case of gunshot wound of the abdomen in which laparotomy was not done till seventeen hours after the shooting when the gastrointestinal contents were spread diffusely through the abdomen. The patient was a man of twenty-five years. The author says that with reference to injuries of the peritoneum we should bear in mind (1) that it is by far the most extensive and complicated of the serous membranes; that it is capable of absorbing a large quantity of liquids in a short time; that it can in some patients resist the invasion of large numbers of pyogenic bacteria and withstand considerable handling and trauma with apparent impunity. (2) That a low mortality rate, in any limited series of laparotomies, is not to be construed as demonstrating the operator's superior technic and careful asepsis. The patient's vital resistance may be, and perhaps is, after all, the chief factor in determining whether or not septic peritonitis will follow these operations.

The Lancet, December 17, 1904.

Appendicitis and Pregnancy.—H. A. Lediard and R. E. Sedgwick refer to Pinard's monograph on this subject, published in 1898, in which forty-five cases are collated. Thirty were operated on with a maternal mortality of thirty-three per cent., and a fetal mortality of thirty-six per cent. The authors then report a personal case in which the mother recovered from the operation, but aborted (at the sixth month of pregnancy) four weeks later. Their patient was a married woman of forty years who had borne eight children in nine years and had had one miscarriage. Her symptoms came on in the usual way and she was operated on about a week after their onset. She had had two attacks of "inflammation of the bowels," both occurring in the same part of the abdomen (appendix region) at two previous and separate pregnancies at about the fifth month. Operation was done under chloroform, but healing was slow, as the movements of the child were both seen and felt and obviously did not tend to the formation of a good scar. Healing was not complete until two weeks after the miscarriage. For some days after the operation the wound seemed to get more and more extensive and gaping and omentum was protruded. It was felt that when the wound did heal several unpleasant possibilities might present during labor. The scar, recent and thin, might rupture; a large ventral hernia in all probability would form either during labor, with possible intestinal constriction as a result, or afterwards, in which case a second operation would be necessary for its cure. The risk of procuring miscarriage was thought to be sufficiently great to counterbalance what were after all only reasonable possibilities or probabilities, and nature finally and fortunately came to the rescue and solved all difficulties.

Acute Lymphocythemia.—L. S. Dudgeon reports one case, his patient being a man of 37 years with the usual symptoms. An elaborate table is given of the results of various analyses of the blood. The symptoms during his stay in hospital are summarized in the following statements: There was pyrexia of an irregular remittent type during the whole period of the patient's illness while under observation in the hospital. There was never any very high temperature recorded. There were never any subcutaneous hemorrhages or petechiæ seen. The condition of the mouth gradually became worse and on several occasions the patient had a severe hemorrhage from the gums. Two hemorrhages were seen for the first time four days before he died, in the right disc and retina and one or two dark spots which might have been due to capillary thrombosis. There was never any true glandular enlargement. The urine remained normal during the entire course of the illness. There was never any diarrhea or vomiting. The bones were never tender. The author calls attention in connection with the case to the agglutination of the erythrocytes which occurs in severe anemia, concerning which he thinks no satisfactory explanation has yet been offered, though he thinks it probably takes place in the capillaries. The autopsy revealed large, soft, red succulent glands along the vertebral column downward from the level of the celiac axis; otherwise, the glands were scarcely at all enlarged. The marrow of the ribs was soft and not in excess. It looked like thin, reddish-yellow pus. The femur showed chronic osteitis, the medullary cavity being obliterated, while the outer surface of the bone was rough and irregular. A small quantity of bright yellow fat was obtained from the center of the bone. The lymphocytic infiltration was most marked in both kidneys, though all the organs showed it to some extent.

Operative Treatment of the Conditions of the Gastro-intestinal Tract which Result from Chronic Obstipation.—After an analysis of the various causative factors implied in the title of his paper, W. Arbuthnot Lane states that he has had considerable success from dividing constricting bands and adhesions and from subsequent attention to the functioning of the bowel, but when he finds that the mechanics of the intestines have been altered to a degree that cannot by the divisions of bands be satisfactorily rectified, he divides the ileum some five or six inches from the cecum and then examines the sigmoid flexure and rectum to determine the most readily accessible and safe conduit into which the ileum can be made to drain. In some cases the adhesion of the mesosigmoid and sigmoid flexure is so considerable, and the fixation and wasting of this piece of gut are so great, as to make it advisable to effect a junction with the dilated rectum where the muscle wall is hypertrophied and easily dealt with. In most cases, however, by carefully separating the adhesions it is possible to bring out between the edges of the wound a piece of sigmoid flexure of sufficient length and mobility to effect a perfectly secure and safe junction with the ileum. Having determined on the piece of large bowel which is most suitable for the purpose, the proximal extremity of the ileum is placed alongside the chosen portion and sufficient lengths of each are secured together by suitable forceps, gauze packing being placed about. Longitudinal incisions are made in the approximated pieces of bowel and by means of a continuous silk suture penetrating all the coats, the aperture of communication, which should be of sufficient length, is rendered perfectly secure. To avoid any possible risk this junction is supplemented by an encircling continuous silk suture which does not enter the lumen but obtains a secure hold upon the peritoneum and muscle coats.

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liquid. Every drop of water taken into the body meant additional work for the heart. The aim should be to regulate the blood pressure in the kidney, rather than to crowd more work upon the already struggling heart. In chronic gastric, and intestinal disorders, the significance of the abuse of water drinking could be more readily recognized. As regarded the effects of large quantities of water in metabolic disorders, the abuse of water drinking would continue until patients and their physicians worshiped at other shrines than that of uric acid. Rubner, the distinguished Berlin physiologist, had shown that copious water drinking might for a short time cause a washing out of nitrogenous products from the body, but water had no effect upon the splitting up of the albumins, and upon general metabolism. As regarded free flushing for the removal of calculi, gravel, etc., it was important first to ascertain the condition of the circulation, and to verify the fact that the increased intake of water was represented by an adequately greater amount of urine. If this failed to occur, an investigation into the cause of the failure should be made before blindly ordering more water. If the necessary rise in the renal blood pressure had not been obtained, it was much better to resort to cardiac tonics, with or without the alkaline diuretics. In acute infectious diseases, and in septic conditions, in which free diuresis meant so much in the successful outcome, it was also necessary to guard against the dangers which followed from crowding too much water at ordinary temperature into the patient's system. Those patients were already on a fluid diet, and the motor and secretory functions of the stomach were lessened as a result of the fever. Any abuse could be guarded against by carefully watching for evidences of dilatation of the stomach. The water should always be given cold, and in small quantities frequently repeated.

Dr. Simon Baruch said the greatest abuse of water drinking was the inexact manner in which this therapeutic measure was prescribed by physicians, What was true of water in its external application was tlso true of its internal effects. The effects depended upon the temperature of the water, its quantity, and the duration of the application. A fainting woman might be revived by a sprinkling of cold water, but if we immersed her in a tub of water of the same temperature for any length of time, there would probably be a collapse. It had been shown that small quantities of cold water stimulated the flow of gastric juice, while large quantities paralyzed the peristaltic action of the stomach. The physician, when he instructed his patient to drink water, should prescribe the exact quantity, and the time and temperature at which it should be taken. In certain fevers, especially when there was already a retention of water in the system, the ingestion of large quantities of fluid should be avoided, because the heart was overburdened and weakened by the toxins of the disease. In such cases, small quantities of moderately cold water, taken at regular intervals, had a diuretic action and gave much better results. This rule did not apply to conditions like cholera or hemorrhage, in which there was an actual loss of water, and where flushing was one of the best therapeutic measures.

Dr. Alfred Meyer emphasized the importance of treating the individual as well as the disease. The abuse of water drinking, to which Dr. Manges had called attention, was no greater than the abuse of egg eating among those suffering from tuberculosis, and the results of such excess often gave rise to more trouble than excessive water drinking. The speaker referred to the dangers of overindulgence in surf-bathing, of which he had frequently seen examples at the various coast resorts during the summer. Aerated waters, which were apt to cause dilatation of the stomach, should be avoided in certain cardiac conditions, especially angina pectoris.

Dr. Beverley Robinson said that in the treatment of typhoid fever and the acute exanthemata with high temperature, he still favored the use of a goodly quantity of water taken internally. Such patients usually craved water, and he saw no reason why it should not be given freely. Under such conditions he did not think it affected the heart injuriously, nor that it acted otherwise than advantageously. On the contrary, the high temperature and the toxic condition of the system were apparently favorably affected by a plentiful supply of water. In regard to dosing old nephritic or cardiac cases with large quantities of water, Dr. Robinson said he did not think such a practice was common among up-to-date physicians. Fluids in any form should be given sparingly when the system was already overloaded with water, and in the early stages of acute nephritis.

Dr. Charles C. Ransom said there was no better stimulant to metabolism in chronically diseased conditions than water, properly used. The reason he thought it was not more generally prescribed was that there was a lack of knowledge regarding its therapeutic value. In the treatment of gout he did not favor the drinking of sulphur water, or waters of that class, and he had seen better results from the external use of water than from its internal application.

Dr. Charles B. Fitzpatrick said he did not think there was much abuse of water drinking in New York City. The abuse of alcohol was more common, and this, together with the infectious diseases, was responsible for most of the diseases of the kidney. In certain types of nervous disease, Dr. Fitzpatrick said he had employed large quantities of water, with very gratifying results. The free use of water internally was also of value in certain toxic conditions. In diphtheria, for example, the cause of death was a fatal dose of the toxin, and by diluting this sufficiently with water, its lethal effects might be put off until other means could be employed to combat it.

Dr. Manges, in closing, said he thought there was no doubt that in chronic nephritis there was much abuse of water drinking. The point he wished to emphasize in his paper was that an increased intake of water should be represented by an adequately greater amount of urine. If this failed to occur, an investigation into the cause of the failure should be made.

The Influence of Sugar on Fermentations in Milk and Milk Curds.—H. L. Russell declares that it is apparent from work that he has done on both milk and curd that the nature of the fermentations normally set up in these nutritive media depends very materially upon the composition of the same. Both of them are rich in nitrogen and, therefore, exceedingly susceptible to bacterial activity. Ordinarily such media would naturally undergo putrefactive changes, but the presence of milk sugar evidently prevents these organisms from reaching their maximum development on account of the acid which is formed by the growth of the lactic bacteria. When the milk sugar is removed, the lactic bacteria are still capable of growth, but under such conditions little or no acid is formed, and, therefore, the conditions do not become so unfavorable for the growth of the nitrogen-decomposing class. The lactic bacteria, therefore, are of importance in the prevention of putrefactive changes in milk by the action which they exert on the milk sugar. These studies have an important bearing on infant feeding. If conditions arise whereby the lactic bacteria are not able to develop, if they are overpowered by the growth of other species, the character of the fermentations produced is materially different, according to the writer. The most important condition that determines the probable type of development is the presence of the sugar. This factor may enter into the distinction between cow's milk and mother's milk. The first is higher in nitrogen and lower in sugar, and hence may not be so suitable for growth of lactic species. The beneficial use of foods consisting largely of carbohydrates, in the treatment of infantile disorders, such as summer diarrheas, may be an application of this principle that the sugar exerts a protective effect on the character of the fermentations produced.—*Archives of Pediatrics.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 31, 1904:

	Cases.	Deaths.
Measles	126	6
Diphtheria and Croup	302	45
Scarlet Fever	206	16
Smallpox	......	......
Chickenpox	87	....
Tuberculosis	434	134
Typhoid Fever	52	7
Cerebrospinal Meningitis	....	18
Typhus Fever	.....	....
Yellow Fever	.....	....
Cholera	.....	....
Totals	1 207	226

The Functions of the Tonsils.—George Bacon Wood finds that the tonsillar tissues possess distinctly two properties: They can absorb fluids and finely divided solid particlues from the crypts; the other property they hold in common with all adenoid tissue, namely, the production of lymphocytes in the secondary nodes or follicles. The writer thinks that the truth of the following propositions has been practically established: The older forms of leucocytes are derived by a continuous development from the younger lymphocytes. The lymphocyte is originally derived from epithelial structures. In this connection the thymus gland plays the most important rôle. There exists strong histological evidence that lymphocytes are directly derived from the epithelium of the tonsillar crypts. From the results of these investigations, therefore, the writer believes that the tonsil is a primogenial source of leucocytes. He states that the strongest argument against the theory of leucocytic primogenesis as the function of the tonsillar structures of the throat is that the idea is too revolutionizing. The thought that the epithelial lining of he tonsillar crypts may be converted into cells that are by most pathologists supposed to be of connective-tissue origin is not one to be accepted lightly. It suggests the possibility of the interchange of cell types. Such a theory would undoubtedly readily explain many difficulties necessitated by our present methods of classification, especially in tumor types. As to the tonsils, if we accord to them the function of leucocytic primogenesis, their presence in the human economy is beautifully explained. The leucocytes are closely connected with various tissue changes, and the tonsils are the largest and best developed when tissue change is most active, that is, in childhood. The thymus gland develops in early embryonic life and gives rise to the first leucocytes. When it atrophies, the tonsillar tissues develop, carrying on the same function. Finally, the writer suggests that all adenoid tissue which has developed in intimate relation with the epithelium, is playing a rôle similar to this of the tonsils; that is, that the gastrointestinal follicles, the adenoid tissue of the appendix, and the like may do the work in the adult which the tonsils of childhood had usurped from the embryonic thymus. The writer states that what he has written stands simply as a suggestion concerning the function of the tonsils.—*University of Pennsylvania Medical Bulletin.*

Practical Points in Abdominal Surgery—Peritonitis.—Bayard Holmes states that excluding the rare possibilities of a chemical or a mechanical peritonitis, this disease is always due, in the clinical sense at least, to some form of infection. This disease is interesting to the physician and surgeon only so far as its prevention is possible or its course is limitable. The most common source of peritonitis, especially in the male and in children, is the vermiform appendix. The second most common source of peritonitis is confined entirely to adult females, and is limited to the uterus and fallopian tubes. Probably the third si beginning peritonitis is the region of the gall-blad common duct. All operators agree that there is pectant treatment of peritonitis; that the prime im duty of the attendant is to remove or obliterate the of peritoneal infection at the earliest possible mom move the disseminated infection as completely as p and place the peritoneum and the patient in the be sible condition for recovery. There is practical un in the immediate removal of the source of infection. gard to the removal of the escaped infection, two n are offered: the dry method and the method of irri The latter has always been considered a dangerou cedure by the writer. In regard to placing the peri in the best condition for recovery, there are two m drainage, and complete closure without drainage. N standing all of the arguments in favor of closure, the still follows the other method. One of the most th ing symptoms of peritonitis is intestinal obstruction. drainage will not overcome this condition, an artifici must be made. As a rule, it closes in the course of weeks, or it remains and must be treated surgi *Illinois Medical Journal.*

Health Reports.—The following cases of smallpo low fever, cholera, and plague, have been reported Surgeon General, Public Health and Marine Hospit vice, during the week ended December 31, 1904:

SMALLPOX—UNITED STATES.

		CASES.
Florida, Jacksonville	Dec. 17-24	1
Illinois, Chicago	Dec. 17-24	20
Springfield	Nov. 28-Dec. 21	5
Kentucky, Louisville	Dec. 15-22	1
Louisiana, New Orleans	Dec. 18-24	7,4 i
Michigan, at 70 localities	Dec. 10-17	(Pres
Minnesota, Meeker County	Dec. 21-19	1
Otter Tail County	Dec. 12-19	1
Rice County	Dec. 12-19	12
Wilkin County	Dec. 12-19	1
New Jersey, Camden	Dec. 18-24	1
New York, New York	Dec. 18-24	1
Ohio, Cincinnati	Dec. 16-23	2
Pennsylvania, Johnstown	Dec. 17-24	1
Philadelphia	Dec. 17-24	1
South Carolina, Charleston	Dec. 10-17	2
Tennessee, Nashville	Dec. 17-24	4
Washington, Pierce Co., (Tacoma included)	Nov. 1-30	2
Walla Walla County	Nov. 1-30	5
Seattle	Nov. 1-30	1
Wisconsin, Milwaukee	Dec. 10-24	40

SMALLPOX—FOREIGN.

Argentina, Bahia Blanca	Nov. 18	(Pres
Buenos Aires	Sept. 1-30	..
Austria, Prague	Nov. 26-Dec. 3	18
Brazil, Bahia	Nov. 12-26	..
Rio de Janeiro	Nov. 6-27	373
Ecuador, Guayaquil	Nov. 30-Dec. 7	..
France, Lyon	Nov. 26-Dec. 3	1
Paris	Dec. 3-10	9
Great Britain, Glasgow	Dec. 8-16	2
London	Nov. 26-Dec. 10	3
Newcastle-on-Tyne	Dec. 3-10	21
Nottingham	Dec. 3-10	3
South Shields	Dec. 3-10	2
India, Bombay	Nov. 22-29	..
Calcutta	Nov. 19-26	..
Italy, Palermo	Nov. 26-Dec. 10	33
Russia, Odessa	Nov. 26-Dec. 3	1
Turkey, Constantinople	Nov 27-Dec. 4	..

YELLOW FEVER.

Ecuador, Guayaquil	Nov. 23-Dec. 7	.
	One case on S.S. *Limari* a from Panama.	
Mexico. Coatzacoalcos	Dec. 10-17	2
Juchitan	Dec. 11-17	1
Panama, Panama	Dec. 12-19	3

CHOLERA.

India, Bombay	Nov. 22-29	..
Russian Empire, Erivan	Nov. 22-28	914
Jelisavetpol	Nov. 16-22	(P
Tachken	Nov. 27	18
Tiflis	Nov. 16-22	(Prese
Turkey in Asia	Nov. 28	72

PLAGUE.

Africa, Cape Colony	Nov. 6-19	5
Arabia, Aden	Nov. 18-25	19
Argentina, Tucuman Province	Nov. 18	..
Brazil, Bahia	Nov. 12-26	..
Rio de Janeiro	Nov. 6-27	101
Egypt, Tukh District	Nov. 19-26	2
India, Bombay	Nov. 22-29	..
Calcutta	Nov. 19-26	..
Karachi	Nov. 20-27	14
Paraguay, Asuncion	Oct. 6 20 cases weekly, estin	
Peru, Guadelupe	Dec. 7	(Pre
Lima	Nov. 1-15	6

Medical Record

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THE DISEASES OF THE ISTHMIAN CANAL ZONE.*

By RICHARD LIGHTBURN SUTTON, M.D.,
ASSISTANT SURGEON, UNITED STATES NAVY.

A most excellent opportunity for the clinical study of tropical diseases is presented to a large number of young American physicians with the commencement of work on the new interoceanic waterway. Information concerning the diseases to be encountered, and the conditions that must be met will undoubtedly be acceptable to many.

Any preconceived ideas which the newcomer may have formed regarding either the people or their ailments are very liable to undergo a considerable metamorphosis within a few weeks after his arrival on the Isthmus. The practitioner who expects to find a case of "yellow jack" or blackwater fever in every native clinic he conducts will be greatly, if agreeably, disappointed. These diseases are undoubtedly present at times, but one encounters them much more seldom than the average reader would be led to imagine.

Taking everything into consideration, malaria is probably more frequently seen than any other affection. This does not hold true with regard to foreigners who have but recently arrived, but as they are greatly in the minority at present, we will discuss the various types of paludism first. Long continued residence and many attacks of malaria have combined to render the older inhabitants partly or wholly immune to the infection. The disease is encountered very frequently, however, among the children, from earliest infancy to adolescence, and foreigners almost invariably suffer from repeated attacks.

The adult natives, while free from any outward manifestation of the affection, practically serve as walking laboratories for the propagation of the plasmodia, thus affording the industrious and ever ready mosquito an opportunity to transfer the parasites to a more fertile soil.

If possible, the microscope as an aid in the diagnosis of this and other affections should always be used. It may not prove amiss to describe briefly the technique of blood examination which we have employed with the greatest degree of satisfaction. The lobe of the ear, from which practically all of our specimens were obtained, is first cleansed with a moist piece of soft gauze. No antiseptic is needed. A quick jab is given with a Hagedorn needle, the first drop of blood is carefully wiped away, the second is caught on the margin of a smooth square of cigarette paper, and slowly drawn across the surface of a clean slide, giving a moderately thin, even smear. A needle or the edge of a cover slip may be used for spreading, the drop of blood being first collected near the end of the slide, but the above procedure has given us the best results. There is no comparison between the advantages gained by using the large slides, and the results obtained when only small cover slip preparations are employed. One can obtain better and more evenly smeared spreads on the larger surfaces, the slides never break in cleaning, and can be used repeatedly, the larger area of the field permits an accurate differential white count to be made from the same specimen, and, in addition, the great number of red corpuscles which may be examined in the single preparation render a search for malarial organisms, especially if the parasites are extremely few in number, much more rapid and certain. The examination is made with the intervention of nothing whatever, except the immersion oil, between the 1-12 objective and the stained corpuscles. Both the Abbé condenser and mechanical stage should be used.

Fresh blood specimens are extremely unsatisfactory, and are not to be relied upon. Such examinations are, of course, better than none at all, but the findings, unless the observer be a professional microscopist, are disappointing in many instances when a well stained mount would quickly furnish the desired information. The Wright stain, now so popular in the United States, gives entire satisfaction. Care must be taken, however, to keep the bottle tightly stoppered when not in use, and, even with this precaution, more methyl alcohol must be added at frequent intervals to take the place of that lost by evaporation, thus preventing too great concentration of the stain.

With regard to the types of malaria represented, the estivoautumnal is the one by far most frequently seen. A large percentage of these cases, fully three-fifths, show hyaline rings. Contrary to the experience of some observers, one generally has very little difficulty in picking up these forms in well stained specimens. Quite a large number of the estivoautumnal parasites containing pigment are found, but hyaline ring forms combined with crescents, or the latter alone, are rather rare. The close relationship between estivoautumnal infections and fevers of a pernicious character should always be kept in mind.

In several instances which have come under my observation the symptoms were not directly indicative of malaria at all. The temperature was but slightly elevated, normal or even subnormal, while neuralgias, headaches, and rheumatic manifestations were present. In one case, which occurred last June, the symptoms were those of algid malaria. The onset was marked by a convulsion, the occurrence of explosive vomiting, feebleness, prostration, the passage of highly colored urine (only a trace of albumin, however), and the skin was covered with cold perspiration. The temperature was slightly subnormal (97.6° F.), pulse 110 and feeble. The presence of the parasite (extremely small, delicate, and non-motile, lying in somewhat shrunken red cells), was demonstrated, and fairly rapid recovery followed the hypodermic use of rather heroic doses of quinine bisulphate.

The tertian type of the infection occurs next in

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*The writer is indebted to his former senior medical officer, Surgeon Dudley Newcomb Carpenter, U. S. Navy, for much information and advice concerning data and case paper.

frequency. Full grown segmenting forms are often encountered, and some beautiful specimens may be obtained. In native children this type seems to be the predominating one, a half dozen adult parasites oftentimes being found in one field. The tertian rosettes are large, clear cut, and usually contain from fourteen to thirty spores. All found thus far have been intracellular, although their appearance in fresh specimens gives one the impression, at times, that they are lying outside the cell wall. None of them contains so large a number of spores (forty or fifty) as the rosettes described by Marchiafava and Bignami.* The tertian hyaline forms appear to be rather infrequent.

Mixed tertian and estivoautumnal fever is rarely seen, and no case of quartan infection has been discovered.

Patients suffering from advanced degrees of malarial cachexia are often met with, especially in the large native clinics, where representatives from the more remote districts apply for treatment. The hæmoglobin percentage in these instances is very low, from 30 to 70 per cent. (Talqvist), while the red cells are over 4,000,000. There is but slight, if any, leucocytosis, and the differential count shows a decided increase of the large mononuclears and transitionals. The most prominent symptom is the enormous splenic enlargement. I have never had the opportunity to do an autopsy on one of these cases, but the physical signs show the spleen extending well down into the left inferior abdominal quadrant, and forward almost to the median line. The organ is extremely solid, with smooth, rounded margins. Owing to mechanical interference by pressure, as well as the impoverished condition of the blood, there is considerable cardiac and respiratory disturbance, and it is usually for the relief of one of these conditions that the physician is consulted. The temperature is seldom over 100° F., and a history of recent typical malarial manifestations is often indistinct or absent. The tendency to excessive hemorrhage from even slight wounds is noticed in these cases, but the predisposition is no greater than it would be in temperate climates.

Arsenic, with or without iron, is of more benefit than quinine, but the anæmia and splenic enlargement do not respond well to any treatment. If it were possible to keep the patient continually under observation so one could see that the medicinal, dietetic, and hygienic measures ordered were enforced, the results would be more satisfactory.

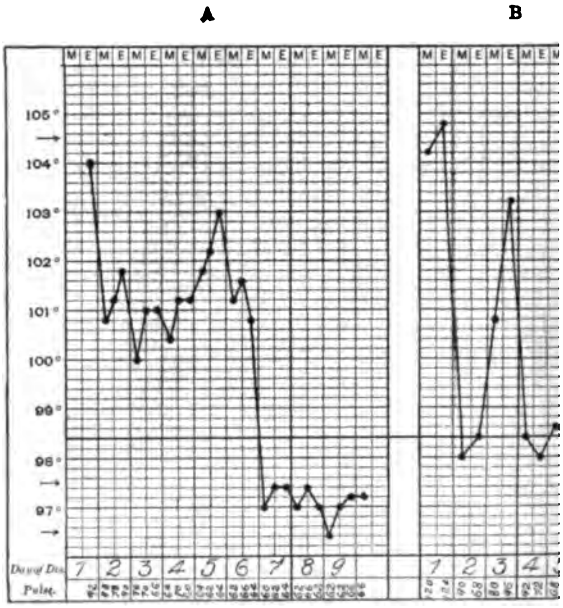
The use of quinine as a prophylactic in all varieties of malaria is undoubtedly of great value. From two to five grains should be administered three times daily. Protection from mosquitos by means of fine mesh netting, and the burning of pyrethrum powder should also be insisted upon, and the usual modern methods to prevent the breeding and multiplication of these dangerous little pests should be employed.

Dengue is the disease which most frequently attacks the new arrival in this country, and even the more thoroughly acclimated natives do not wholly escape it. The initial symptoms vary, but, in the order of their value, they may be given as follows: (1) Sudden onset; (2) Severe and continuous supraorbital headache; (3) Deep congestion of face and neck; (4) Backache, together with severe pain in the region of the loins. Chilly sensations, seldom a distinct chill, may precede the first rise of temperature. The primary and terminal eruptions, upon the diagnostic value of which so much stress is usually placed, are absolutely unreliable here, being absent, especially the secondary one, in the majority of instances. The disease is extremely contagious, and many persons in the same place are usuall
tacked at the same time.

If a microscope is available, total and differe
counts should be made. There is a leucopenia
the first, the whites sometimes being less than 2,
there is little or no destruction of the red
(4,200,000 to 5,500,000), and the hæmoglobin i
is usually 1 or 1.+. The differential white c
will show the proportion to be about norma
admission, later, and especially by the beginnin
convalescence, a marked small mononuclear lym
cytosis will be noted, which persists for several

Stage of Disease.	Poly-nuclears.	Large Mono-nuclears.	Trans-itorials.	Small Mono-nuclears.	Eosino-philes.	Mast
On admission	32.2	7.9	36.6	23	0	
First drop	41	5.4	6.7	46.8	0	
Second rise	50.8	7.6	5.2	33.6	4	
Second drop	52.5	5.9	5.4	25.1	11	
Convalescence	50	5.3	4.2	30.3	9.7	

An eosinophilia, sometimes reaching as high a
per cent., sets in just after the second rise.
table shows the changes in the differential leuc
count at various stages of the disease. There is
dom any splenic enlargement; in over two hun
cases we have found the organ palpable only t
times. Occasionally, in atypical dengue, it is extre
difficult to make a positive diagnosis. If alb
(which is of infrequent occurrence) is prese
the urine, or the gums be spongy and tende
there is a discrepancy between the temperature
pulse curves, such as was found in one patient
came under observation, the condition ma
strongly suggestive of yellow fever. If the cli
resemblance is sufficient to justify even a dou
diagnosis of the latter, precautions should at
be taken with regard to double screening, and i
tion from mosquitos. While the symptoms give
present in the majority of instances, there ma
marked variations from the typical picture at t
The onset is occasionally insidious, with cata
symptoms predominating. The patient will a
for treatment because of a bronchitis, or a r
persistent diarrhœa may be the cause of compl
The disease is a self-limited one, and treatm
except to lessen the discomfort, is of no avail.
brisk cathartic, with phenacetin or acetanilid,
an ice-bag to the head are the most efficient rem
agents we have found. One attack only part
immunizes.



THE FEVER CURVE IN DENGUE.
A, an atypical chart of a case of dengue simulating yellow fever;
temperature and pulse in a typical case of dengue.

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* Ueber die Varietäten der Malariaparasiten, *Deutsche medizinische Wochenschrift*, 1892.

The sequelæ are frequent, stubborn, and often severe. The fever may be followed by sciatica, in which case the removal of the sufferer to a cool climate has given the best results, or a tropical bubo may appear within a few days following the return of the temperature to normal. Facial neuralgia, herpes, myalgia, bronchitis, corneal ulceration, or symptoms of mental disturbance often follow in the wake of a severe onslaught. As in the influenza of our temperate climates the toxin seems to have a special affinity for the nervous centers.

Beriberi, a multiple neuritis, seen most frequently in the wet lowlands and marshy districts, thrives in this part of the tropical world, especially affecting the Chinese contingent. More cases are to be found among this one race than all of the others put together, although the native Panamanians do not entirely escape. Both the dropsical and paraplegic forms are seen, often the two associated. No instance of the malignant type has come under my observation. In the earlier stages one finds the exaggerated knee jerk soon followed by complete loss of the patellar reflex, the paraesthetic areas over various parts of the body, and the signs of beginning muscular incoordination indicative of the involvement of peripheral nerve trunks. Later, cardiac dilatation and irritability, with œdema of the extremities, and an ataxic gait are added to the above, making a diagnosis easy. Unfortunately the disease must be recognized early if much benefit is to be derived from treatment. Removal to the more sanitary locations afforded by the tops of the surrounding hills, a nutritious diet of nitrogenous matter, fats, and sugars, with strychnine and other tonics, probably comprise the best and most available measures under the circumstances.

Infection with intestinal parasites is the rule, not the exception. One is able to find the eggs of a half dozen different varieties in nearly every fecal specimen examined. The almost universal presence of these protozoa in the intestinal tract is due to the lack of personal cleanliness among the majority of the inhabitants, and also to the character and methods of preparation of their food. The use of impure drinking water also gives rise to the trouble in many instances. The well water at Emperador was highly prized for its flavor (it was drained from the surrounding square of houses and stables), and when tested for nitrates gave a deep ruby red color. The eggs of the entozoa found are those of *Oxyuris vermicularis, Tricocephalus trichiurus, Ascaris canis,* and *A. lumbricoides, Strongyloides intestinalis,* and *Uncinaria duodenalis.*

The last named, identical with *Sclerostoma duodenale* of Cobbold, is by far the most important and dangerous of all. Especially is this true if early treatment is not instituted. The recognition of an infected case is easy, in fact, one can almost make a diagnosis at a glance. The patient is emaciated and cadaveric, lacking in strength and vitality. The skin is lemon tinted, the visible mucous membranes are pallid, the hair is dry and brittle, and, oftentimes, the eyes are as prominent as in a case of exophthalmic goiter. Cervical pulsation is noticed in the majority of instances. There is often œdema of the extremities, cardiac palpitation and epigastric pain are frequent, and there is usually a history of blood-streaked stools, with the passage of much undigested food material in the fæces. A loopful of the latter, thinly spread on a slide and examined with a low power, will exhibit myriads of eggs. The blood in these cases shows an extreme grade of anæmia (hæmoglobin from 20 to 60 per cent.), and the exuding drop is very tenacious and almost white in color. The eosinophilia is the highest that has ever come under my observation, seldom being under 20 per cent., and, in one instance, it was slightly over 65 per cent. Poikilocytosis is common, megalocytes and microcytes are often seen, and twice, in advanced cases, there was leucopenia (1,900 and 2,050). These cases respond well to treatment. A large dose of castor oil is given, and, after it has acted thoroughly, three twenty-grain doses of thymol are administered at two-hour intervals. No solid food is to be taken during this time, and especial stress must be placed upon total abstinence from alcoholics. Following the last dose of thymol a brisk purge is ordered. This course should be repeated in three weeks, if necessary. The after treatment consists in the use of Blaud's pills, arsenic, and a full, nutritious diet. Personal cleanliness should be enforced when possible.

One of the most troublesome insects on the Isthmus is the "jigger" (*Pulex penetrans,* Linn., *Rhynchoprion penetrans,* Oken). The favorite point of attack is one of the interphalangeal folds of the toe, and the resulting inflammation and pustular swelling give rise to great pain and exquisite tenderness. The lesions, even after the insect is carefully extracted by means of a fine needle, heal slowly. Local applications of turpentine to kill the parasite, followed by the use of mild antiseptics, or zinc oxide ointment, have been fairly satisfactory. As a prophylactic measure, the feet and legs should be protected by boots or well fitting leggings. The local use of some one of the essential oils will also be of benefit.

Snakes, centipedes, and spiders are numerous, but the danger from them is not great. The two last named seldom molest any one, and, if they do, the result has proven to be no worse than the sting of a hornet. Formalin, locally, will have both an analgesic and an antiseptic effect.

Heat exhaustion and sunstroke occur more often among the Americans than any other class. The former, with its resulting symptoms of subnormal temperature, weak, thready pulse, and severe cramps in the limbs and abdomen, is best treated by hastily covering the patient with warm blankets, administering whiskey, nitroglycerin or strychnine hypodermically, and briskly rubbing the abdomen and extremities with some stimulating lotion. The last mentioned procedure is of great value in relieving the pain.

Thermic fever is a more serious condition. The symptoms are identical with those in the cases of sunstroke in our eastern cities, and the same methods of treatment are to be employed. The rectal temperature ought always to be taken. It is far safer, and much more reliable.

Dysentery, one of the scourges of the old French canal company, is still much in evidence, especially among the natives. During the past year very few of our troops have suffered from it, principally because of the rigidly enforced rules regarding the use of only such water as has been passed through the Forbes-Waterhouse sterilizer. Every man who goes out of camp must carry a freshly filled canteen with him, and the danger of drinking from wells and fountains has been so frequently pointed out that the marines may be safely trusted to leave suspicious water alone. The disease is of both types, the acute specific, due to Shiga's bacilus, and the amœbic, with the former predominating. In only a few instances did an examination of the fecal matter show the presence of Lambl's organism. The chronic form of amœbic infection, in which the symptoms of constipation alternate with a slightly purulent, or blood-specked diarrhœa, usually gives rise to emaciation, but it is not so extreme as in the acute

amœbic variety. In the acute stage the internal administration of sodium sulphate in cinnamon water, with turpentine stupes locally, and enemata of starch water and laudanum, followed by warm decinormal salt solution constitute the best treatment. Later, copious rectal injections of quinine bisulphate (2 to 4 per cent.—weaker solutions do but little good), are indicated. In the old chronic cases the quinine is also beneficial, but solutions of silver nitrate give better results. The question of food is an important one, a single dietetic indiscretion may undo the good brought about by weeks of careful medication. Contrary to our expectations, hepatic abscess, which is so often a sequel to these infections in the far East, is seldom encountered here.

Panama is one of the few southern countries in which acute and chronic articular rheumatism occur. These joint affections are of practically the same character as those encountered in the temperate climates, and the response to the salicylates is fairly good. Myalgia, especially of the lumbar muscles, is frequently encountered, malarial infection probably being the causative agent in many cases, and dengue in others. The treatment is unsatisfactory. Quinine, until the physiological effect is produced, should be given—alone or combined with antirheumatics.

Now that the zone is under American rule, the wandering cases of leprosy, which were formerly quite frequent, will seldom be seen. Their movements will probably be restricted to a small area of territory set aside for their use. Several unfortunates, principally Chinamen, applied for treatment at Emperador. In one case large numbers of the bacilli were found in the nasal discharge. Both the nodular and anæsthetic varieties are seen, and some of the patients are extremely pitiable. Considerable improvement appeared to result from the administration of mercury in one instance, but we were unable to continue the treatment for a sufficient length of time to notice much change.

Smallpox makes occasional inroads, the crowded and unhygienic condition of many of the villages furnishing an ideal opportunity for an outbreak of such a disease.

Yellow fever, as may be seen from the health reports of Colon and Panama, is not at present epidemic in this region, and sporadic cases are seldom seen. Stegomyia mosquitos are to be found in enormous numbers.

Owing to the splendid results following the efforts of the chief sanitary officer and his corps of assistants, the Isthmus is now in a better condition, from a hygienic standpoint, than it has ever been, and, taking even the peculiar character of the climate into consideration, the health of the inhabitants will soon compare favorably with that of the residents of any extreme southern country.

Women Doctors in Russia.—New statutes which have just been issued in Russia place women doctors on practically the same footing with regard both to education and to practice as their male rivals. Women may now obtain diplomas, pursuing their studies for medical degrees in the universities of the country, and in the Military Medical Academy. A characteristic point in the new law is that it limits the number of women medical students of the Hebrew faith to three per cent.—*Australasian Medical Gazette.*

THE VALUE OF PUBLICITY REGARDI TUBERCULOSIS.*

By DENSLOW LEWIS, M.D.,

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ING SURGEONS; VICE-PRESIDENT FOR ILLINOIS OF THE INTERNATIONAL AMERICAN CONGRESS ON TUBERCULOSIS.

It is impossible to guard against an unknown p or withstand the onset of a hidden foe. Our f duty in the case of tuberculosis, as in the case of other conditions that militate against the health happiness of humanity is to give notice of the ex ence of danger, to exploit the details of a poss attack, to discover and make manifest the meth of invasion, to arm the citadel against assault, finally to make known that method of warfare, o the conflict has begun, which experience has sho to be the most efficient in overcoming the forces the enemy. Our first duty is to tell the truth.

It was my privilege to be present at the ini meeting of the Chicago Society for the Prevent of Consumption, presided over by Mayor Harris I protested against the name. My friend, Dr. J A. Robison, told a story. He said a man went i a store to buy a pair of shoes. The storekee asked: "What is all this talk about tuberculosi The man replied, "They mean consumptio "Well," said the shoemaker, "why don't they so?" This story convinced the majority of the me bers present. They voted to use the word consur tion instead of tuberculosis. And so to-day society tells only a portion of the truth. In judgment, the shoemaker in the story went decide beyond his last, and by the very name our soci adopted we cripple our usefulness by recogniz only one localization of tuberculous infection.

What is the truth regarding tuberculosis? We not know it all as yet, but some things we do kn Enough is known to enable us to advise prophyla measures which a sufficient experience has dem strated to be of value, and a method of treatm which has proved successful enough to warrant continuance. Furthermore, as we approach borderland of actual knowledge, we recognize t scientific deduction permits various recommen tions which, from our knowledge of infection general, and our recognition of the results of clin experience, must also be of value and importa in reference to tuberculosis.

What of the facts? More deaths occur fr tuberculosis than from typhoid fever, diphthe whooping-cough, measles, scarlet fever, and sm pox combined. Most of the deaths occur betw the ages of 18 and 40 years, in the active work age, during the period of greatest usefulness. F one-tenth of all mankind die of tuberculosis, the e mated mortality for the United States being 200, per annum.[1] In Illinois alone it has been estima that the loss of money invested in children who of tuberculosis under the age of twenty years $1,187,800; the loss to the State from the inabi of the tuberculous to perform labor amounts $30,000,000; the loss of savings of those who before the end of the producing age, $5,129,c and the cost of the care of those sick and compa tively helpless, $225,000, making an annual econo loss to the State of $36,551,000 each year.[2] No this all, for in cases that recover there may be seri and often protracted morbidity, and in the fa cases there is, on our part, the distress of body anguish of mind which cannot be estimated, as

loved ones, perhaps after years of suffering, go down to death.

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* Presented to the American Congress on Tubercul at its meeting in St. Louis, October 3 to 6, 1904.

The cause of tuberculosis is the tubercle bacillus. This germ may gain entrance into the body through the lungs, the alimentary canal, or the skin. It exerts its well-known deleterious effect if there is found a soil suitable for its development and environments favorable for its growth. Such conditions exist when there is debility from any cause, or when unhygienic surroundings are present. This relationship should be well understood by everybody. The tubercle bacillus thrives with difficulty or not at all in healthy individuals under hygienic conditions. It finds an admirable culture medium in individuals whose vitality is lowered from any cause, or whose mode of life or environment is unsanitary.

Tuberculosis is communicable by dissemination of the bacillus. It is not infectious to the same extent as smallpox, measles, and some other diseases, nor is it dangerous to mankind unless there is prolonged exposure under conditions favorable to the propagation and development of the germ. The panic that has occurred in certain health resorts frequented by tubercular patients is as absurd as it is unwarranted, and the restrictive measures that have been proposed in several localities are unjust and unnecessary.[3]

The recital of these elementary facts regarding tuberculosis is not intended for the edification of this distinguished and learned assembly, nor for the enlightenment of the profession. I venture, in mentioning in this connection what may be called the essentials of our knowledge regarding tuberculosis, to direct attention to the simplicity with which may be promulgated important facts concerning etiology, life history, and mortality as well as suggestions relative to prophylaxis and treatment. These essentials should be known by everybody. In the public school, in the family, in the secular, religious, and professional press, in season and out of season these truths should be enunciated until the whole world realizes the danger that is imminent and seeks safety in increase of knowledge regarding the peril that is ever present.

The matter of first importance is to help the people to help themselves. First of all, let them know the truth. Let them realize the nature of this dread disease, its mode of onset, its course, its dangers to the individual infected and to others who come in contact with him, and above all else let there be a thorough understanding of the conditions that favor the development and spread of the bacillus which is its exciting cause. In the dissemination of the truth regarding tuberculosis the value of publicity is incalculable. Our fear of this devastating plague is allayed because its nature is understood. Its advent is anticipated, for the danger signals are seen in time. The predisposing causes are appreciated; the premonitory symptoms are recognized; prophylaxis is encouraged, and rational treatment is instituted without delay. In addition, the patient with tuberculosis is taught to defend himself against his disease, and is brought early under conditions which make possible his recovery. These results are attained by a consistent and well-advised publicity. In the promotion of judicious knowledge regarding this subject, which affects the well-being of all mankind, I offer respectfully certain considerations, which are the outcome of my experience and observation in different countries of the civilized world. I advocate publicity regarding tuberculosis, but I also beg leave to insist on the promulgation of knowledge relative to life itself, and, as a protective measure to all, I venture the assertion that the State must eliminate, as far and as rapidly as is practicable, those conditions which modern science has demonstrated to be inimical to the welfare of its citizens. The constitutional guarantees which refer to life, liberty, and the pursuit of happiness, must not be invoked to interfere with the plain duty of the State in enforcing salutary measures which tend to ameliorate the condition of humanity.

Health is of supreme importance. The best heritage a child can receive is a sound constitution, and the best education that can be given is the systematic development of bodily functions, and their consistent correlation.[4] Disastrous in the extreme are the consequences of any deviation from the strictest concern for this most important matter in the child's development. Education, as the term is generally understood, is a failure and a farce if due regard is not had for the child's well-being. All that may be learned is the veriest folly if health is lost in the learning. All the accomplishments of the world are valueless if, in their acquirement, the constitution is undermined.

It is no longer believed that tuberculosis is hereditary, except in very rare instances, when the bacilli gain access to the body before birth—the so-called cases of congenital tuberculosis, nine or ten instances of which, according to Osler, have been described in man. The infant, however, is capable of being infected from the first moment of its birth, and it is found, both with infants and with calves, that if they are removed at once from tuberculous mothers, they remain free from tuberculosis.[5]

The infant of a tuberculous mother must be provided with a healthy wet-nurse or fed on modified milk. Without here theorizing in regard to the relationship of bovine to human tuberculosis, it is proper to say that it is the part of wisdom to pasteurize all cow's milk supplied to infants. Knowing the high mortality of all infantile life, and realizing that the infant of a tuberculous mother, even if free from tuberculosis, is likely to be debilitated, or at least relatively deficient in vitality, it is imperative that such an infant shall receive special care, and be placed early under the best hygienic conditions. In several large cities provision is made for a free distribution of pure milk, and everywhere a sterilizer should and can be made available even to the poorest citizen. All municipalities can prohibit the sale of impure or adulterated milk, not alone because of the possible presence of the tubercle bacillus, but chiefly because of the importance of supplying a nutritious food upon which the infant may thrive. All infants are potential citizens of the State, and have the right to live. If the home is unsanitary, if the infant for any reason cannot there receive the special care that its welfare demands, a temporary home should be provided, very much on the plan that has been adopted in the case of the illegitimate,[6] so that this inherent right of the infant shall not be abrogated. Such a provision, moreover, enables the State to fulfil its manifest duty to act, when necessary, *in loco parentis*, in the case of all dependents.[7] In addition, such action, while humanitarian and philanthropic, is economic in the highest degree. It is impossible to appraise the value of rational supervision of this character at an early age, not only in instances of tuberculosis, but also in the case of all dependents, defectives, and delinquents. It is a rational prophylaxis, and if consistently applied would be of inestimable advantage.

In the case of children, systematic inspection, and the diffusion of accurate knowledge is of great importance. We have inspectors of different kind, we have schoolteachers, and we have the police. In large cities we have dispensaries for the poor, and throughout the world we have the medical profession and its members stand ever willing to give counsel

and advice, if need be, without cost. Let everybody know about tuberculosis, and appreciate the fact that debility and unhealthful surroundings are predisposing causes. Let the schoolteacher view with suspicion the poorly nourished child. Let the factory inspector, who makes sure that no child is employed under legal age, also take note of the health of the children, and the sanitary environments of the factory or shop. Let the police officer on his beat observe the conditions of the residents of his district, and let him report what he finds. The weak, sickly child is in danger. The anæmic child is a candidate for tuberculosis. Deficient hygiene and insufficient and improper nourishment favor the development of future dependents upon the State. Education must not be sought to the injury of any child's health. It is better to do without schooling than to impair the child's constitution.

Above all others, parents should realize the possibilities in reference to their children. They should understand what constitutes hygiene, and must know that many of the luxuries with which they surround their children are often detrimental and dangerous. The child is essentially a young animal, and should be fed and cared for at least with the same consideration that farmers bestow upon their stock. The question should not be raised if a certain article of diet will hurt the child, but the parent should consider if it will do him any good. The mistake should not be made of attempting to "harden" the child by submitting him to undue exposure, but the value of pure air and sunshine should be appreciated. Above all the physician should be consulted while the child is well. Judicious professional advice, taking cognizance of all surroundings and realizing all possibilities, is of importance in directing the daily life of the child, so that any developmental error may receive timely attention, and any faulty method which interferes with the child's wellbeing may be corrected.

Philanthropy does much for the care of the children of the poor. In providing country outings, fresh air, sanitaria, and the crèche, there is a consistent attempt to improve conditions. Moreover, it must be understood that pulmonary tuberculosis is not the only form of the disease. In children especially the bones or the abdominal viscera may be infected. The dispensaries nad hospitals of our larger cities care for these cases, but almost always ignorance is responsible for unfortunate delay in providing proper treatment in time. The public should know regarding manifestations of tuberculosis other than pulmonary.

Where the adult is concerned, a new duty arises. Publicity has now other facts to include in its dissemination of the truth regarding tuberculosis, and other conditions to consider. The question of occupation, habit, temperament and environment must receive attention, and serious thought must be given to economic relationship in many ways. In addition to imparting information regarding the tubercle bacillus, the danger of infection, and the predisposing and fostering conditions that exist by virtue of unsanitary surroundings, we must also appreciate the value of consistent sanitation to the fullest extent, and in this appreciation we must combat poverty, immorality, and crime, and counteract, oftentimes, dependency and degeneracy. In a word, the publicity which is to be of real value must favor prosperity, and must try to solve the problems of an incomplete civilization.

It is impracticable in this connection even to mention the various methods in which an enlightened prophylactic endeavor will find expression. With the realization that all cosmic influences, all life processes, all economic relationships bear upon important subject, comes the attempt at the impr ment of all local conditions, and the amelioratio mankind in every way. In the effort to provide abundant supply of pure air, an adequate suppl pure water, and a sufficient supply of pure food, government—municipal, state or national—must intelligently for the common good. The interest capital must not be allowed to supersede the inter of the community. Building laws should exist be enforced so that the disgraceful tenements of slums become an impossibility. Indeed, it were if the law regarding all dwellings, as is the cas Berlin, permitted the owner to build upon only t thirds of his lot, and above all things, it were n desirable if existing laws regarding plumbing tilation and other hygienic measures were not often a dead letter. The airing of cities has not ceived sufficient attention nor has adequate provi been made for free parks. The value of trees, pla and flowers as a means of purifying the air is fully understood. A pure water supply and facil for its use internally and externally must be vided. Food should be inspected and when fo impure should not only be condemned, but destro Moreover, the drainage of all dwellings, the clea of the streets, the removal of garbage, the abatem of the smoke nuisance, should receive more atten in a practical way commensurate with the import of such matters, not alone for utilitarian reasons, because we realize the relationship of public hyg to the spread of tuberculosis.

The question of occupation, and regulation shops and factories is of especial interest, for danger of overcrowding amid unhygienic surrou ings is known. Our public conveyances, our tro cars and railroad trains must be inspected, and sleeping cars should be disinfected at frequent tervals. Our prisons and jails are often a disg to our civilization, and our lodging houses are a hot-bed of infection. In connection with e municipal institution of this character, there sh be a disinfecting plant, similar to the étuves of P The tramp who secures a night's lodging sh start out in the morning with a clean body, and clothing properly sterilized.

In the consideration of occupation and resid as a predisposing cause of tuberculosis, we met by a sociological problem of the utmost portance. The man must live, he must port his family, by his work alone can he ga livelihood. To remove him from his surround may mean to pauperize him as well as his fam Right here the situation must be faced, and t should be no compromise. If the environments unhygienic, especially if the man is unhealth already infected, he must move, and some ag must see to it that neither he nor his family sta The citizen is the State's most precious charge, his welfare should be its most important care. has a right to demand protection from disease, provision must be made in case of illness—actua threatened—as in other forms of dependency. W tuberculosis in question, there is the additional selfish incentive to action, because the man beco a source of danger to others. Moreover, we k that treatment—either prophylactic or therapeut to be of the greatest service, must be applied at earliest moment possible.

The practical methods to be applied in these c are easily understood, but difficult of applicat The Bismarckian scheme of insurance, which vides indemnity against old age, accident, sick and death for all whose income does not exceed $ a year, is a philanthropic effort, the efficacy of wh has been demonstrated.[8] The institution of *Kassen*, or clubs, in Germany, brings immense clinical experience to certain specialists, and enables them to teach practically in a manner nowhere else possible in the world, but the chief advantage of such a system of compulsory insurance is the facility with which the poor receive timely treatment, and suitable financial help, in case of need. Such a system of insurance finds a parallel in our industrial companies, which, in default of governmental decree, offer an opportunity for the workingman to protect himself and his family against disaster due to loss of wage. Publicity benefits humanity by directing attention to this possibility, and it is not improbable that in the future the State may find means to protect itself, in some satisfactory manner, against these charges on its bounty.

For the present, each community in some way must attempt the care of the consumptives, and in many instances an enlightened public sentiment provides help and food for the wage-earner, deprived temporarily by illness of his wage, and this assistance has extended, when necessary, to his family as well. The report of the committee on the prevention of tuberculosis of the charity organization society of New York[9] shows how efficiently combined effort may accomplish definite results. The personal hygiene of the consumptive and the danger from infection to himself and to others have been detailed by many writers ably and fully.[10] The success of institutional treatment in high altitudes, and at home, is fairly well understood. The fact that tuberculosis is a curable disease is giving energy to renewed effort. We are studying with care the relation of intemperance and venereal disease [11] to tuberculosis, and we begin to appreciate in this connection the value value of education regarding the use of alcohol and the important subject of sex relationship.

There is still much to learn, but the essential fact to remember is the necessity at present of disseminating the knowledge that we already have. We must force home the truth about tuberculosis so each may know of his personal danger. We must warn against predisposing causes, and, to guard against the spread of the disease as we would against a conflagration, we must give attention to every case of infection as we would put our foot on every spark. The study of preventive measures in tuberculosis demonstrates again the dependence of each man upon his brother man, and is an object lesson in altruism. The appeal for the rich to help the poor has a new significance, and a personal and selfish interest, when it is realized how the disease may extend from one to the other. The necessity and the possibility of eliminating tuberculosis should cause a public awakening to each citizen's responsibility. The dissemmination of knowledge founded on fact, a consistent humanitarianism, a combined effort, a glorious and successful result—all these are made possible by a well-advised and determined publicity.

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92 State Street.

SUDDEN DEATH, ESPECIALLY FROM EMBOLISM FOLLOWING SURGICAL INTERVENTION.

By BYRON ROBINSON, B.S., M.D.,
CHICAGO, ILL.

The disasters of surgery are amply numerous to maintain the operator's heart in a constant state of palpitation. The laudable pus of pre-antiseptic days, it is true, is largely disappearing, but in its place is recognized the uncontrollable embolus. At present it is impossible to write a paper approaching finality on the causes of sudden death, for they are frequently unknown—undemonstrated even with the addition of an autopsy. Perhaps the term "sudden death" should include cases in which the final issue occurs within half an hour after an attack. A condensed presentation of a few of the causes of sudden death as related to particular visceral tracts may prepare the way for a comprehensive view of death in general demonstrating that sudden death is intimately related to death from natural causes. In the causes of sudden death, it seems to me we must bear in mind the vegetative centers, which especially belong to the sympathetic nerve, particularly the vasomotor, circulatory, or cardiac center and the respiratory center—both located in the floor of the fourth ventricle. It may be noted that the circulatory and respiratory centers in man are well separated, as the circulation will proceed for some time (over an hour) with cessation of the respiratory center.

The *tractus vascularis* is responsible for the majority of sudden deaths—over 60 per cent. It is the apex of the vital tripod of life. The following are some of the causes of sudden death: (1) Embolus; (2) air in veins; (3) acute anæmia; (4) fatty cardiac degeneration; (5) destruction of the cardiac center; (6) rupture of vessels (aneurysm, apoplexy; (7) myocarditis; (8) syncope (insufficiency of the left segment of the heart), resulting from embolism of the coronary artery, leading to cardiac anæmia and eventually to cardiac paralysis; hence the sudden death is a natural one and may be really slow, yet to the observer it appears sudden; (9) defective valves; (10) endocarditis; (11) cardiac rupture; (12) angina.

The *tractus urinarius* accounts for many sudden deaths, perhaps next in order to that of the tractus vascularis. The factors of sudden death from the urinary tract are: Nephritis, uræmic convulsions, diabetic coma, renal embolus.

The *tractus respiratorius* presents the following well-known factors to account for sudden death: (1) Pulmonary embolus; (2) obstruction of the trachæ (asphyxia); (3) pleuritic effusion; (4) chronic (latent) pneumonia; (5) œdema (pulmonary, laryngeal); (6) laryngysmus stridulus; (7) destruction or paralysis of the respiratory center, (8) obesity; (9) pressure on the oblongata, asphyxia (accumulation of blood in the left segment of the heart and in the lungs), asthma; (10) congestion; (11) apoplexy; (12) emphysema; (13) hæmoptosis.

The *tractus nervosus* is overrated as a factor in

three occurred in which he could not make either a positive or negative diagnosis, or in which the diagnosis had been incorrect.

Dr. F. Tilden Brown said that there was but little reason to doubt that these calculi which became lodged in the ureter for some time could be dislodged if the catheter could be passed in and irrigations practised. His scheme would be to have ureteral catheters of increasing sizes; if the stone became lodged well down in the ureter, laminaria tents could be introduced to dilate this portion of the canal so that the stone could escape. Any treatment that could be substituted for the extensive operations now employed for ureteral calculi would be of great value.

Election of Officers.—*President,* Dr. Charles Loomis Dana; *Vice-President,* Dr. T. Mitchell Prudden; *Trustee,* Dr. Abraham Jacobi; *Treasurer to Board of Trustees,* Dr. Reginald H. Sayre; *Committee on Admissions,* Dr. William C. Lusk; *Committee on Library,* Dr. L. Emmett Holt; *Delegates to the State Medical Society,* Drs. David Bovaird, Jr., James Ewing, Charles L. Gibson, Homer Gibney, and Edward L. Keyes, Jr.

NEW YORK STATE MEDICAL ASSOCIATION.

New York County.

Stated Meeting, December 19, 1904.

The President, Dr. Francis J. Quinlan, in the Chair.

A Memorial to Dr. William R. Pryor.—Dr. C. J. MacGuire paid a high tribute to the personal character of the late Dr. William R. Pryor, and his tireless and original work in the field of gynecology. Among those engaged in that field he occupied a place in the front rank, and probably did more than any other man in this country to exploit and make popular the vaginal method of pelvic operations.

The Treatment of Leukemia and Pseudoleukemia by the X-Rays, with Illustrative Cases.—Dr. Arthur Holding read a paper on this subject. He stated that a search of the literature showed that twenty-five cases of splenomyelogenous leukemia treated by the *x*-rays had been reported. Of these, eight patients were symptomatically cured, fifteen were improved, and two were unimproved or dead. Of eight patients with lymphatic leukemia treated by the *x*-rays that had been reported, none was cured; three were improved, and five were unimproved or dead. Of twenty-two cases of pseudoleukemia similarly treated, six patients were symptomatically cured, thirteen were improved, and three were unimproved or dead. In most of the fatal cases there was improvement in their symptoms, and some patients died of intercurrent diseases. The technique used in treating leukemia and pseudoleukemia by the *x*-rays consisted in applying the light over the spleen, the enlarged glands, the chest, knees, and elbows. The *x*-ray tube had to be sufficiently excited to give a light penetrating enough to reach the diseased organs. A low vacuum tube, expending its energy upon, but not penetrating, the skin, was to be avoided, as it was this grade of light that produced *x*-ray burns. Medication with quinine, fluorescin, and other substances, with the intent of increasing the fluorescence of the tissues, had been recommended, and might be added as an adjuvant, providing it did not interfere with more important medication. Dr. Holding then reported in detail two cases which were still under treatment: one, a case of splenomyelogenous leukemia, and the other a case of Hodgkin's disease. Both patients showed improvement under the *x*-ray treatment, relapsing when the applications were discontinued, and again improving when active treatment was resumed.

Dr. Mortimer Warren detailed the blood changes that had been observed in the two cases reported by Dr. Holding.

Dr. Edward B. Finch reported a case of Hodgkin's disease, in which remarkable improvement occurred while the patient was under the *x*-ray treatment, but in which the symptoms recurred when the treatment was discontinued. He called attention to the apparent remarkable tolerance shown by these patients to the *x*-rays, and emphasized the fact that, in order to get good results, the treatment quired great persistency, and the exposures had to be l and severe.

Dr. Finley R. Cook said that while his experience w the *x*-rays in the treatment of leukemia and pseudoleukem was limited, he had employed the method with excell results in various forms of glandular hyperplasia. T included a case of simple goiter, and also one of exophth mic goiter, in a middle-aged woman, in whom, after o six exposures, the enlarged thyroid totally disappeared, a there was a marked improvement in the nervous sympto from which she had suffered. In a number of cases hyperplasia of the spleen, mostly of malarial origin, t result of the *x*-ray treatment was highly satisfactory, a the speaker thought we would not go far astray if we su mitted all cases of enlargement of the spleen or lympha glands to the *x*-rays, particularly when those patients h failed to respond to other forms of treatment.

Dr. Charles W. Allen said that in spite of the sta ments made by many to belittle the value of the *x*-rays in t treatment of certain internal disorders and diseases of t skin, he wished to add his testimony to the efficacy of th therapeutic agent in various severe and intractable con tions, such as those under discussion.

Dr. H. Grad said that while the treatment of leukem and allied conditions with the *x*-rays had been fairly su cessful, a number of failures had been recorded, and would not do to be over-enthusiastic. In Hodgkin's diseas where we had to deal with a simple glandular hyperplas we could expect better results from the treatment than true cases of leukemia, in which characteristic blo changes were present, which could scarcely be radical influenced by radiotherapy. The rays exerted a remarkab effect on tissue, but it was doubtful whether they could i fluence a process like that underlying leukemia.

The Abuse of Water Drinking.—Dr. Morris Mang presented this paper. He stated that the abuse of wat drinking was not, as was usually supposed, an Americ vice, but was practised in every part of the world. It w not confined to the city, and was seen in its full glory the various mineral springs, where the temptation to "drin all you wanted for five cents" seemed to be too great to b resisted. Water once within the body was no longer wate but had to be considered in its relations to the various salt colloids, etc., with which it came in such intimate conta The normal quantity of water for the healthy adult ind vidual, exclusive of the water contained in the food, wa about one and a half to two quarts per day. Of this, tw thirds appeared in the urine. Only a small portion of t water was absorbed by the stomach, the maximum qua tity being 10 per cent. The other 90 per cent. passed on int the intestines. Every drop of water introduced into t system had to be excreted from it, directly or indirectly, b the heart; hence the larger the quantity of liquid introduce the greater the amount of energy demanded of the heart f its disposal. Water drinking affected chiefly (1) metabo ism, (2) the temperature, (3) the circulation, especially th heart, (4) the glandular secretions, and (5) peristalsi The most striking abuse of water drinking was in chroni nephritis. Investigations made by von Noorden and other had shown that when the heart was no longer competen the daily quantity of water should be restricted to one an one-quarter litres, not including the water contained in th food, which averaged from 500 to 700 c.c. In the earlie stages, also, when good compensation existed, this restric tion was advisable as a prophylactic measure. Vo Noorden had also observed cases of chronic parenchy matous, and even acute, nephritis, in which the restrictio of water had been found useful, and Baruch had emphasize the importance of this measure in acute nephritis. In hear disease the abuse of fluids was less evident, but none the les serious in its consequences. The chronic hyperemia of th kidney, the existence of dropsy, and the hydremic plethor and anemia in advanced cardiac conditions were sufficien indications for warning patients against the use of too muc liquid. Every drop of water taken into the body meant additional work for the heart. The aim should be to regulate the blood pressure in the kidney, rather than to crowd more work upon the already struggling heart. In chronic gastric, and intestinal disorders, the significance of the abuse of water drinking could be more readily recognized. As regarded the effects of large quantities of water in metabolic disorders, the abuse of water drinking would continue until patients and their physicians worshiped at other shrines than that of uric acid. Rubner, the distinguished Berlin physiologist, had shown that copious water drinking might for a short time cause a washing out of nitrogenous products from the body, but water had no effect upon the splitting up of the albumins, and upon general metabolism. As regarded free flushing for the removal of calculi, gravel, etc., it was important first to ascertain the condition of the circulation, and to verify the fact that the increased intake of water was represented by an adequately greater amount of urine. If this failed to occur, an investigation into the cause of the failure should be made before blindly ordering more water. If the necessary rise in the renal blood pressure had not been obtained, it was much better to resort to cardiac tonics, with or without the alkaline diuretics. In acute infectious diseases, and in septic conditions, in which free diuresis meant so much in the successful outcome, it was also necessary to guard against the dangers which followed from crowding too much water at ordinary temperature into the patient's system. Those patients were already on a fluid diet, and the motor and secretory functions of the stomach were lessened as a result of the fever. Any abuse could be guarded against by carefully watching for evidences of dilatation of the stomach. The water should always be given cold, and in small quantities frequently repeated.

Dr. **Simon Baruch** said the greatest abuse of water drinking was the inexact manner in which this therapeutic measure was prescribed by physicians, What was true of water in its external application was tlso true of its internal effects. The effects depended upon the temperature of the water, its quantity, and the duration of the application. A fainting woman might be revived by a sprinkling of cold water, but if we immersed her in a tub of water of the same temperature for any length of time, there would probably be a collapse. It had been shown that small quantities of cold water stimulated the flow of gastric juice, while large quantities paralyzed the peristaltic action of the stomach. The physician, when he instructed his patient to drink water, should prescribe the exact quantity, and the time and temperature at which it should be taken. In certain fevers, especially when there was already a retention of water in the system, the ingestion of large quantities of fluid should be avoided, because the heart was overburdened and weakened by the toxins of the disease. In such cases, small quantities of moderately cold water, taken at regular intervals, had a diuretic action and gave much better results. This rule did not apply to conditions like cholera or hemorrhage, in which there was an actual loss of water, and where flushing was one of the best therapeutic measures.

Dr. **Alfred Meyer** emphasized the importance of treating the individual as well as the disease. The abuse of water drinking, to which Dr. Manges had called attention, was no greater than the abuse of egg eating among those suffering from tuberculosis, and the results of such excess often gave rise to more trouble than excessive water drinking. The speaker referred to the dangers of overindulgence in surf-bathing, of which he had frequently seen examples at the various coast resorts during the summer. Aerated waters, which were apt to cause dilatation of the stomach, should be avoided in certain cardiac conditions, especially angina pectoris.

Dr. **Beverley Robinson** said that in the treatment of typhoid fever and the acute exanthemata with high temperature, he still favored the use of a goodly quantity of water taken internally. Such patients usually craved water, and he saw no reason why it should not be given freely. Under such conditions he did not think it affected the heart injuriously, nor that it acted otherwise than advantageously. On the contrary, the high temperature and the toxic condition of the system were apparently favorably affected by a plentiful supply of water. In regard to dosing old nephritic or cardiac cases with large quantities of water, Dr. Robinson said he did not think such a practice was common among up-to-date physicians. Fluids in any form should be given sparingly when the system was already overloaded with water, and in the early stages of acute nephritis.

Dr. **Charles C. Ransom** said there was no better stimulant to metabolism in chronically diseased conditions than water, properly used. The reason he thought it was not more generally prescribed was that there was a lack of knowledge regarding its therapeutic value. In the treatment of gout he did not favor the drinking of sulphur water, or waters of that class, and he had seen better results from the external use of water than from its internal application.

Dr. **Charles B. Fitzpatrick** said he did not think there was much abuse of water drinking in New York City. The abuse of alcohol was more common, and this, together with the infectious diseases, was responsible for most of the diseases of the kidney. In certain types of nervous disease, Dr. Fitzpatrick said he had employed large quantities of water, with very gratifying results. The free use of water internally was also of value in certain toxic conditions. In diphtheria, for example, the cause of death was a fatal dose of the toxin, and by diluting this sufficiently with water, its lethal effects might be put off until other means could be employed to combat it.

Dr. Manges, in closing, said he thought there was no doubt that in chronic nephritis there was much abuse of water drinking. The point he wished to emphasize in his paper was that an increased intake of water should be represented by an adequately greater amount of urine. If this failed to occur, an investigation into the cause of the failure should be made.

The Influence of Sugar on Fermentations in Milk and Milk Curds.—H. L. Russell declares that it is apparent from work that he has done on both milk and curd that the nature of the fermentations normally set up in these nutritive media depends very materially upon the composition of the same. Both of them are rich in nitrogen and, therefore, exceedingly susceptible to bacterial activity. Ordinarily such media would naturally undergo putrefactive changes, but the presence of milk sugar evidently prevents these organisms from reaching their maximum development on account of the acid which is formed by the growth of the lactic bacteria. When the milk sugar is removed, the lactic bacteria are still capable of growth, but under such conditions little or no acid is formed, and, therefore, the conditions do not become so unfavorable for the growth of the nitrogen-decomposing class. The lactic bacteria, therefore, are of importance in the prevention of putrefactive changes in milk by the action which they exert on the milk sugar. These studies have an important bearing on infant feeding. If conditions arise whereby the lactic bacteria are not able to develop, if they are overpowered by the growth of other species, the character of the fermentations produced is materially different, according to the writer. The most important condition that determines the probable type of development is the presence of the sugar. This factor may enter into the distinction between cow's milk and mother's milk. The first is higher in nitrogen and lower in sugar, and hence may not be so suitable for growth of lactic species. The beneficial use of foods consisting largely of carbohydrates, in the treatment of infantile disorders, such as summer diarrheas, may be an application of this principle that the sugar exerts a protective effect on the character of the fermentations produced.—*Archives of Pediatrics.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 31, 1904:

	Cases.	Deaths.
Measles	126	6
Diphtheria and Croup	302	45
Scarlet Fever	206	16
Smallpox	......	......
Chickenpox	87	......
Tuberculosis	434	134
Typhoid Fever	52	7
Cerebrospinal Meningitis	.....	18
Typhus Fever	.....	......
Yellow Fever	......	......
Cholera	......	......
Totals	1 207	226

The Functions of the Tonsils.—George Bacon Wood finds that the tonsillar tissues possess distinctly two properties: They can absorb fluids and finely divided solid particlues from the crypts; the other property they hold in common with all adenoid tissue, namely, the production of lymphocytes in the secondary nodes or follicles. The writer thinks that the truth of the following propositions has been practically established: The older forms of leucocytes are derived by a continuous development from the younger lymphocytes. The lymphocyte is originally derived from epithelial structures. In this connection the thymus gland plays the most important rôle. There exists strong histological evidence that lymphocytes are directly derived from the epithelium of the tonsillar crypts. From the results of these investigations, therefore, the writer believes that the tonsil is a primogenial source of leucocytes. He states that the strongest argument against the theory of leucocytic primogenesis as the function of the tonsillar structures of the throat is that the idea is too revolutionizing. The thought that the epithelial lining of he tonsillar crypts may be converted into cells that are by most pathologists supposed to be of connective-tissue origin is not one to be accepted lightly. It suggests the possibility of the interchange of cell types. Such a theory would undoubtedly readily explain many difficulties necessitated by our present methods of classification, especially in tumor types. As to the tonsils, if we accord to them the function of leucocytic primogenesis, their presence in the human economy is beautifully explained. The leucocytes are closely connected with various tissue changes, and the tonsils are the largest and best developed when tissue change is most active, that is, in childhood. The thymus gland develops in early embryonic life and gives rise to the first leucocytes. When it atrophies, the tonsillar tissues develop, carrying on the same function. Finally, the writer suggests that all adenoid tissue which has developed in intimate relation with the epithelium, is playing a rôle similar to this of the tonsils; that is, that the gastrointestinal follicles, the adenoid tissue of the appendix, and the like may do the work in the adult which the tonsils of childhood had usurped from the embryonic thymus. The writer states that what he has written stands simply as a suggestion concerning the function of the tonsils.—*University of Pennsylvania Medical Bulletin.*

Practical Points in Abdominal Surgery—Peritonitis.—Bayard Holmes states that excluding the rare possibilities of a chemical or a mechanical peritonitis, this disease is always due, in the clinical sense at least, to some form of infection. This disease is interesting to the physician and surgeon only so far as its prevention is possible or its course is limitable. The most common source of peritonitis, especially in the male and in children, is the vermiform appendix. The second most common source of peritonitis is confined entirely to adult females, and is limited to the uterus and fallopian tubes. Probably the third site beginning peritonitis is the region of the gall-bladder common duct. All operators agree that there is no pectant treatment of peritonitis; that the prime imper duty of the attendant is to remove or obliterate the sc of peritoneal infection at the earliest possible moment move the disseminated infection as completely as pos and place the peritoneum and the patient in the best sible condition for recovery. There is practical unani in the immediate removal of the source of infection. I gard to the removal of the escaped infection, two met are offered: the dry method and the method of irriga The latter has always been considered a dangerous cedure by the writer. In regard to placing the peritor in the best condition for recovery, there are two meth drainage, and complete closure without drainage. Not standing all of the arguments in favor of closure, the w still follows the other method. One of the most threa ing symptoms of peritonitis is intestinal obstruction. W drainage will not overcome this condition, an artificial must be made. As a rule, it closes in the course of a weeks, or it remains and must be treated surgical *Illinois Medical Journal.*

Health Reports.—The following cases of smallpox, low fever, cholera, and plague, have been reported to Surgeon General, Public Health and Marine Hospital vice, during the week ended December 31, 1904:

SMALLPOX—UNITED STATES.

		CASES.	DE
Florida, Jacksonville	Dec. 17-24	1	
Illinois, Chicago	Dec. 17–24	20	
Springfield	Nov. 28–Dec. 21	5	
Kentucky, Louisville	Dec. 15–22	1	
Louisiana, New Orleans	Dec. 18–24	7,4 imp	
Michigan, at 70 localities	Dec. 10–17	(Present	
Minnesota, Meeker County	Dec. 21–19	1	
Otter Tail County	Dec. 12–19	1	
Rice County	Dec. 12–19	12	
Wilkin County	Dec. 12–19	1	
New Jersey, Camden	Dec. 18–24	1	
New York, New York	Dec. 18–24	1	
Ohio, Cincinnati	Dec. 16–23	2	
Pennsylvania, Johnstown	Dec. 17–24	1	
Philadelphia	Dec. 17–24	1	
South Carolina, Charleston	Dec. 10–17	2	
Tennessee, Nashville	Dec. 17–24	4	
Washington, Pierce Co., (Tacoma included)	Nov. 1–30	2	
Walla Walla County	Nov. 1–30	5	
Seattle	Nov. 1–30	1	
Wisconsin, Milwaukee	Dec. 10–24	40	

SMALLPOX—FOREIGN.

Argentina, Bahia Blanca	Nov. 18	(Present	
Buenos Aires	Sept. 1–30	..	
Austria, Prague	Nov. 26–Dec. 3	18	
Brazil, Bahia	Nov. 12–26	..	
Rio de Janeiro	Nov. 6–27	373	1
Ecuador, Guayaquil	Nov. 30–Dec. 7	..	
France, Lyon	Nov. 26–Dec. 3	1	
Paris	Dec. 3–10	9	
Great Britain, Glasgow	Dec. 8–16	2	
London	Nov. 26–Dec. 10	3	
Newcastle-on-Tyne	Dec. 3–10	21	
Nottingham	Dec. 3–10	3	
South Shields	Dec. 3–10	2	
India, Bombay	Nov. 22–29	..	
Calcutta	Nov. 19–26	..	
Italy, Palermo	Nov. 26–Dec. 10	33	
Russia, Odessa	Nov. 26–Dec. 3	1	
Turkey, Constantinople	Nov 27–Dec. 4	..	

YELLOW FEVER.

Ecuador, Guayaquil	Nov. 23–Dec. 7 One case on S.S. *Limari* at P from Panama.		
Mexico, Coatzacoalcos	Dec. 10–17	2	
Juchitan	Dec. 11–17	1	
Panama, Panama	Dec. 12–19	3	

CHOLERA.

India, Bombay	Nov. 22–29	..	
Russian Empire, Erivan	Nov. 22–28	914	36
Jelisavetpol	Nov. 16–22		(Pres
Tachken	Nov. 27	18	
Tiflis	Nov. 16–22	(Present.	
Turkey in Asia	Nov. 28	72	4

PLAGUE.

Africa, Cape Colony	Nov. 6–19	5	.
Arabia, Aden	Nov. 18–25	19	1
Argentina, Tucuman Province	Nov. 18	..	
Brazil, Bahia	Nov. 12–26	..	
Rio de Janeiro	Nov. 6–27	101	3
Egypt, Tukh District	Nov. 19–26	2	
India, Bombay	Nov. 22–29	..	7
Calcutta	Nov. 19–26	..	
Karachi	Nov. 20–27	14	1
Paraguay, Asuncion	Oct. 6 20 cases weekly, estimat		
Peru, Guadelupe	Dec. 7		(Preser
Lima	Nov. 1–15	6	.

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THE DISEASES OF THE ISTHMIAN CANAL ZONE.*

By RICHARD LIGHTBURN SUTTON, M.D.,
ASSISTANT SURGEON, UNITED STATES NAVY.

A most excellent opportunity for the clinical study of tropical diseases is presented to a large number of young American physicians with the commencement of work on the new interoceanic waterway. Information concerning the diseases to be encountered, and the conditions that must be met will undoubtedly be acceptable to many.

Any preconceived ideas which the newcomer may have formed regarding either the people or their ailments are very liable to undergo a considerable metamorphosis within a few weeks after his arrival on the Isthmus. The practitioner who expects to find a case of "yellow jack" or blackwater fever in every native clinic he conducts will be greatly, if agreeably, disappointed. These diseases are undoubtedly present at times, but one encounters them much more seldom than the average reader would be led to imagine.

Taking everything into consideration, malaria is probably more frequently seen than any other affection. This does not hold true with regard to foreigners who have but recently arrived, but as they are greatly in the minority at present, we will discuss the various types of paludism first. Long continued residence and many attacks of malaria have combined to render the older inhabitants partly or wholly immune to the infection. The disease is encountered very frequently, however, among the children, from earliest infancy to adolescence, and foreigners almost invariably suffer from repeated attacks.

The adult natives, while free from any outward manifestation of the affection, practically serve as walking laboratories for the propagation of the plasmodia, thus affording the industrious and ever ready mosquito an opportunity to transfer the parasites to a more fertile soil.

If possible, the microscope as an aid in the diagnosis of this and other affections should always be used. It may not prove amiss to describe briefly the technique of blood examination which we have employed with the greatest degree of satisfaction.

The lobe of the ear, from which practically all of our specimens were obtained, is first cleansed with a moist piece of soft gauze. No antiseptic is needed. A quick jab is given with a Hagedorn needle, the first drop of blood is carefully wiped away, the second is caught on the margin of a smooth square of cigarette paper, and slowly drawn across the surface of a clean slide, giving a moderately thin, even smear. A needle or the edge of a cover slip may be used for spreading, the drop of blood being first collected near the end of the slide, but the above procedure has given us the best results. There is no comparison between the advantages gained by using the large slides, and the results obtained when only small cover slip preparations are employed. One can obtain better and more evenly smeared spreads on the larger surfaces, the slides never break in cleaning, and can be used repeatedly, the larger area of the field permits an accurate differential white count to be made from the same specimen, and, in addition, the great number of red corpuscles which may be examined in the single preparation render a search for malarial organisms, especially if the parasites are extremely few in number, much more rapid and certain. The examination is made with the intervention of nothing whatever, except the immersion oil, between the 1-12 objective and the stained corpuscles. Both the Abbé condenser and mechanical stage should be used.

Fresh blood specimens are extremely unsatisfactory, and are not to be relied upon. Such examinations are, of course, better than none at all, but the findings, unless the observer be a professional microscopist, are disappointing in many instances when a well stained mount would quickly furnish the desired information. The Wright stain, now so popular in the United States, gives entire satisfaction. Care must be taken, however, to keep the bottle tightly stoppered when not in use, and, even with this precaution, more methyl alcohol must be added at frequent intervals to take the place of that lost by evaporation, thus preventing too great concentration of the stain.

With regard to the types of malaria represented, the estivoautumnal is the one by far most frequently seen. A large percentage of these cases, fully three-fifths, show hyaline rings. Contrary to the experience of some observers, one generally has very little difficulty in picking up these forms in well stained specimens. Quite a large number of the estivoautumnal parasites containing pigment are found, but hyaline ring forms combined with crescents, or the latter alone, are rather rare. The close relationship between estivoautumnal infections and fevers of a pernicious character should always be kept in mind.

In several instances which have come under my observation the symptoms were not directly indicative of malaria at all. The temperature was but slightly elevated, normal or even subnormal, while neuralgias, headaches, and rheumatic manifestations were present. In one case, which occurred last June, the symptoms were those of algid malaria. The onset was marked by a convulsion, the occurrence of explosive vomiting, feebleness, prostration, the passage of highly colored urine (only a trace of albumin, however), and the skin was covered with cold perspiration. The temperature was slightly subnormal (97.6° F.), pulse 110 and feeble. The presence of the parasite (extremely small, delicate, and non-motile, lying in somewhat shrunken red cells), was demonstrated, and fairly rapid recovery followed the hypodermic use of rather heroic doses of quinine bisulphate.

The tertian type of the infection occurs next in

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*The writer is indebted to his former senior medical officer, Surgeon Dudley Newcomb Carpenter, U. S. Navy, for much information and advice concerning data and case paper.

frequency. Full grown segmenting forms are often encountered, and some beautiful specimens may be obtained. In native children this type seems to be the predominating one, a half dozen adult parasites oftentimes being found in one field. The tertian rosettes are large, clear cut, and usually contain from fourteen to thirty spores. All found thus far have been intracellular, although their appearance in fresh specimens gives one the impression, at times, that they are lying outside the cell wall. None of them contains so large a number of spores (forty or fifty) as the rosettes described by Marchiafava and Bignami.* The tertian hyaline forms appear to be rather infrequent.

Mixed tertian and estivoautumnal fever is rarely seen, and no case of quartan infection has been discovered.

Patients suffering from advanced degrees of malarial cachexia are often met with, especially in the large native clinics, where representatives from the more remote districts apply for treatment. The hæmoglobin percentage in these instances is very low, from 30 to 70 per cent. (Talqvist), while the red cells are over 4,000,000. There is but slight, if any, leucocytosis, and the differential count shows a decided increase of the large mononuclears and transitionals. The most prominent symptom is the enormous splenic enlargement. I have never had the opportunity to do an autopsy on one of these cases, but the physical signs show the spleen extending well down into the left inferior abdominal quadrant, and forward almost to the median line. The organ is extremely solid, with smooth, rounded margins. Owing to mechanical interference by pressure, as well as the impoverished condition of the blood, there is considerable cardiac and respiratory disturbance, and it is usually for the relief of one of these conditions that the physician is consulted. The temperature is seldom over 100° F., and a history of recent typical malarial manifestations is often indistinct or absent. The tendency to excessive hemorrhage from even slight wounds is noticed in these cases, but the predisposition is no greater than it would be in temperate climates.

Arsenic, with or without iron, is of more benefit than quinine, but the anæmia and splenic enlargement do not respond well to any treatment. If it were possible to keep the patient continually under observation so one could see that the medicinal, dietetic, and hygienic measures ordered were enforced, the results would be more satisfactory.

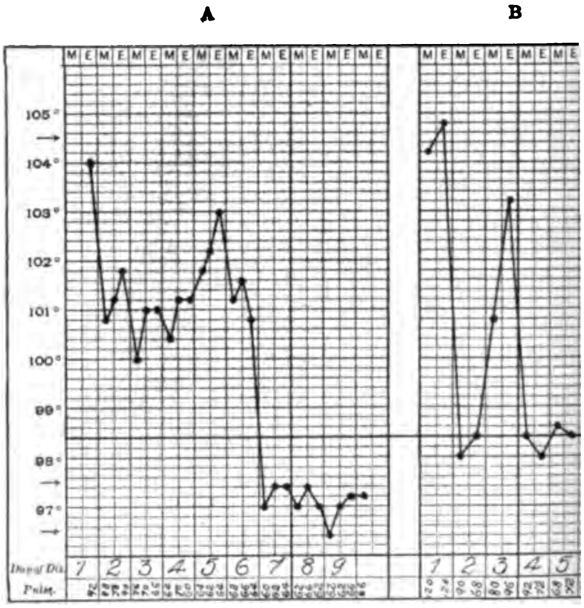
The use of quinine as a prophylactic in all varieties of malaria is undoubtedly of great value. From two to five grains should be administered three times daily. Protection from mosquitos by means of fine mesh netting, and the burning of pyrethrum powder should also be insisted upon, and the usual modern methods to prevent the breeding and multiplication of these dangerous little pests should be employed.

Dengue is the disease which most frequently attacks the new arrival in this country, and even the more thoroughly acclimated natives do not wholly escape it. The initial symptoms vary, but, in the order of their value, they may be given as follows: (1) Sudden onset; (2) Severe and continuous supraorbital headache; (3) Deep congestion of face and neck; (4) Backache, together with severe pain in the region of the loins. Chilly sensations, seldom a distinct chill, may precede the first rise of temperature. The primary and terminal eruptions, upon the diagnostic value of which so much stress is usually placed, are absolutely unreliable here, being absent, especially the secondary one, in the majority of instances. The disease is extremely contagious, and many persons in the same place are usually tacked at the same time.

If a microscope is available, total and different counts should be made. There is a leucopenia fr the first, the whites sometimes being less than 2,5 there is little or no destruction of the red c (4,200,000 to 5,500,000), and the hæmoglobin ind is usually 1 or 1.+. The differential white co will show the proportion to be about normal admission, later, and especially by the beginning convalescence, a marked small mononuclear lympl cytosis will be noted, which persists for several da

Stage of Disease.	Polynuclears.	Large Mononuclears.	Transitorials.	Small Mononuclears.	Eosinophiles.	Mast Cells.
On admission...	32.2	7.9	36.6	23	0	0.3
First drop......	41	5.4	6.7	46.8	0	0
Second rise.....	50.8	7.6	5.2	33.6	4	0
Second drop....	52.5	5.9	5.4	25.1	11	0
Convalescence ..	50	5.3	4.2	30.3	9.7	0

An eosinophilia, sometimes reaching as high as per cent., sets in just after the second rise. T table shows the changes in the differential leucoc count at various stages of the disease. There is s



THE FEVER CURVE IN DENGUE.

A, an atypical chart of a case of dengue simulating yellow fever; B, temperature and pulse in a typical case of dengue.

dom any splenic enlargement; in over two hundr cases we have found the organ palpable only th times. Occasionally, in atypical dengue, it is extrem difficult to make a positive diagnosis. If albun (which is of infrequent occurrence) is present the urine, or the gums be spongy and tender, there is a discrepancy between the temperature a pulse curves, such as was found in one patient w came under observation, the condition may strongly suggestive of yellow fever. If the clini resemblance is sufficient to justify even a doubt diagnosis of the latter, precautions should at o be taken with regard to double screening, and iso tion from mosquitos. While the symptoms given present in the majority of instances, there may marked variations from the typical picture at tim The onset is occasionally insidious, with catarrl symptoms predominating. The patient will ap for treatment because of a bronchitis, or a rat persistent diarrhœa may be the cause of complai The disease is a self-limited one, and treatme except to lessen the discomfort, is of no avail. brisk cathartic, with phenacetin or acetanilid, a an ice-bag to the head are the most efficient remed agents we have found. One attack only partial immunizes.

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* Ueber die Varietäten der Malariaparasiten, *Deutsche medizinische Wochenschrift*, 1892.

The sequelæ are frequent, stubborn, and often severe. The fever may be followed by sciatica, in which case the removal of the sufferer to a cool climate has given the best results, or a tropical bubo may appear within a few days following the return of the temperature to normal. Facial neuralgia, herpes, myalgia, bronchitis, corneal ulceration, or symptoms of mental disturbance often follow in the wake of a severe onslaught. As in the influenza of our temperate climates the toxin seems to have a special affinity for the nervous centers.

Beriberi, a multiple neuritis, seen most frequently in the wet lowlands and marshy districts, thrives in this part of the tropical world, especially affecting the Chinese contingent. More cases are to be found among this one race than all of the others put together. although the native Panamanians do not entirely escape. Both the dropsical and paraplegic forms are seen, often the two associated. No instance of the malignant type has come under my observation. In the earlier stages one finds the exaggerated knee jerk soon followed by complete loss of the patellar reflex, the paraesthetic areas over various parts of the body, and the signs of beginning muscular incoordination indicative of the involvement of peripheral nerve trunks. Later, cardiac dilatation and irritability, with œdema of the extremities, and an ataxic gait are added to the above, making a diagnosis easy. Unfortunately the disease must be recognized early if much benefit is to be derived from treatment. Removal to the more sanitary locations afforded by the tops of the surrounding hills, a nutritious diet of nitrogenous matter, fats, and sugars, with strychnine and other tonics, probably comprise the best and most available measures under the circumstances.

Infection with intestinal parasites is the rule, not the exception. One is able to find the eggs of a half dozen different varieties in nearly every fecal specimen examined. The almost universal presence of these protozoa in the intestinal tract is due to the lack of personal cleanliness among the majority of the inhabitants, and also to the character and methods of preparation of their food. The use of impure drinking water also gives rise to the trouble in many instances. The well water at Emperador was highly prized for its flavor (it was drained from the surrounding square of houses and stables), and when tested for nitrates gave a deep ruby red color. The eggs of the entozoa found are those of *Oxyuris vermicularis, Tricocephalus trichiurus, Ascaris canis,* and *A. lumbricoides, Strongyloides intestinalis,* and *Uncinaria duodenalis.*

The last named, identical with *Sclerostoma duodenale* of Cobbold, is by far the most important and dangerous of all. Especially is this true if early treatment is not instituted. The recognition of an infected case is easy, in fact, one can almost make a diagnosis at a glance. The patient is emaciated and cadaveric, lacking in strength and vitality. The skin is lemon tinted, the visible mucous membranes are pallid, the hair is dry and brittle, and, oftentimes. the eyes are as prominent as in a case of exophthalmic goiter. Cervical pulsation is noticed in the majority of instances. There is often œdema of the extremities, cardiac palpitation and epigastric pain are frequent. and there is usually a history of blood-streaked stools, with the passage of much undigested food material in the fæces. A loopful of the latter, thinly spread on a slide and examined with a low power, will exhibit myriads of eggs. The blood in these cases shows an extreme grade of anæmia (hæmoglobin from 20 to 60 per cent.), and the exuding drop is very tenacious and almost white in color. The eosinophilia is the highest that has ever come under my observation, seldom being under 20 per cent., and, in one instance, it was slightly over 65 per cent. Poikilocytosis is common, megalocytes and microcytes are often seen, and twice, in advanced cases, there was leucopenia (1,900 and 2,050). These cases respond well to treatment. A large dose of castor oil is given, and, after it has acted thoroughly, three twenty-grain doses of thymol are administered at two-hour intervals. No solid food is to be taken during this time, and especial stress must be placed upon total abstinence from alcoholics. Following the last dose of thymol a brisk purge is ordered. This course should be repeated in three weeks, if necessary. The after treatment consists in the use of Blaud's pills, arsenic, and a full, nutritious diet. Personal cleanliness should be enforced when possible.

One of the most troublesome insects on the Isthmus is the "jigger" (*Pulex penetrans,* Linn., *Rhynchoprion penetrans,* Oken). The favorite point of attack is one of the interphalangeal folds of the toe, and the resulting inflammation and pustular swelling give rise to great pain and exquisite tenderness. The lesions, even after the insect is carefully extracted by means of a fine needle, heal slowly. Local applications of turpentine to kill the parasite, followed by the use of mild antiseptics, or zinc oxide ointment, have been fairly satisfactory. As a prophylactic measure, the feet and legs should be protected by boots or well fitting leggings. The local use of some one of the essential oils will also be of benefit.

Snakes, centipedes, and spiders are numerous, but the danger from them is not great. The two last named seldom molest any one, and, if they do, the result has proven to be no worse than the sting of a hornet. Formalin, locally, will have both an analgesic and an antiseptic effect.

Heat exhaustion and sunstroke occur more often among the Americans than any other class. The former, with its resulting symptoms of subnormal temperature, weak, thready pulse, and severe cramps in the limbs and abdomen, is best treated by hastily covering the patient with warm blankets, administering whiskey, nitroglycerin or strychnine hypodermically, and briskly rubbing the abdomen and extremities with some stimulating lotion. The last mentioned procedure is of great value in relieving the pain.

Thermic fever is a more serious condition. The symptoms are identical with those in the cases of sunstroke in our eastern cities, and the same methods of treatment are to be employed. The rectal temperature ought always to be taken. It is far safer, and much more reliable.

Dysentery, one of the scourges of the old French canal company, is still much in evidence, especially among the natives. During the past year very few of our troops have suffered from it, principally because of the rigidly enforced rules regarding the use of only such water as has been passed through the Forbes-Waterhouse sterilizer. Every man who goes out of camp must carry a freshly filled canteen with him, and the danger of drinking from wells and fountains has been so frequently pointed out that the marines may be safely trusted to leave suspicious water alone. The disease is of both types, the acute specific, due to Shiga's bacilus, and the amœbic, with the former predominating. In only a few instances did an examination of the fecal matter show the presence of Lambl's organism. The chronic form of amœbic infection, in which the symptoms of constipation alternate with a slightly purulent, or blood-specked diarrhœa, usually gives rise to emaciation, but it is not so extreme as in the acute

amœbic variety. In the acute stage the internal administration of sodium sulphate in cinnamon water, with turpentine stupes locally, and enemata of starch water and laudanum, followed by warm decinormal salt solution constitute the best treatment. Later, copious rectal injections of quinine bisulphate (2 to 4 per cent.—weaker solutions do but little good), are indicated. In the old chronic cases the quinine is also beneficial, but solutions of silver nitrate give better results. The question of food is an important one, a single dietetic indiscretion may undo the good brought about by weeks of careful medication. Contrary to our expectations, hepatic abscess, which is so often a sequel to these infections in the far East, is seldom encountered here.

Panama is one of the few southern countries in which acute and chronic articular rheumatism occur. These joint affections are of practically the same character as those encountered in the temperate climates, and the response to the salicylates is fairly good. Myalgia, especially of the lumbar muscles, is frequently encountered, malarial infection probably being the causative agent in many cases, and dengue in others. The treatment is unsatisfactory. Quinine, until the physiological effect is produced, should be given—alone or combined with antirheumatics.

Now that the zone is under American rule, the wandering cases of leprosy, which were formerly quite frequent, will seldom be seen. Their movements will probably be restricted to a small area of territory set aside for their use. Several unfortunates, principally Chinamen, applied for treatment at Emperador. In one case large numbers of the bacilli were found in the nasal discharge. Both the nodular and anæsthetic varieties are seen, and some of the patients are extremely pitiable. Considerable improvement appeared to result from the administration of mercury in one instance, but we were unable to continue the treatment for a sufficient length of time to notice much change.

Smallpox makes occasional inroads, the crowded and unhygienic condition of many of the villages furnishing an ideal opportunity for an outbreak of such a disease.

Yellow fever, as may be seen from the health reports of Colon and Panama, is not at present epidemic in this region, and sporadic cases are seldom seen. Stegomyia mosquitos are to be found in enormous numbers.

Owing to the splendid results following the efforts of the chief sanitary officer and his corps of assistants, the Isthmus is now in a better condition, from a hygienic standpoint, than it has ever been, and, taking even the peculiar character of the climate into consideration, the health of the inhabitants will soon compare favorably with that of the residents of any extreme southern country.

Women Doctors in Russia.—New statutes which have just been issued in Russia place women doctors on practically the same footing with regard both to education and to practice as their male rivals. Women may now obtain diplomas, pursuing their studies for medical degrees in the universities of the country, and in the Military Medical Academy. A characteristic point in the new law is that it limits the number of women medical students of the Hebrew faith to three per cent.—*Australasian Medical Gazette.*

THE VALUE OF PUBLICITY REGARDI TUBERCULOSIS.*

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It is impossible to guard against an unknown p or withstand the onset of a hidden foe. Our f duty in the case of tuberculosis, as in the case of other conditions that militate against the health happiness of humanity is to give notice of the ex ence of danger, to exploit the details of a possi attack, to discover and make manifest the meth of invasion, to arm the citadel against assault, finally to make known that method of warfare, o the conflict has begun, which experience has sho to be the most efficient in overcoming the forces the enemy. Our first duty is to tell the truth.

It was my privilege to be present at the ini meeting of the Chicago Society for the Prevent of Consumption, presided over by Mayor Harris I protested against the name. My friend, Dr. J A. Robison, told a story. He said a man went i a store to buy a pair of shoes. The storekee asked: "What is all this talk about tuberculosi The man replied, "They mean consumptio "Well," said the shoemaker, "why don't they so?" This story convinced the majority of the me bers present. They voted to use the word consun tion instead of tuberculosis. And so to-day society tells only a portion of the truth. In judgment, the shoemaker in the story went decide beyond his last, and by the very name our soci adopted we cripple our usefulness by recognizi only one localization of tuberculous infection.

What is the truth regarding tuberculosis? We not know it all as yet, but some things we do kn Enough is known to enable us to advise prophyla measures which a sufficient experience has dem strated to be of value, and a method of treatm which has proved successful enough to warrant continuance. Furthermore, as we approach borderland of actual knowledge, we recognize t scientific deduction permits various recommen tions which, from our knowledge of infection general, and our recognition of the results of clini experience, must also be of value and importa in reference to tuberculosis.

What of the facts? More deaths occur fr tuberculosis than from typhoid fever, diphther whooping-cough, measles, scarlet fever, and sma pox combined. Most of the deaths occur betwe the ages of 18 and 40 years, in the active worki age, during the period of greatest usefulness. Fu one-tenth of all mankind die of tuberculosis, the es mated mortality for the United States being 200,0 per annum.[1] In Illinois alone it has been estimat that the loss of money invested in children who of tuberculosis under the age of twenty years $1,187,800; the loss to the State from the inabil of the tuberculous to perform labor amounts $30,000,000; the loss of savings of those who before the end of the producing age, $5,129,0 and the cost of the care of those sick and compa tively helpless, $225,000, making an annual econo loss to the State of $36,551,000 each year.[2] Nor this all, for in cases that recover there may be serio and often protracted morbidity, and in the fa cases there is, on our part, the distress of body a anguish of mind which cannot be estimated, as o

loved ones, perhaps after years of suffering, go down to death.

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* Presented to the American Congress on Tuberculo at its meeting in St. Louis, October 3 to 6, 1904.

The cause of tuberculosis is the tubercle bacillus. This germ may gain entrance into the body through the lungs, the alimentary canal, or the skin. It exerts its well-known deleterious effect if there is found a soil suitable for its development and environments favorable for its growth. Such conditions exist when there is debility from any cause, or when unhygienic surroundings are present. This relationship should be well understood by everybody. The tubercle bacillus thrives with difficulty or not at all in healthy individuals under hygienic conditions. It finds an admirable culture medium in individuals whose vitality is lowered from any cause, or whose mode of life or environment is unsanitary.

Tuberculosis is communicable by dissemination of the bacillus. It is not infectious to the same extent as smallpox, measles, and some other diseases, nor is it dangerous to mankind unless there is prolonged exposure under conditions favorable to the propagation and development of the germ. The panic that has occurred in certain health resorts frequented by tubercular patients is as absurd as it is unwarranted, and the restrictive measures that have been proposed in several localities are unjust and unnecessary.[3]

The recital of these elementary facts regarding tuberculosis is not intended for the edification of this distinguished and learned assembly, nor for the enlightenment of the profession. I venture, in mentioning in this connection what may be called the essentials of our knowledge regarding tuberculosis, to direct attention to the simplicity with which may be promulgated important facts concerning etiology, life history, and mortality as well as suggestions relative to prophylaxis and treatment. These essentials should be known by everybody. In the public school, in the family, in the secular, religious, and professional press, in season and out of season these truths should be enunciated until the whole world realizes the danger that is imminent and seeks safety in increase of knowledge regarding the peril that is ever present.

The matter of first importance is to help the people to help themselves. First of all, let them know the truth. Let them realize the nature of this dread disease, its mode of onset, its course, its dangers to the individual infected and to others who come in contact with him, and above all else let there be a thorough understanding of the conditions that favor the development and spread of the bacillus which is its exciting cause. In the dissemination of the truth regarding tuberculosis the value of publicity is incalculable. Our fear of this devastating plague is allayed because its nature is understood. Its advent is anticipated, for the danger signals are seen in time. The predisposing causes are appreciated; the premonitory symptoms are recognized; prophylaxis is encouraged, and rational treatment is instituted without delay. In addition, the patient with tuberculosis is taught to defend himself against his disease, and is brought early under conditions which make possible his recovery. These results are attained by a consistent and well-advised publicity. In the promotion of judicious knowledge regarding this subject, which affects the well-being of all mankind, I offer respectfully certain considerations, which are the outcome of my experience and observation in different countries of the civilized world. I advocate publicity regarding tuberculosis, but I also beg leave to insist on the promulgation of knowledge relative to life itself, and, as a protective measure to all, I venture the assertion that the State must eliminate, as far and as rapidly as is practicable, those conditions which modern science has demonstrated to be inimical to the welfare of its citizens. The constitutional guarantees which refer to life, liberty, and the pursuit of happiness, must not be invoked to interfere with the plain duty of the State in enforcing salutary measures which tend to ameliorate the condition of humanity.

Health is of supreme importance. The best heritage a child can receive is a sound constitution, and the best education that can be given is the systematic development of bodily functions, and their consistent correlation.[4] Disastrous in the extreme are the consequences of any deviation from the strictest concern for this most important matter in the child's development. Education, as the term is generally understood, is a failure and a farce if due regard is not had for the child's well-being. All that may be learned is the veriest folly if health is lost in the learning. All the accomplishments of the world are valueless if, in their acquirement, the constitution is undermined.

It is no longer believed that tuberculosis is hereditary, except in very rare instances, when the bacilli gain access to the body before birth—the so-called cases of congenital tuberculosis, nine or ten instances of which, according to Osler, have been described in man. The infant, however, is capable of being infected from the first moment of its birth, and it is found, both with infants and with calves, that if they are removed at once from tuberculous mothers, they remain free from tuberculosis.[5]

The infant of a tuberculous mother must be provided with a healthy wet-nurse or fed on modified milk. Without here theorizing in regard to the relationship of bovine to human tuberculosis, it is proper to say that it is the part of wisdom to pasteurize all cow's milk supplied to infants. Knowing the high mortality of all infantile life, and realizing that the infant of a tuberculous mother, even if free from tuberculosis, is likely to be debilitated, or at least relatively deficient in vitality, it is imperative that such an infant shall receive special care, and be placed early under the best hygienic conditions. In several large cities provision is made for a free distribution of pure milk, and everywhere a sterilizer should and can be made available even to the poorest citizen. All municipalities can prohibit the sale of impure or adulterated milk, not alone because of the possible presence of the tubercle bacillus, but chiefly because of the importance of supplying a nutritious food upon which the infant may thrive. All infants are potential citizens of the State, and have the right to live. If the home is unsanitary, if the infant for any reason cannot there receive the special care that its welfare demands, a temporary home should be provided, very much on the plan that has been adopted in the case of the illegitimate,[6] so that this inherent right of the infant shall not be abrogated. Such a provision, moreover, enables the State to fulfil its manifest duty to act, when necessary, *in loco parentis*, in the case of all dependents.[7] In addition, such action, while humanitarian and philanthropic, is economic in the highest degree. It is impossible to appraise the value of rational supervision of this character at an early age, not only in instances of tuberculosis, but also in the case of all dependents, defectives, and delinquents. It is a rational prophylaxis, and if consistently applied would be of inestimable advantage.

In the case of children, systematic inspection, and the diffusion of accurate knowledge is of great importance. We have inspectors of different kind, we have schoolteachers, and we have the police. In large cities we have dispensaries for the poor, and throughout the world we have the medical profession and its members stand ever willing to give counsel

and advice, if need be, without cost. Let everybody know about tuberculosis, and appreciate the fact that debility and unhealthful surroundings are predisposing causes. Let the schoolteacher view with suspicion the poorly nourished child. Let the factory inspector, who makes sure that no child is employed under legal age, also take note of the health of the children, and the sanitary environments of the factory or shop. Let the police officer on his beat observe the conditions of the residents of his district, and let him report what he finds. The weak, sickly child is in danger. The anæmic child is a candidate for tuberculosis. Deficient hygiene and insufficient and improper nourishment favor the development of future dependents upon the State. Education must not be sought to the injury of any child's health. It is better to do without schooling than to impair the child's constitution.

Above all others, parents should realize the possibilities in reference to their children. They should understand what constitutes hygiene, and must know that many of the luxuries with which they surround their children are often detrimental and dangerous. The child is essentially a young animal, and should be fed and cared for at least with the same consideration that farmers bestow upon their stock. The question should not be raised if a certain article of diet will hurt the child, but the parent should consider if it will do him any good. The mistake should not be made of attempting to "harden" the child by submitting him to undue exposure, but the value of pure air and sunshine should be appreciated. Above all the physician should be consulted while the child is well. Judicious professional advice, taking cognizance of all surroundings and realizing all possibilities, is of importance in directing the daily life of the child, so that any developmental error may receive timely attention, and any faulty method which interferes with the child's well-being may be corrected.

Philanthropy does much for the care of the children of the poor. In providing country outings, fresh air, sanitaria, and the crèche, there is a consistent attempt to improve conditions. Moreover, it must be understood that pulmonary tuberculosis is not the only form of the disease. In children especially the bones or the abdominal viscera may be infected. The dispensaries nad hospitals of our larger cities care for these cases, but almost always ignorance is responsible for unfortunate delay in providing proper treatment in time. The public should know regarding manifestations of tuberculosis other than pulmonary.

Where the adult is concerned, a new duty arises. Publicity has now other facts to include in its dissemination of the truth regarding tuberculosis, and other conditions to consider. The question of occupation, habit, temperament and environment must receive attention, and serious thought must be given to economic relationship in many ways. In addition to imparting information regarding the tubercle bacillus, the danger of infection, and the predisposing and fostering conditions that exist by virtue of unsanitary surroundings, we must also appreciate the value of consistent sanitation to the fullest extent, and in this appreciation we must combat poverty, immorality, and crime, and counteract, oftentimes, dependency and degeneracy. In a word, the publicity which is to be of real value must favor prosperity, and must try to solve the problems of an incomplete civilization.

It is impracticable in this connection even to mention the various methods in which an enlightened prophylactic endeavor will find expression. With the realization that all cosmic influences, all life processes, all economic relationships bear upon
important subject, comes the attempt at the impr
ment of all local conditions, and the amelioratio
mankind in every way. In the effort to provid
abundant supply of pure air, an adequate suppl
pure water, and a sufficient supply of pure food
government—municipal, state or national—mus
intelligently for the common good. The interes
capital must not be allowed to supersede the inte
of the community. Building laws should exist
be enforced so that the disgraceful tenements of
slums become an impossibility. Indeed, it were
if the law regarding all dwellings, as is the cas
Berlin, permitted the owner to build upon only
thirds of his lot, and above all things, it were
desirable if existing laws regarding plumbing
tilation and other hygienic measures were no
often a dead letter. The airing of cities has no
ceived sufficient attention nor has adequate provi
been made for free parks. The value of trees, pl
and flowers as a means of purifying the air is
fully understood. A pure water supply and facil
for its use internally and externally must be
vided. Food should be inspected and when fo
impure should not only be condemned, but destro
Moreover, the drainage of all dwellings, the clea
of the streets, the removal of garbage, the abaten
of the smoke nuisance, should receive more atten
in a practical way commensurate with the import
of such matters, not alone for utilitarian reasons,
because we realize the relationship of public hyg
to the spread of tuberculosis.

The question of occupation, and regulation
shops and factories is of especial interest, for
danger of overcrowding amid unhygienic surrou
ings is known. Our public conveyances, our tro
cars and railroad trains must be inspected, and
sleeping cars should be disinfected at frequent
tervals. Our prisons and jails are often a disg
to our civilization, and our lodging houses are a
hot-bed of infection. In connection with e
municipal institution of this character, there sho
be a disinfecting plant, similar to the étuves of P
The tramp who secures a night's lodging sho
start out in the morning with a clean body, and
clothing properly sterilized.

In the consideration of occupation and reside
as a predisposing cause of tuberculosis, we
met by a sociological problem of the utmost
portance. The man must live, he must s
port his family, by his work alone can he gai
livelihood. To remove him from his surroundi
may mean to pauperize him as well as his fam
Right here the situation must be faced, and th
should be no compromise. If the environments
unhygienic, especially if the man is unhealthy
already infected, he must move, and some age
must see to it that neither he nor his family sta
The citizen is the State's most precious charge,
his welfare should be its most important care.
has a right to demand protection from disease,
provision must be made in case of illness—actual
threatened—as in other forms of dependency. W
tuberculosis in question, there is the additional
selfish incentive to action, because the man becon
a source of danger to others. Moreover, we kn
that treatment—either prophylactic or therapeuti
to be of the greatest service, must be applied at
earliest moment possible.

The practical methods to be applied in these ca
are easily understood, but difficult of applicati
The Bismarckian scheme of insurance, which p
vides indemnity against old age, accident, sickne
and death for all whose income does not exceed $5
a year, is a philanthropic effort, the efficacy of whi

has been demonstrated.[8] The institution of *Kassen*, or clubs, in Germany, brings immense clinical experience to certain specialists, and enables them to teach practically in a manner nowhere else possible in the world, but the chief advantage of such a system of compulsory insurance is the facility with which the poor receive timely treatment, and suitable financial help, in case of need. Such a system of insurance finds a parallel in our industrial companies, which, in default of governmental decree, offer an opportunity for the workingman to protect himself and his family against disaster due to loss of wage. Publicity benefits humanity by directing attention to this possibility, and it is not improbable that in the future the State may find means to protect itself, in some satisfactory manner, against these charges on its bounty.

For the present, each community in some way must attempt the care of the consumptives, and in many instances an enlightened public sentiment provides help and food for the wage-earner, deprived temporarily by illness of his wage, and this assistance has extended, when necessary, to his family as well. The report of the committee on the prevention of tuberculosis of the charity organization society of New York[9] shows how efficiently combined effort may accomplish definite results. The personal hygiene of the consumptive and the danger from infection to himself and to others have been detailed by many writers ably and fully.[10] The success of institutional treatment in high altitudes, and at home, is fairly well understood. The fact that tuberculosis is a curable disease is giving energy to renewed effort. We are studying with care the relation of intemperance and venereal disease [11] to tuberculosis, and we begin to appreciate in this connection the value value of education regarding the use of alcohol and the important subject of sex relationship.

There is still much to learn, but the essential fact to remember is the necessity at present of disseminating the knowledge that we already have. We must force home the truth about tuberculosis so each may know of his personal danger. We must warn against predisposing causes, and, to guard against the spread of the disease as we would against a conflagration, we must give attention to every case of infection as we would put our foot on every spark. The study of preventive measures in tuberculosis demonstrates again the dependence of each man upon his brother man, and is an object lesson in altruism. The appeal for the rich to help the poor has a new significance, and a personal and selfish interest, when it is realized how the disease may extend from one to the other. The necessity and the possibility of eliminating tuberculosis should cause a public awakening to each citizen's responsibility. The dissemmination of knowledge founded on fact, a consistent humanitarianism, a combined effort, a glorious and successful result—all these are made possible by a well-advised and determined publicity.

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SUDDEN DEATH, ESPECIALLY FROM EMBOLISM FOLLOWING SURGICAL INTERVENTION.

By BYRON ROBINSON, B.S., M.D.,
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THE disasters of surgery are amply numerous to maintain the operator's heart in a constant state of palpitation. The laudable pus of pre-antiseptic days, it is true, is largely disappearing, but in its place is recognized the uncontrollable embolus. At present it is impossible to write a paper approaching finality on the causes of sudden death, for they are frequently unknown—undemonstrated even with the addition of an autopsy. Perhaps the term "sudden death" should include cases in which the final issue occurs within half an hour after an attack. A condensed presentation of a few of the causes of sudden death as related to particular visceral tracts may prepare the way for a comprehensive view of death in general demonstrating that sudden death is intimately related to death from natural causes. In the causes of sudden death, it seems to me we must bear in mind the vegetative centers, which especially belong to the sympathetic nerve, particularly the vasomotor, circulatory, or cardiac center and the respiratory center—both located in the floor of the fourth ventricle. It may be noted that the circulatory and respiratory centers in man are well separated, as the circulation will proceed for some time (over an hour) with cessation of the respiratory center.

The *tractus vascularis* is responsible for the majority of sudden deaths—over 60 per cent. It is the apex of the vital tripod of life. The following are some of the causes of sudden death: (1) Embolus; (2) air in veins; (3) acute anæmia; (4) fatty cardiac degeneration; (5) destruction of the cardiac center; (6) rupture of vessels (aneurysm, apoplexy; (7) myocarditis; (8) syncope (insufficiency of the left segment of the heart), resulting from embolism of the coronary artery, leading to cardiac anæmia and eventually to cardiac paralysis; hence the sudden death is a natural one and may be really slow, yet to the observer it appears sudden; (9) defective valves; (10) endocarditis; (11) cardiac rupture; (12) angina.

The *tractus urinarius* accounts for many sudden deaths, perhaps next in order to that of the tractus vascularis. The factors of sudden death from the urinary tract are: Nephritis, uræmic convulsions, diabetic coma, renal embolus.

The *tractus respiratorius* presents the following well-known factors to account for sudden death: (1) Pulmonary embolus; (2) obstruction of the trachæ (asphyxia); (3) pleuritic effusion; (4) chronic (latent) pneumonia; (5) œdema (pulmonary, laryngeal); (6) laryngysmus stridulus; (7) destruction or paralysis of the respiratory center, (8) obesity; (9) pressure on the oblongata, asphyxia (accumulation of blood in the left segment of the heart and in the lungs), asthma; (10) congestion; (11) apoplexy; (12) emphysema; (13) hæmoptosis.

The *tractus nervosus* is overrated as a factor in

sudden deaths. Perhaps less than 10 per cent. of sudden deaths are due to the nervous system. In sudden death certain visceral spasms must be observed, including death within the function of the sympathetic nerves. John Hunter died within a few minutes during a fit of anger. A slight shock, blow, or overexertion in a weak, exhausted person may result in sudden death—this would, however, be among the natural causes of death. The following factors in sudden death from the nervous system may be recognized: (1) Exhaustion (latent, chronic, or continued infection, overexertion); (2) cardiac paralysis (diphtheria, infection); (3) infection (diphtheria, streptococcus, etc.); (4) vagus inflammation; (5) meningitis (latent or chronic); (6) convulsions; (7) shock; (8) spasm; (9) joy, grief, anger, emotion, fright (icterus); (10) trauma on the abdominal brain, inducing reflex action in distant organs, as a blow on the epigastrium; (11) epilepsy; (12) destruction of the respiratory or cardiac centers, cerebral hemorrhage, pressure on the medulla (as fracture); (13) cerebral congestion; (14) cerebral anæmia.

The *tractus intestinalis* accounts for a number of sudden deaths. The most typical example is that of intestinal perforation from typhoid fever (5 per cent.), when the patient is exhausted from defective nourishment and long-continued infection. Also the tractus intestinalis may be the seat of volvulus, invagination, or acute obstruction, inducing sudden death. Causes of sudden death may be found in the appendages of the tractus intestinalis, as the pancreas (necrosis), or liver (acute yellow liver atrophy).

The *tractus genitalis* accounts for a goodly number of sudden deaths. It is a tract of extensive venous supply and is peculiarily liable to infection—venous trombosis. The following are factors residing in the genital tract which account for sudden deaths: (1) Embolus (especially following parturition); (2) ruptured ectopic pregnancy, infection; (3) hemorrhage (hæmatocele, hæmatoma); (4) uterine invagination.

The *tractus lymphaticus* accounts for sudden death mainly in connection with other visceral tracts, as the tractus respiratorius (pleurisy) and tractus intestinalis (peritonitis). Also chronic (latent) infection with sudden renewed invasion of the process, as rupture of an absecess, or sudden extension of the infection with chill.

Toxic substances cause sudden death; such are alcohol, ptomains (canned goods), hydrolyanic acid (peaches), bacteria, metallic poisons (lead), and inorganic compounds. With a colleague I performed an autopsy on a man who died suddenly shortly after entering jail. Careful macroscopic autopsy revealed no cause of death—only a slight gastritis existed. I remembered the features of the dead man as one who called at my office some time previously and asked me what was the fatal dose of potassium cyanide. This lent a clue, and on search a bottle was found on his person containing a fluid which proved to be potassium cyanide. The sheriff placed a drop of the fluid on a cat's tongue, and the animal died in about one minute. The poison cleared the mystery of sudden death.

In many patients there are pathological lesions (inflammatory or degenerative chronic, latent, suppurative) in the heart, arteries, or veins. These foci become the location of thrombi, which may dissolve, break up and float in the blood channels to the lung, kidney, spleen, liver, brain, and the serous membrane, as emboli. The thrombus is doubtless many times performed at the time the surgical procedure occurs. The patient may possess an altered state of blood favoring thrombosis, and eventuall
bolism. The cause of the sudden distribution
embolus is in general some extra exertion or
trauma.

The general distribution of embolism foll
surgical operations is relatively: (1) Pulm
70 per cent.; (2) renal, 12 per cent.; (3) sple
per cent.; (4) hepatic, 5 per cent.; (5) cereb
per cent.; (6) the serous membranes (pleura, p
neum and joints), 30 per cent.

The embolus exists in two states, *viz.*, asepti
septic.

Aseptic embolus damages chiefly by mech
conditions, compromising function, respiration
culation of blood, and lymph, renal secretion
nutrition, and injuring the peripheral nerves.
example of the aseptic embolus is seen in the s
death following parturition due to an embolus
the placental site. The puerperal patient shou
viewed as a wounded person.

Septic embolus damages not only by mecha
but by bacterial conditions—infective, toxinic
suppurative processes. Death from embolus is
frequent than is noted by physicians who do n
sonal autopsies. Post mortems are very instr
in cases of sudden death, though not always r
ing the cause of death. Large numbers of su
deaths following operations on the peritoneum
due to embolus..

A brief narration of a number of sudden d
chiefly following surgical operations, espe
those involving the peritoneum, will emphasiz
fact that embolus occupies a high place as a
of death during surgical interventions.

CASE I.—At midnight I performed a hernio
on account of a forty-eight hour strangulatio
Dr. Wm. Reese, of Dodgeville, Wisconsin. It
not a severe operation. The patient went to b
a favorable condition. At five o'clock, five
after the operation, the nurse was counting the
which was 80 per minute, when in an instant th
tient began to roll violently and rapidly in se
directions, the pulse became irregular, and deat
curred in two or three minutes. There must
been an embolus lodged in the region of the ca
and respiratory centers (in the floor of the f
ventricle), for both ceased to act within two mi
after the attack.

CASE II.—Seventeen days subseqpent to perf
ing vaginal hysterectomy, I was examining a pa
to test for sciatica. I flexed the thigh on the
domen and the leg on the thigh, when I sud
forced the leg in extension. There was no
In about three minutes later the patient screa
with pain and struggled for breath. In a few
utes more she became slightly cyanosed, and di
47 minutes deeply cyanosed and struggling
breath. By much persuasion I secured a
mortem examination, which demonstrated that
patient succumbed to repeated showers of pulmo
emboli from a thrombophlebitic left ovarian
The pulmonary artery and its branches were al
occluded with elongated spindle-shaped blood c
The pulmonary artery became gradually obstru
and the patient died of asphyxia. It was the
floating embolus or the aggregation of the floa
emboli obstinating the pulmonary vein that kille

CASE III.—Dr. Lucy Waite had under her ch
in the hospital a patient who had several chills
ing the week. Dr. Waite suspected abortion,
dilated the uterine cervix under an anæsthetic.
curettage was performed, as the endometrium
smooth. The patient had a few light chills du
the few subsequent days, and finally a profound c
dying an hour later. Dr. Waite diagnosed pul

nary embolus. She secured an autopsy under considerable opposition. I performed the post-mortem examination, and found the pulmonary artery almost entirely obstructed by emboli. I think the *exitus lethalis* was induced by a long spindle-shaped embolus, which, while floating in the blood current of the pulmonary artery, became rolled on itself, obstructing the blood channel. The source of the pulmonary emboli was the left ovarian vein, which was thrombosed—an old thrombophlebitis. The patient died from asphyxia.

Case IV.—I was called once to a distant city to consult in the case of a physician's wife, who was suffering from an abortion. I diagnosed metastatic embolic pneumonia with extensive pleuritic effusion. I aspirated several ounces of fluid from the pleura with but slight inconvenience to the patient. Three hours later the patient died suddenly. The respiration ceased at once. She was dead in about one minute after the attack. Such condition must be due to an embolus lodged in the respiratory center; however, the emboli may have been multiple, as the nurse reported that the heart ceased almost at the exact time as the respiration. The emboli may have been carried to the cardiac center. Preceding death a slight, but distinct, convulsion was visible in the ocular, facial, and neck muscles. I should judge that this was a convulsion of anæmia similar to the anæmic convulsion of a dying steer from hemorrhage. Autopsy generally demonstrates that such septic patients possessing thrombophlebitis suffer from repeated showers of emboli, and it is the final accumulation that kills.

Case V.—Some time ago I operated for Dr. Arthur McNeal on a patient for suppurating appendicitis, twenty hours subsequent to the attack. At the operation the pulse was 100, respiration 24, and temperature 103°. The secretions from the wound presented chiefly the pneumococcus. The patient improved for forty-eight hours, when he became icteric, the color of a yellow pumpkin, that was a septic embolus carried to the liver through the mesenteric veins from the infected region of the appendix. The patient's pulse, temperature, and respiration indicated a serious condition; however, the serious state almost completely disappeared by the sixth day after the appendicectomy. At the end of the sixth day the respiration suddenly, within an hour, rose to 48 per minute, the temperature became 104° per rectum, the pulse increased to 116 per minute. In ten hours later, more than half of the distal left lung was not functionating. He had a pulmonary embolus in the left lung. The patient's life hung in the balance for three days, when he slowly improved. Five weeks after the operation the patient breathed twenty-four times a minute, if quite quiet, but, if slight causes of excitement arose, his respirations continued at thirty per minute. Three months after the operation the patient gained some twenty pounds.

Case VI.—I once helped my assistant, Dr. Wm. E. Holland, to perform a hemorrhoidal operation. The patient became ill on the second day with embolic symptoms. By the fifth day following the operation the patient was suffering from fatal septic embolic pneumonia, and almost the whole body was bedecked with smaller and larger yellow septic embolic abscesses pelechiæ. He died on the sixth day.

Case VII.—I assisted Dr. Lucy Waite in an operation for blind abscess in the rectal wall of a young woman. There existed an abscess in the wall of the rectum immediately proximal to the external anal muscles, perhaps the size of a plum. Dr. Waite performed incision of the rectal sphincter muscles and curetted the abscess wall. The patient recovered with no unfavorable symptoms until the fifth day, when a septic embolus was carried to the liver through the inferior mesenteric vein. The patient became intensely icteric, and died suddenly a few days later.

Case VIII.—I recently assisted Dr. Alice Conklin to operate for an umbilical hernia on a patient some thirty-eight years of age. The patient entered the hospital ward with a record showing no elevation of temperature. The second day of preparation the record showed a temperature of 99° per mouth. The third day of preparation the temperature chart showed 100°. At the end of seventy-two hours of preparation she was operated upon. The umbilical hernia was closed by a proximodistal overlapping of the abdominal wall, fixing in position by silver wire sutures. The operation was easily and well performed with little trauma. Twelve hours later the patient had a chill. Fifteen hours after the operation I was called in consultation, and found the temperature 104°, pulse 130, and respiration 50 per minute. The right lung was laboring under rasping difficulties. There was cyanosis. The pulse rapidly rose to an uncountable state; temperature to 105.6°; respirations to 60 per minute. She died about forty hours after the operation from pulmonary embolism, both mechanical and septic states causing death, as demonstrated by the cyanosis and viciously high temperature. Examination of the corpse, per rectum or per vaginam, did not reveal any palpable pathological lesion to account for the septic pulmonary embolus following an aseptic operation. There was evident an old pathological state of the *ligamentum latum sinistrum*, which might suggest a thrombophlebitic utero-ovarian vein, from which frequently emboli arise.

Case IX.—Some time ago I had a case of obstetrics in which the patient sat up on the ninth day. In a few minutes she became ill, and died within an hour. This was no doubt a pulmonary embolus, perhaps from the placental site. Numerous puerperal women die from pulmonary embolus fragmented from the placental site.

Case X.—Not long ago I operated *per vaginam* for tuberculosis of the genitals and pelvic peritoneum (as proved by the beautifully typical tuberculous giant cells seen microscopically). On the fourth day after the operation the patient became icteric, of a lemon color, but with slight rise of temperature, pulse, or respiration. Emboli may have floated to the lung, kidney, spleen, etc. However, I had insufficient evidence to diagnose any embolus except the non-fatal one to the liver.

Case XI.—I once helped at the autopsy of a man who died in fifteen minutes after an attack in which struggle for breath was the chief symptom. We found multiple pulmonary emboli; existus lethalis appeared to be due to a long, spindle-shaped embolus, which, while floating in the pulmonary blood current, had rolled on itself, causing practically complete obstruction of the pulmonary artery. No operation had been performed. The patient died of asphyxia.

Case XII.—A woman, aged nineteen, entered the hospital under the charge of Dr. Lucy Waite for the purpose of having an operation for goiter. She was in the hospital for a week, being prepared, when she was suddenly attacked with rapid respiration and high pulse. Dr. Waite diagnosed pulmonary embolus, and called Dr. John A. Robinson and myself in consultation. Dr. Waite's diagnosis of pulmonary embolus was confirmed. The patient died thirty-six hours after the attack. No operation had been performed. Cases XI. and XII. are examples which demonstrate that the lesion (in heart, artery, or vein) of inflammatory or vascular degeneration was performed, antedating the entrance into the hospital.

Case XIII.—A woman, sixty years of age, came to me from an adjoining State. She had carcinoma of the right kidney, which was functionless. The left kidney functionated, producing about forty-five ounces daily. I performed nephrectomy. She progressed excellently until the sixty-seventh hour following the operation, when, while relating a home story to the nurse, suddenly her eyes rolled violently, and she died in two minutes. In this case an embolus must have floated to the cardiac or respiratory center, or both, as respiration and circulation ceased at once. The location must have been the floor of the fourth ventricle—a vegetative center. There was no struggle for breath, no irregularity of cardiac action—she became unconscious in one minute and life's action ceased the next minute. Preceding death was a slight, but distinct, convulsion, which must have been the convulsion due to the anæmia of some vital center.

Case XIV.—I once resected a rib in a case of six months' pleurisy. The man recovered excellently for some four days. As I sat on his bed he said: "I never felt better in my life." Suddenly his eyes moved violently (ocular muscular convulsions) and became set. The facial muscles, especially the masseters, became rigid, as well as those of the neck. He died in about two minutes. An embolus had floated to a vital center—cardiac or respiratory. Some vegetative center or center requisite to maintain life—in the floor of the fourth ventricle—had suddenly become deprived of blood. Death was preceded by a rapid, transitory, but distinct, convulsion.

Case XV.—Some five years ago I was called to a town in Iowa to operate for an alleged large abdominal tumor. On examining the case I found an immense pelvic abscess. Under anæsthesia I punctured the abscess *per vaginam* and allowed the six quarts of fluid pus and blood to evacuate slowly. The patient progressed excellently until the third day, when she died suddenly, in about two minutes, after an attack. This no doubt was due to an embolus lodged in some vegetative or vital center (floor of the fourth ventricle), as both cardiac and respiratory centers ceased to act simultaneously. Large pelvic abscesses are liable to induce thrombophlebitis in the pelvic veins, and especially the plexus pampiformis. When the abscess contents are evacuated, the walls contract and the thrombi in the veins are liable to become fragmented and dissolved, and to float through the venous channels.

Case XVI.—My colleague was called to consult in the case of the young child of a physician. The child had diphtheria. It died suddenly, in a twinkle. A post-mortem examination was held by a distinguished neurologist, who reported death due to an embolus in the floor of the fourth ventricle.

Case XVII.—Many years ago I was attending a ten-year-old boy afflicted with mild diphtheria. About the stage of the disease (tenth day), in which the family and myself considered the boy rapidly convalescing, he suddenly and somewhat mysteriously died. The heart suddenly assumed irregular and extremely weak contractions. In a few hours he was dead. This death was absolutely a cardiac manifestation, all other functions were secondary. He died of "paralysis of the heart." Doubtless the cardiac center was damaged, but with what? Toxins, an embolus, or myocarditis?

Case XVIII.—Some fifteen years ago I visited in a country place a patient afflicted with periodic attacks of asthma. When examining the patient he was perfectly comfortable; however, though a la man, he grew slightly excited in regard to the an tomicopathological conditions of the lung in asthm I remarked to him that a discussion with him as the pathology of asthma would be fruitless. I pr scribed, but he did not take the medicine. As walked to the front gate of the house the patient su denly expired. In asthma the respiratory center in a state of irregular function, a defective state, an since in man the circulatory and respiratory cente are closely associated functionally and physically, is not strange that sudden invasion of the circul tory center occurs in asthma. In asthmatic cas with sudden death, not infrequent, the cardiac ce ter is the factor at issue—not the pulmonary cent Some forms of asthma are septic. Could this ha been an embolus attacking the cardiac center in t floor of the fourth ventricle?

To repeat: Sudden death has attracted the atte tion of physicians from high antiquity. It constitut perhaps one per cent. of all deaths. Frequent no single lesion (physiological, anatomical, path logical) will explain the sudden death (as wh it occurs from joy, grief, or anger). Sudden dea is rarely due to a demonstrable localized lesion the vital tripod (heart, lung, or brain). It is mo likely to be the consequence of a series of complic tions. It follows chiefly diseases of the circulato apparatus.

We are not always precisely informed as to th exact cause of sudden deaths. For example, a youn girl had sudden abdominal pain a week previous t entering a hospital. During her eight days of il ness she had abdominal tenderness, vomiting an constipation. On the eighth night of illness sh awoke with pain, and while speaking turned pale an died suddenly—instantly. The autopsy demonstrated only a pinhole perforation on the ventral wa of the stomach, surrounded by a circle of exudativ peritonitis about an inch in diameter. The mos plausible explanation of sudden death external t demonstrable physical facts is the sudden destruction of the function of the circulatory center (vegetative center in the floor of the fourth ventricle) In man for sudden death, we must look to the circulatory center chiefly, as the respiratory center ma cease acting long before death, while the circulator center is definitely functionating. The heart ma beat an hour after respiration has ceased, but th cessation of circulation results in instantaneou death. The death certificate of assigning as th cause "heart disease," through cloaking ignoranc and fear of exposure, may, therefore, after all b approximately correct.

In operations on the peritoneum reflex irritatio of the abdominal brain may check, shock, or paralyz the heart; or, in other words, produce constriction o the vessels of the medulla oblongata.

Perhaps most sudden deaths arise from embolus The sudden death due to an embolus in a vegetativ center, the floor of the fourth ventricle, is precede by (anæmic) convulsions of the muscles of the face eyes, and neck (similar to the convulsions of a stee slaughtered by bleeding). The death from embolu in the pulmonary artery is generally due to asphyxia Embolus causes death (*a*) by anæmia of vital o vegetative centers (floor of the fourth ventricle) (*b*) by asphyxia, mechanical (in the pulmonar artery); (*c*) by infection, sepsis; (*d*) by destructio of parenchyma, infarcts, devitalizing the maximum power of the organs. An embolus in general i broken off from the local thrombus through trauma extra bodily activity, or liquifaction of the thrombus The chill following is the result of infectious distribution.

The myocardium may be the seat of a chronic (latent) fatty degeneration and under the strain of an anæsthetic, and the operation may become acutely diseased, ending in sudden death from cardiac paralysis.

Can sudden post-operative death (from embolism) be retarded? Patients about to be operated upon, especially when the peritoneum is to be opened, should have anatomical and physiological rest for from forty-eight to seventy-two hours, or more, according to the gravity preceding the operation in order to produce maximum visceral drainage, to avoid the fragmentation of any thrombus through the surgical or anæsthetic trauma and extra bodily effort, and also to allow acute inflammatory process to subside.

All abdominal surgeons of experience have observed the frequency of embolus following operations for appendicitis, hemorrhoids, and hernia (*tractus intestinalis*); operations for pelvic diseases, as ovariotomy, pyosalpinx, pelvic peritonitis (*tractus genitalis*); operations on the kidney, prostate, and bladder (*tractus urinarius*). The vast venous plexuses connected with the *tractus intestinalis, tractus genitalis* and *tractus urinarius* are prone to phlebitis and consequent thrombus, which may dissolve or become fragmented, becoming a floating embolus. Simple anatomical and physiological rest may avoid liquifaction or fragmenting of the thrombus.

The great essential in surgery is, first and last, diagnosis. The accurate diagnosis of any pathological lesion in heart, artery, or vein, suggests ample and proper time of preparation, especially for all surgical interventions on the abdominal organs closely related to the large plexuses of veins belonging to the systemic or portal systems where thrombotic veins may exist. The surgeon, as respects embolus, should be on his guard in operations for infected appendix, strangulated hernia, hemorrhoids, and infected pelvic organs. Most emboli appear to originate or to break off as a result of some bodily trauma, hence it is the duty of the surgeon to give the patient the benefit of all doubt by placing the patient in as perfect a condition of physiological and anatomical rest as possible several days previous to operation.

Ample and complete visceral drainage by means of water (better one-half physiological salt solution) is the first essential, not only to avoid shock in the operation, but for physiological and anatomical rest. The *tractus intestinalis* should be completely evacuated, a dozen movements, so that one can see the bile glistening in the stool. The *tractus urinarius* should be drained by drinking eight ounces of half decinormal salt solution every two hours for six times daily, which increases the quantity and clarifies the urine. With the *tractus urinarius* and *tractus intestinalis* drained to a maximum, the patient can be placed in the most perfect condition of physiological and anatomical rest, which is the safest condition for any surgical intervention. It is a prophylactic against embolism. Such a state withstands to the highest degree the trauma of anæsthesia, shock, peritonitis, infectious invasions, nephritis, pneumonia, and embolus.

The avoidable death is the black spot on the surgeon's escutcheon.

Action of the X-Ray in Cancer.—According to v. Bruns of Tubingen the action of the *x*-ray in cancer is simply an accessory to the mutually-occurring degeneration. Quoting Virchow, he explains that cancer is naturally of low vitality and self-destructive, and that could the formation of new nodules be combated, the condition would be self-curative.

THE TREATMENT OF DIGESTIVE DISORDERS.

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The methods at present so largely employed in the treatment of digestive disorders are so unsatisfactory in their general application and results, that it seems well to call the attention of the profession to another. I refer to a rational treatment. And, while it cannot be expected that a rational treatment will prove a panacea for all digestive ills, it will have a tendency to produce a number of permanent cures. Moreover, we may reasonably expect to conserve the forces of the human body, and, if we do no positive good, we shall, at least, do no positive harm.

An inability correctly to diagnose digestive affections, as well as a tendency to treat all cases of indigestion by a routine method, has led to a certain amount of neglect. The knowledge, moreover, that certain ferments will relieve a single attack has encouraged their use. But what is the effect upon the patient? Nature, finding that she has no longer to secrete ferments of her own, ceases to do so. The mucosa of the intestinal tract becomes inert; the glandular structures atrophy. Larger and larger doses are required to effect the same relief and in turn there results a chronic dyspepsia. And thus we maintain that no treatment, though affording a temporary relief, which causes a permanent injury is to be commended.

We should not be satisfied with the simple statement by the patient of the symptoms which distress him; a systematic enquiry into his heredity, habits, etc., as well as a physical examination, should always be made. The length of time employed in eating, the preparation of the food, the amount of eructation, whether there exist idiosyncrasies, pain in the precordial region, a palpitating heart, or a constipation, these questions must always be asked and their answers noted. For it is our endeavor, not so much to determine the distress itself, but, if possible, the underlying cause, and to remove it.

We should proceed to make a careful physical examination, observing the general state of health, especially if there be an anæmic or neurotic condition. We should likewise examine the conjunctivæ, gums, skin, facies, etc., also the reflexes. A knowledge of the condition of the lungs and particularly of the heart will also serve our purpose. The position of the latter whether compressed or not, as well as the existence of borborigmi, should be noted. And, lastly, the condition of the abdomen, if tympanitic or dull, and the relation of liver, kidneys, and spleen. It used to be thought that an enlargement of the tympanitic triangle indicated an enlargement of the stomach, but such a theory has long since been abandoned.

An examination of the mouth, teeth, and tongue should not be omitted. This done, we should, in doubtful cases, proceed to administer a test meal, and, upon its withdrawal note its amount, color, soam, reaction, quantity of free hydrochloric acid, and the presence of lactic acid. The sediment should be examined microscopically. The Boas-Opler bacillus, epithelial cells, sarcinæ, etc., will not be without significance. An examination also of the fæces will aid us.

Thus we have examined our patient. We are now prepared to differentiate the factor at fault, and, if possible, to correct it.

It will be well, at the very beginning of treatment, to render the patient's system as thoroughly clean as possible. Consequently, we shall administer a good cathartic (preferably a cholagogue such as

frequency. Full grown segmenting forms are often encountered, and some beautiful specimens may be obtained. In native children this type seems to be the predominating one, a half dozen adult parasites oftentimes being found in one field. The tertian rosettes are large, clear cut, and usually contain from fourteen to thirty spores. All found thus far have been intracellular, although their appearance in fresh specimens gives one the impression, at times, that they are lying outside the cell wall. None of them contains so large a number of spores (forty or fifty) as the rosettes described by Marchiafava and Bignami.* The tertian hyaline forms appear to be rather infrequent.

Mixed tertian and estivoautumnal fever is rarely seen, and no case of quartan infection has been discovered.

Patients suffering from advanced degrees of malarial cachexia are often met with, especially in the large native clinics, where representatives from the more remote districts apply for treatment. The hæmoglobin percentage in these instances is very low, from 30 to 70 per cent. (Talqvist), while the red cells are over 4,000,000. There is but slight, if any, leucocytosis, and the differential count shows a decided increase of the large mononuclears and transitionals. The most prominent symptom is the enormous splenic enlargement. I have never had the opportunity to do an autopsy on one of these cases, but the physical signs show the spleen extending well down into the left inferior abdominal quadrant, and forward almost to the median line. The organ is extremely solid, with smooth, rounded margins. Owing to mechanical interference by pressure, as well as the impoverished condition of the blood, there is considerable cardiac and respiratory disturbance, and it is usually for the relief of one of these conditions that the physician is consulted. The temperature is seldom over 100° F., and a history of recent typical malarial manifestations is often indistinct or absent. The tendency to excessive hemorrhage from even slight wounds is noticed in these cases, but the predisposition is no greater than it would be in temperate climates.

Arsenic, with or without iron, is of more benefit than quinine, but the anæmia and splenic enlargement do not respond well to any treatment. If it were possible to keep the patient continually under observation so one could see that the medicinal, dietetic, and hygienic measures ordered were enforced, the results would be more satisfactory.

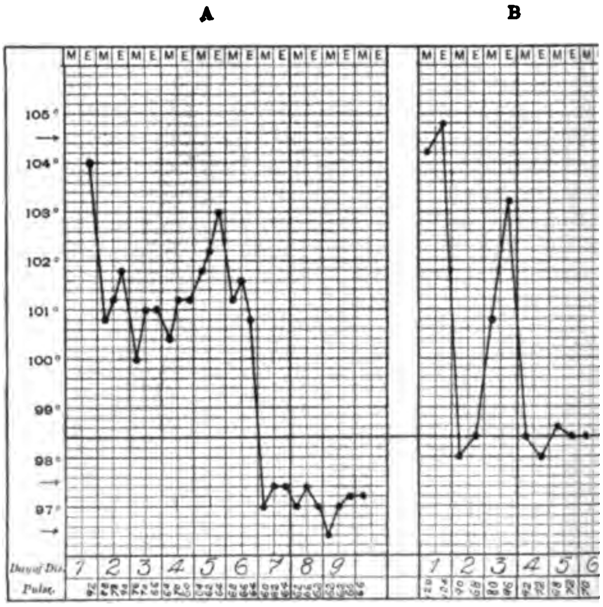
The use of quinine as a prophylactic in all varieties of malaria is undoubtedly of great value. From two to five grains should be administered three times daily. Protection from mosquitos by means of fine mesh netting, and the burning of pyrethrum powder should also be insisted upon, and the usual modern methods to prevent the breeding and multiplication of these dangerous little pests should be employed.

Dengue is the disease which most frequently attacks the new arrival in this country, and even the more thoroughly acclimated natives do not wholly escape it. The initial symptoms vary, but, in the order of their value, they may be given as follows: (1) Sudden onset; (2) Severe and continuous supraorbital headache; (3) Deep congestion of face and neck; (4) Backache, together with severe pain in the region of the loins. Chilly sensations, seldom a distinct chill, may precede the first rise of temperature. The primary and terminal eruptions, upon the diagnostic value of which so much stress is usually placed, are absolutely unreliable here, being absent, especially the secondary one, in the majority of instances. The disease is extremely contagious, and many persons in the same place are usually attacked at the same time.

If a microscope is available, total and differentia counts should be made. There is a leucopenia fro the first, the whites sometimes being less than 2,500 there is little or no destruction of the red cell (4,200,000 to 5,500,000), and the hæmoglobin inde is usually 1 or 1.+. The differential white coun will show the proportion to be about normal o admission, later, and especially by the beginning o convalescence, a marked small mononuclear lympho-cytosis will be noted, which persists for several days

Stage of Disease.	Poly-nuclears.	Large Mono-nuclears.	Trans-itorials.	Small Mono-nuclears.	Eosino-philes.	Mast Cells.
On admission...	32.2	7.9	36.6	23	0	0.3
First drop......	41	5.4	6.7	46.8	0	0
Second rise.....	50.8	7.6	5.2	33.6	4	0
Second drop....	52.5	5.9	5.4	25.1	11	0
Convalescence ..	50	5.3	4.2	30.3	9.7	0

An eosinophilia, sometimes reaching as high as 1 per cent., sets in just after the second rise. Th table shows the changes in the differential leucocyt count at various stages of the disease. There is sel-dom any splenic enlargement; in over two hundre cases we have found the organ palpable only thre times. Occasionally, in atypical dengue, it is extremel difficult to make a positive diagnosis. If albumi (which is of infrequent occurrence) is present i the urine, or the gums be spongy and tender, o there is a discrepancy between the temperature an pulse curves, such as was found in one patient wh came under observation, the condition may b strongly suggestive of yellow fever. If the clinica resemblance is sufficient to justify even a doubtfu diagnosis of the latter, precautions should at onc be taken with regard to double screening, and isola-tion from mosquitos. While the symptoms given ar present in the majority of instances, there may b marked variations from the typical picture at times The onset is occasionally insidious, with catarrha symptoms predominating. The patient will appl for treatment because of a bronchitis, or a rathe persistent diarrhœa may be the cause of complaint The disease is a self-limited one, and treatment except to lessen the discomfort, is of no avail. A brisk cathartic, with phenacetin or acetanilid, an an ice-bag to the head are the most efficient remedia agents we have found. One attack only partiall immunizes.



THE FEVER CURVE IN DENGUE.
A, an atypical chart of a case of dengue simulating yellow fever; B, th temperature and pulse in a typical case of dengue.

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* Ueber die Varietäten der Malariaparasiten, *Deutsche medizinische Wochenschrift*, 1892.

The sequelæ are frequent, stubborn, and often severe. The fever may be followed by sciatica, in which case the removal of the sufferer to a cool climate has given the best results, or a tropical bubo may appear within a few days following the return of the temperature to normal. Facial neuralgia, herpes, myalgia, bronchitis, corneal ulceration, or symptoms of mental disturbance often follow in the wake of a severe onslaught. As in the influenza of our temperate climates the toxin seems to have a special affinity for the nervous centers.

Beriberi, a multiple neuritis, seen most frequently in the wet lowlands and marshy districts, thrives in this part of the tropical world, especially affecting the Chinese contingent. More cases are to be found among this one race than all of the others put together, although the native Panamanians do not entirely escape. Both the dropsical and paraplegic forms are seen, often the two associated. No instance of the malignant type has come under my observation. In the earlier stages one finds the exaggerated knee jerk soon followed by complete loss of the patellar reflex, the paraesthetic areas over various parts of the body, and the signs of beginning muscular incoordination indicative of the involvement of peripheral nerve trunks. Later, cardiac dilatation and irritability, with œdema of the extremities, and an ataxic gait are added to the above, making a diagnosis easy. Unfortunately the disease must be recognized early if much benefit is to be derived from treatment. Removal to the more sanitary locations afforded by the tops of the surrounding hills, a nutritious diet of nitrogenous matter, fats, and sugars, with strychnine and other tonics, probably comprise the best and most available measures under the circumstances.

Infection with intestinal parasites is the rule, not the exception. One is able to find the eggs of a half dozen different varieties in nearly every fecal specimen examined. The almost universal presence of these protozoa in the intestinal tract is due to the lack of personal cleanliness among the majority of the inhabitants, and also to the character and methods of preparation of their food. The use of impure drinking water also gives rise to the trouble in many instances. The well water at Emperador was highly prized for its flavor (it was drained from the surrounding square of houses and stables), and when tested for nitrates gave a deep ruby red color. The eggs of the entozoa found are those of *Oxyuris vermicularis, Tricocephalus trichiurus, Ascaris canis,* and *A. lumbricoides, Strongyloides intestinalis,* and *Uncinaria duodenalis.*

The last named, identical with *Sclerostoma duodenale* of Cobbold, is by far the most important and dangerous of all. Especially is this true if early treatment is not instituted. The recognition of an infected case is easy, in fact, one can almost make a diagnosis at a glance. The patient is emaciated and cadaveric, lacking in strength and vitality. The skin is lemon tinted, the visible mucous membranes are pallid, the hair is dry and brittle, and, oftentimes, the eyes are as prominent as in a case of exophthalmic goiter. Cervical pulsation is noticed in the majority of instances. There is often œdema of the extremities, cardiac palpitation and epigastric pain are frequent, and there is usually a history of blood-streaked stools, with the passage of much undigested food material in the fæces. A loopful of the latter, thinly spread on a slide and examined with a low power, will exhibit myriads of eggs. The blood in these cases shows an extreme grade of anæmia (hæmoglobin from 20 to 60 per cent.), and the exuding drop is very tenacious and almost white in color. The eosinophilia is the highest that has ever come under my observation, seldom being under 20 per cent., and, in one instance, it was slightly over 65 per cent. Poikilocytosis is common, megalocytes and microcytes are often seen, and twice, in advanced cases, there was leucopenia (1,900 and 2,050). These cases respond well to treatment. A large dose of castor oil is given, and, after it has acted thoroughly, three twenty-grain doses of thymol are administered at two-hour intervals. No solid food is to be taken during this time, and especial stress must be placed upon total abstinence from alcoholics. Following the last dose of thymol a brisk purge is ordered. This course should be repeated in three weeks, if necessary. The after treatment consists in the use of Blaud's pills, arsenic, and a full, nutritious diet. Personal cleanliness should be enforced when possible.

One of the most troublesome insects on the Isthmus is the "jigger" (*Pulex penetrans,* Linn., *Rhynchoprion penetrans,* Oken). The favorite point of attack is one of the interphalangeal folds of the toe, and the resulting inflammation and pustular swelling give rise to great pain and exquisite tenderness. The lesions, even after the insect is carefully extracted by means of a fine needle, heal slowly. Local applications of turpentine to kill the parasite, followed by the use of mild antiseptics, or zinc oxide ointment, have been fairly satisfactory. As a prophylactic measure, the feet and legs should be protected by boots or well fitting leggings. The local use of some one of the essential oils will also be of benefit.

Snakes, centipedes, and spiders are numerous, but the danger from them is not great. The two last named seldom molest any one, and, if they do, the result has proven to be no worse than the sting of a hornet. Formalin, locally, will have both an analgesic and an antiseptic effect.

Heat exhaustion and sunstroke occur more often among the Americans than any other class. The former, with its resulting symptoms of subnormal temperature, weak, thready pulse, and severe cramps in the limbs and abdomen, is best treated by hastily covering the patient with warm blankets, administering whiskey, nitroglycerin or strychnine hypodermically, and briskly rubbing the abdomen and extremities with some stimulating lotion. The last mentioned procedure is of great value in relieving the pain.

Thermic fever is a more serious condition. The symptoms are identical with those in the cases of sunstroke in our eastern cities, and the same methods of treatment are to be employed. The rectal temperature ought always to be taken. It is far safer, and much more reliable.

Dysentery, one of the scourges of the old French canal company, is still much in evidence, especially among the natives. During the past year very few of our troops have suffered from it, principally because of the rigidly enforced rules regarding the use of only such water as has been passed through the Forbes-Waterhouse sterilizer. Every man who goes out of camp must carry a freshly filled canteen with him, and the danger of drinking from wells and fountains has been so frequently pointed out that the marines may be safely trusted to leave suspicious water alone. The disease is of both types, the acute specific, due to Shiga's bacilus, and the amœbic, with the former predominating. In only a few instances did an examination of the fecal matter show the presence of Lambl's organism. The chronic form of amœbic infection, in which the symptoms of constipation alternate with a slightly purulent, or blood-specked diarrhœa, usually gives rise to emaciation, but it is not so extreme as in the acute

amœbic variety. In the acute stage the internal administration of sodium sulphate in cinnamon water, with turpentine stupes locally, and enemata of starch water and laudanum, followed by warm decinormal salt solution constitute the best treatment. Later, copious rectal injections of quinine bisulphate (2 to 4 per cent.—weaker solutions do but little good), are indicated. In the old chronic cases the quinine is also beneficial, but solutions of silver nitrate give better results. The question of food is an important one, a single dietetic indiscretion may undo the good brought about by weeks of careful medication. Contrary to our expectations, hepatic abscess, which is so often a sequel to these infections in the far East, is seldom encountered here.

Panama is one of the few southern countries in which acute and chronic articular rheumatism occur. These joint affections are of practically the same character as those encountered in the temperate climates, and the response to the salicylates is fairly good. Myalgia, especially of the lumbar muscles, is frequently encountered, malarial infection probably being the causative agent in many cases, and dengue in others. The treatment is unsatisfactory. Quinine, until the physiological effect is produced, should be given—alone or combined with antirheumatics.

Now that the zone is under American rule, the wandering cases of leprosy, which were formerly quite frequent, will seldom be seen. Their movements will probably be restricted to a small area of territory set aside for their use. Several unfortunates, principally Chinamen, applied for treatment at Emperador. In one case large numbers of the bacilli were found in the nasal discharge. Both the nodular and anæsthetic varieties are seen, and some of the patients are extremely pitiable. Considerable improvement appeared to result from the administration of mercury in one instance, but we were unable to continue the treatment for a sufficient length of time to notice much change.

Smallpox makes occasional inroads, the crowded and unhygienic condition of many of the villages furnishing an ideal opportunity for an outbreak of such a disease.

Yellow fever, as may be seen from the health reports of Colon and Panama, is not at present epidemic in this region, and sporadic cases are seldom seen. Stegomyia mosquitos are to be found in enormous numbers.

Owing to the splendid results following the efforts of the chief sanitary officer and his corps of assistants, the Isthmus is now in a better condition, from a hygienic standpoint, than it has ever been, and, taking even the peculiar character of the climate into consideration, the health of the inhabitants will soon compare favorably with that of the residents of any extreme southern country.

Women Doctors in Russia.—New statutes which have just been issued in Russia place women doctors on practically the same footing with regard both to education and to practice as their male rivals. Women may now obtain diplomas, pursuing their studies for medical degrees in the universities of the country, and in the Military Medical Academy. A characteristic point in the new law is that it limits the number of women medical students of the Hebrew faith to three per cent.—*Australasian Medical Gazette.*

THE VALUE OF PUBLICITY REGARDIN TUBERCULOSIS.*

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It is impossible to guard against an unknown pe or withstand the onset of a hidden foe. Our fir duty in the case of tuberculosis, as in the case of other conditions that militate against the health a happiness of humanity is to give notice of the exis ence of danger, to exploit the details of a possib attack, to discover and make manifest the metho of invasion, to arm the citadel against assault, a finally to make known that method of warfare, on the conflict has begun, which experience has show to be the most efficient in overcoming the forces the enemy. Our first duty is to tell the truth.

It was my privilege to be present at the initi meeting of the Chicago Society for the Preventi of Consumption, presided over by Mayor Harriso I protested against the name. My friend, Dr. Joh A. Robison, told a story. He said a man went in a store to buy a pair of shoes. The storekeep asked: "What is all this talk about tuberculosis? The man replied, "They mean consumption. "Well," said the shoemaker, "why don't they sa so?" This story convinced the majority of the men bers present. They voted to use the word consum tion instead of tuberculosis. And so to-day ou society tells only a portion of the truth. In m judgment, the shoemaker in the story went decidedl beyond his last, and by the very name our societ adopted we cripple our usefulness by recognizin only one localization of tuberculous infection.

What is the truth regarding tuberculosis? We d not know it all as yet, but some things we do kno Enough is known to enable us to advise prophylact measures which a sufficient experience has demo strated to be of value, and a method of treatme which has proved successful enough to warrant i continuance. Furthermore, as we approach t borderland of actual knowledge, we recognize th scientific deduction permits various recommend tions which, from our knowledge of infection i general, and our recognition of the results of clini experience, must also be of value and importan in reference to tuberculosis.

What of the facts? More deaths occur fro tuberculosis than from typhoid fever, diphther whooping-cough, measles, scarlet fever, and smal pox combined. Most of the deaths occur betwe the ages of 18 and 40 years, in the active workin age, during the period of greatest usefulness. Full one-tenth of all mankind die of tuberculosis, the est mated mortality for the United States being 200,0 per annum.[1] In Illinois alone it has been estimat that the loss of money invested in children who d of tuberculosis under the age of twenty years $1,187,800; the loss to the State from the inabili of the tuberculous to perform labor amounts $30,000,000; the loss of savings of those who d before the end of the producing age, $5,129,00 and the cost of the care of those sick and compa tively helpless, $225,000, making an annual econom loss to the State of $36,551,000 each year.[2] Nor this all, for in cases that recover there may be serio and often protracted morbidity, and in the fat cases there is, on our part, the distress of body a anguish of mind which cannot be estimated, as o

loved ones, perhaps after years of suffering, go down to death.

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* Presented to the American Congress on Tuberculo at its meeting in St. Louis, October 3 to 6, 1904.

The cause of tuberculosis is the tubercle bacillus. This germ may gain entrance into the body through the lungs, the alimentary canal, or the skin. It exerts its well-known deleterious effect if there is found a soil suitable for its development and environments favorable for its growth. Such conditions exist when there is debility from any cause, or when unhygienic surroundings are present. This relationship should be well understood by everybody. The tubercle bacillus thrives with difficulty or not at all in healthy individuals under hygienic conditions. It finds an admirable culture medium in individuals whose vitality is lowered from any cause, or whose mode of life or environment is unsanitary.

Tuberculosis is communicable by dissemination of the bacillus. It is not infectious to the same extent as smallpox, measles, and some other diseases, nor is it dangerous to mankind unless there is prolonged exposure under conditions favorable to the propagation and development of the germ. The panic that has occurred in certain health resorts frequented by tubercular patients is as absurd as it is unwarranted, and the restrictive measures that have been proposed in several localities are unjust and unnecessary.[3]

The recital of these elementary facts regarding tuberculosis is not intended for the edification of this distinguished and learned assembly, nor for the enlightenment of the profession. I venture, in mentioning in this connection what may be called the essentials of our knowledge regarding tuberculosis, to direct attention to the simplicity with which may be promulgated important facts concerning etiology, life history, and mortality as well as suggestions relative to prophylaxis and treatment. These essentials should be known by everybody. In the public school, in the family, in the secular, religious, and professional press, in season and out of season these truths should be enunciated until the whole world realizes the danger that is imminent and seeks safety in increase of knowledge regarding the peril that is ever present.

The matter of first importance is to help the people to help themselves. First of all, let them know the truth. Let them realize the nature of this dread disease, its mode of onset, its course, its dangers to the individual infected and to others who come in contact with him, and above all else let there be a thorough understanding of the conditions that favor the development and spread of the bacillus which is its exciting cause. In the dissemination of the truth regarding tuberculosis the value of publicity is incalculable. Our fear of this devastating plague is allayed because its nature is understood. Its advent is anticipated, for the danger signals are seen in time. The predisposing causes are appreciated; the premonitory symptoms are recognized; prophylaxis is encouraged, and rational treatment is instituted without delay. In addition, the patient with tuberculosis is taught to defend himself against his disease, and is brought early under conditions which make possible his recovery. These results are attained by a consistent and well-advised publicity. In the promotion of judicious knowledge regarding this subject, which affects the well-being of all mankind, I offer respectfully certain considerations, which are the outcome of my experience and observation in different countries of the civilized world. I advocate publicity regarding tuberculosis, but I also beg leave to insist on the promulgation of knowledge relative to life itself, and, as a protective measure to all, I venture the assertion that the State must eliminate, as far and as rapidly as is practicable, those conditions which modern science has demonstrated to be inimical to the welfare of its citizens. The constitutional guarantees which refer to life, liberty, and the pursuit of happiness, must not be invoked to interfere with the plain duty of the State in enforcing salutary measures which tend to ameliorate the condition of humanity.

Health is of supreme importance. The best heritage a child can receive is a sound constitution, and the best education that can be given is the systematic development of bodily functions, and their consistent correlation.[4] Disastrous in the extreme are the consequences of any deviation from the strictest concern for this most important matter in the child's development. Education, as the term is generally understood, is a failure and a farce if due regard is not had for the child's well-being. All that may be learned is the veriest folly if health is lost in the learning. All the accomplishments of the world are valueless if, in their acquirement, the constitution is undermined.

It is no longer believed that tuberculosis is hereditary, except in very rare instances, when the bacilli gain access to the body before birth—the so-called cases of congenital tuberculosis, nine or ten instances of which, according to Osler, have been described in man. The infant, however, is capable of being infected from the first moment of its birth, and it is found, both with infants and with calves, that if they are removed at once from tuberculous mothers, they remain free from tuberculosis.[5]

The infant of a tuberculous mother must be provided with a healthy wet-nurse or fed on modified milk. Without here theorizing in regard to the relationship of bovine to human tuberculosis, it is proper to say that it is the part of wisdom to pasteurize all cow's milk supplied to infants. Knowing the high mortality of all infantile life, and realizing that the infant of a tuberculous mother, even if free from tuberculosis, is likely to be debilitated, or at least relatively deficient in vitality, it is imperative that such an infant shall receive special care, and be placed early under the best hygienic conditions. In several large cities provision is made for a free distribution of pure milk, and everywhere a sterilizer should and can be made available even to the poorest citizen. All municipalities can prohibit the sale of impure or adulterated milk, not alone because of the possible presence of the tubercle bacillus, but chiefly because of the importance of supplying a nutritious food upon which the infant may thrive. All infants are potential citizens of the State, and have the right to live. If the home is unsanitary, if the infant for any reason cannot there receive the special care that its welfare demands, a temporary home should be provided, very much on the plan that has been adopted in the case of the illegitimate,[6] so that this inherent right of the infant shall not be abrogated. Such a provision, moreover, enables the State to fulfil its manifest duty to act, when necessary, *in loco parentis*, in the case of all dependents.[7] In addition, such action, while humanitarian and philanthropic, is economic in the highest degree. It is impossible to appraise the value of rational supervision of this character at an early age, not only in instances of tuberculosis, but also in the case of all dependents, defectives, and delinquents. It is a rational prophylaxis, and if consistently applied would be of inestimable advantage.

In the case of children, systematic inspection, and the diffusion of accurate knowledge is of great importance. We have inspectors of different kind, we have schoolteachers, and we have the police. In large cities we have dispensaries for the poor, and throughout the world we have the medical profession and its members stand ever willing to give counsel

and advice, if need be, without cost. Let everybody know about tuberculosis, and appreciate the fact that debility and unhealthful surroundings are predisposing causes. Let the schoolteacher view with suspicion the poorly nourished child. Let the factory inspector, who makes sure that no child is employed under legal age, also take note of the health of the children, and the sanitary environments of the factory or shop. Let the police officer on his beat observe the conditions of the residents of his district, and let him report what he finds. The weak, sickly child is in danger. The anæmic child is a candidate for tuberculosis. Deficient hygiene and insufficient and improper nourishment favor the development of future dependents upon the State. Education must not be sought to the injury of any child's health. It is better to do without schooling than to impair the child's constitution.

Above all others, parents should realize the possibilities in reference to their children. They should understand what constitutes hygiene, and must know that many of the luxuries with which they surround their children are often detrimental and dangerous. The child is essentially a young animal, and should be fed and cared for at least with the same consideration that farmers bestow upon their stock. The question should not be raised if a certain article of diet will hurt the child, but the parent should consider if it will do him any good. The mistake should not be made of attempting to "harden" the child by submitting him to undue exposure, but the value of pure air and sunshine should be appreciated. Above all the physician should be consulted while the child is well. Judicious professional advice, taking cognizance of all surroundings and realizing all possibilities, is of importance in directing the daily life of the child, so that any developmental error may receive timely attention, and any faulty method which interferes with the child's wellbeing may be corrected.

Philanthropy does much for the care of the children of the poor. In providing country outings, fresh air, sanitaria, and the crèche, there is a consistent attempt to improve conditions. Moreover, it must be understood that pulmonary tuberculosis is not the only form of the disease. In children especially the bones or the abdominal viscera may be infected. The dispensaries nad hospitals of our larger cities care for these cases, but almost always ignorance is responsible for unfortunate delay in providing proper treatment in time. The public should know regarding manifestations of tuberculosis other than pulmonary.

Where the adult is concerned, a new duty arises. Publicity has now other facts to include in its dissemination of the truth regarding tuberculosis, and other conditions to consider. The question of occupation, habit, temperament and environment must receive attention, and serious thought must be given to economic relationship in many ways. In addition to imparting information regarding the tubercle bacillus, the danger of infection, and the predisposing and fostering conditions that exist by virtue of unsanitary surroundings, we must also appreciate the value of consistent sanitation to the fullest extent, and in this appreciation we must combat poverty, immorality, and crime, and counteract, oftentimes, dependency and degeneracy. In a word, the publicity which is to be of real value must favor prosperity, and must try to solve the problems of an incomplete civilization.

It is impracticable in this connection even to mention the various methods in which an enlightened prophylactic endeavor will find expression. With the realization that all cosmic influences, all life
processes, all economic relationships bear upon tl
important subject, comes the attempt at the improv
ment of all local conditions, and the amelioration
mankind in every way. In the effort to provide
abundant supply of pure air, an adequate supply
pure water, and a sufficient supply of pure food, t
government—municipal, state or national—must a
intelligently for the common good. The interests
capital must not be allowed to supersede the intere
of the community. Building laws should exist a
be enforced so that the disgraceful tenements of o
slums become an impossibility. Indeed, it were w
if the law regarding all dwellings, as is the case
Berlin, permitted the owner to build upon only tw
thirds of his lot, and above all things, it were m
desirable if existing laws regarding plumbing ve
tilation and other hygienic measures were not
often a dead letter. The airing of cities has not
ceived sufficient attention nor has adequate provisi
been made for free parks. The value of trees, plan
and flowers as a means of purifying the air is
fully understood. A pure water supply and facilit
for its use internally and externally must be p
vided. Food should be inspected and when fou
impure should not only be condemned, but destroy
Moreover, the drainage of all dwellings, the cleani
of the streets, the removal of garbage, the abatem
of the smoke nuisance, should receive more attenti
in a practical way commensurate with the importa
of such matters, not alone for utilitarian reasons,
because we realize the relationship of public hygie
to the spread of tuberculosis.

The question of occupation, and regulation
shops and factories is of especial interest, for t
danger of overcrowding amid unhygienic surrou
ings is known. Our public conveyances, our troll
cars and railroad trains must be inspected, and o
sleeping cars should be disinfected at frequent
tervals. Our prisons and jails are often a disgr
to our civilization, and our lodging houses are a v
hot-bed of infection. In connection with eve
municipal institution of this character, there sho
be a disinfecting plant, similar to the étuves of Pa
The tramp who secures a night's lodging sho
start out in the morning with a clean body, and
clothing properly sterilized.

In the consideration of occupation and reside
as a predisposing cause of tuberculosis, we
met by a sociological problem of the utmost i
portance. The man must live, he must su
port his family, by his work alone can he gain
livelihood. To remove him from his surroundin
may mean to pauperize him as well as his fami
Right here the situation must be faced, and th
should be no compromise. If the environments
unhygienic, especially if the man is unhealthy
already infected, he must move, and some agen
must see to it that neither he nor his family star
The citizen is the State's most precious charge, a
his welfare should be its most important care.
has a right to demand protection from disease, a
provision must be made in case of illness—actual
threatened—as in other forms of dependency. Wi
tuberculosis in question, there is the additional a
selfish incentive to action, because the man becom
a source of danger to others. Moreover, we kn
that treatment—either prophylactic or therapeutic
to be of the greatest service, must be applied at t
earliest moment possible.

The practical methods to be applied in these cas
are easily understood, but difficult of applicatio
The Bismarckian scheme of insurance, which p
vides indemnity against old age, accident, sickne
and death for all whose income does not exceed $5
a year, is a philanthropic effort, the efficacy of whi

has been demonstrated.[8] The institution of *Kassen,* or clubs, in Germany, brings immense clinical experience to certain specialists, and enables them to teach practically in a manner nowhere else possible in the world, but the chief advantage of such a system of compulsory insurance is the facility with which the poor receive timely treatment, and suitable financial help, in case of need. Such a system of insurance finds a parallel in our industrial companies, which, in default of governmental decree, offer an opportunity for the workingman to protect himself and his family against disaster due to loss of wage. Publicity benefits humanity by directing attention to this possibility, and it is not improbable that in the future the State may find means to protect itself, in some satisfactory manner, against these charges on its bounty.

For the present, each community in some way must attempt the care of the consumptives, and in many instances an enlightened public sentiment provides help and food for the wage-earner, deprived temporarily by illness of his wage, and this assistance has extended, when necessary, to his family as well. The report of the committee on the prevention of tuberculosis of the charity organization society of New York[9] shows how efficiently combined effort may accomplish definite results. The personal hygiene of the consumptive and the danger from infection to himself and to others have been detailed by many writers ably and fully.[10] The success of institutional treatment in high altitudes, and at home, is fairly well understood. The fact that tuberculosis is a curable disease is giving energy to renewed effort. We are studying with care the relation of intemperance and venereal disease [11] to tuberculosis, and we begin to appreciate in this connection the value value of education regarding the use of alcohol and the important subject of sex relationship.

There is still much to learn, but the essential fact to remember is the necessity at present of disseminating the knowledge that we already have. We must force home the truth about tuberculosis so each may know of his personal danger. We must warn against predisposing causes, and, to guard against the spread of the disease as we would against a conflagration, we must give attention to every case of infection as we would put our foot on every spark. The study of preventive measures in tuberculosis demonstrates again the dependence of each man upon his brother man, and is an object lesson in altruism. The appeal for the rich to help the poor has a new significance, and a personal and selfish interest, when it is realized how the disease may extend from one to the other. The necessity and the possibility of eliminating tuberculosis should cause a public awakening to each citizen's responsibility. The dissemmination of knowledge founded on fact, a consistent humanitarianism, a combined effort, a glorious and successful result—all these are made possible by a well-advised and determined publicity.

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SUDDEN DEATH, ESPECIALLY FROM EMBOLISM FOLLOWING SURGICAL INTERVENTION.

BY BYRON ROBINSON, B.S., M.D.,
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THE disasters of surgery are amply numerous to maintain the operator's heart in a constant state of palpitation. The laudable pus of pre-antiseptic days, it is true, is largely disappearing, but in its place is recognized the uncontrollable embolus. At present it is impossible to write a paper approaching finality on the causes of sudden death, for they are frequently unknown—undemonstrated even with the addition of an autopsy. Perhaps the term "sudden death" should include cases in which the final issue occurs within half an hour after an attack. A condensed presentation of a few of the causes of sudden death as related to particular visceral tracts may prepare the way for a comprehensive view of death in general demonstrating that sudden death is intimately related to death from natural causes. In the causes of sudden death, it seems to me we must bear in mind the vegetative centers, which especially belong to the sympathetic nerve, particularly the vasomotor, circulatory, or cardiac center and the respiratory center—both located in the floor of the fourth ventricle. It may be noted that the circulatory and respiratory centers in man are well separated, as the circulation will proceed for some time (over an hour) with cessation of the respiratory center.

The *tractus vascularis* is responsible for the majority of sudden deaths—over 60 per cent. It is the apex of the vital tripod of life. The following are some of the causes of sudden death: (1) Embolus; (2) air in veins; (3) acute anæmia; (4) fatty cardiac degeneration; (5) destruction of the cardiac center; (6) rupture of vessels (aneurysm, apoplexy; (7) myocarditis; (8) syncope (insufficiency of the left segment of the heart), resulting from embolism of the coronary artery, leading to cardiac anæmia and eventually to cardiac paralysis; hence the sudden death is a natural one and may be really slow, yet to the observer it appears sudden; (9) defective valves; (10) endocarditis; (11) cardiac rupture; (12) angina.

The *tractus urinarius* accounts for many sudden deaths, perhaps next in order to that of the tractus vascularis. The factors of sudden death from the urinary tract are: Nephritis, uræmic convulsions, diabetic coma, renal embolus.

The *tractus respiratorius* presents the following well-known factors to account for sudden death: (1) Pulmonary embolus; (2) obstruction of the trachæ (asphyxia); (3) pleuritic effusion; (4) chronic (latent) pneumonia; (5) œdema (pulmonary, laryngeal); (6) laryngysmus stridulus; (7) destruction or paralysis of the respiratory center, (8) obesity; (9) pressure on the oblongata, asphyxia (accumulation of blood in the left segment of the heart and in the lungs), asthma; (10) congestion; (11) apoplexy; (12) emphysema; (13) hæmoptosis.

The *tractus nervosus* is overrated as a factor in

or vein) of inflammatory or vascular degeneration was performed, antedating the entrance into the hospital.

Case XIII.—A woman, sixty years of age, came to me from an adjoining State. She had carcinoma of the right kidney, which was functionless. The left kidney functionated, producing about forty-five ounces daily. I performed nephrectomy. She progressed excellently until the sixty-seventh hour following the operation, when, while relating a home story to the nurse, suddenly her eyes rolled violently, and she died in two minutes. In this case an embolus must have floated to the cardiac or respiratory center, or both, as respiration and circulation ceased at once. The location must have been the floor of the fourth ventricle—a vegetative center. There was no struggle for breath, no irregularity of cardiac action—she became unconscious in one minute and life's action ceased the next minute. Preceding death was a slight, but distinct, convulsion, which must have been the convulsion due to the anæmia of some vital center.

Case XIV.—I once resected a rib in a case of six months' pleurisy. The man recovered excellently for some four days. As I sat on his bed he said: "I never felt better in my life." Suddenly his eyes moved violently (ocular muscular convulsions) and became set. The facial muscles, especially the masseters, became rigid, as well as those of the neck. He died in about two minutes. An embolus had floated to a vital center—cardiac or respiratory. Some vegetative center or center requisite to maintain life—in the floor of the fourth ventricle—had suddenly become deprived of blood. Death was preceded by a rapid, transitory, but distinct, convulsion.

Case XV.—Some five years ago I was called to a town in Iowa to operate for an alleged large abdominal tumor. On examining the case I found an immense pelvic abscess. Under anæsthesia I punctured the abscess *per vaginam* and allowed the six quarts of fluid pus and blood to evacuate slowly. The patient progressed excellently until the third day, when she died suddenly, in about two minutes, after an attack. This no doubt was due to an embolus lodged in some vegetative or vital center (floor of the fourth ventricle), as both cardiac and respiratory centers ceased to act simultaneously. Large pelvic abscesses are liable to induce thrombophlebitis in the pelvic veins, and especially the plexus pampiformis. When the abscess contents are evacuated, the walls contract and the thrombi in the veins are liable to become fragmented and dissolved, and to float through the venous channels.

Case XVI.—My colleague was called to consult in the case of the young child of a physician. The child had diphtheria. It died suddenly, in a twinkle. A post-mortem examination was held by a distinguished neurologist, who reported death due to an embolus in the floor of the fourth ventricle.

Case XVII.—Many years ago I was attending a ten-year-old boy afflicted with mild diphtheria. About the stage of the disease (tenth day), in which the family and myself considered the boy rapidly convalescing, he suddenly and somewhat mysteriously died. The heart suddenly assumed irregular and extremely weak contractions. In a few hours he was dead. This death was absolutely a cardiac manifestation, all other functions were secondary. He died of "paralysis of the heart." Doubtless the cardiac center was damaged, but with what? Toxins, an embolus, or myocarditis?

Case XVIII.—Some fifteen years ago I visited in a country place a patient afflicted with periodic attacks of asthma. When examining the patient he was perfectly comfortable; however, though a layman, he grew slightly excited in regard to the anatomicopathological conditions of the lung in asthma. I remarked to him that a discussion with him as to the pathology of asthma would be fruitless. I prescribed, but he did not take the medicine. As I walked to the front gate of the house the patient suddenly expired. In asthma the respiratory center is in a state of irregular function, a defective state, and since in man the circulatory and respiratory centers are closely associated functionally and physically, it is not strange that sudden invasion of the circulatory center occurs in asthma. In asthmatic cases with sudden death, not infrequent, the cardiac center is the factor at issue—not the pulmonary center. Some forms of asthma are septic. Could this have been an embolus attacking the cardiac center in the floor of the fourth ventricle?

To repeat: Sudden death has attracted the attention of physicians from high antiquity. It constitutes perhaps one per cent. of all deaths. Frequently no single lesion (physiological, anatomical, pathological) will explain the sudden death (as when it occurs from joy, grief, or anger). Sudden death is rarely due to a demonstrable localized lesion of the vital tripod (heart, lung, or brain). It is more likely to be the consequence of a series of complications. It follows chiefly diseases of the circulatory apparatus.

We are not always precisely informed as to the exact cause of sudden deaths. For example, a young girl had sudden abdominal pain a week previous to entering a hospital. During her eight days of illness she had abdominal tenderness, vomiting and constipation. On the eighth night of illness she awoke with pain, and while speaking turned pale and died suddenly—instantly. The autopsy demonstrated only a pinhole perforation on the ventral wall of the stomach, surrounded by a circle of exudative peritonitis about an inch in diameter. The most plausible explanation of sudden death external to demonstrable physical facts is the sudden destruction of the function of the circulatory center (a vegetative center in the floor of the fourth ventricle). In man for sudden death, we must look to the circulatory center chiefly, as the respiratory center may cease acting long before death, while the circulatory center is definitely functionating. The heart may beat an hour after respiration has ceased, but the cessation of circulation results in instantaneous death. The death certificate of assigning as the cause "heart disease," through cloaking ignorance and fear of exposure, may, therefore, after all be approximately correct.

In operations on the peritoneum reflex irritation of the abdominal brain may check, shock, or paralyze the heart; or, in other words, produce constriction of the vessels of the medulla oblongata.

Perhaps most sudden deaths arise from embolus. The sudden death due to an embolus in a vegetative center, the floor of the fourth ventricle, is preceded by (anæmic) convulsions of the muscles of the face, eyes, and neck (similar to the convulsions of a steer slaughtered by bleeding). The death from embolus in the pulmonary artery is generally due to asphyxia. Embolus causes death (*a*) by anæmia of vital or vegetative centers (floor of the fourth ventricle); (*b*) by asphyxia, mechanical (in the pulmonary artery); (*c*) by infection, sepsis; (*d*) by destruction of parenchyma, infarcts, devitalizing the maximum power of the organs. An embolus in general is broken off from the local thrombus through trauma, extra bodily activity, or liquifaction of the thrombus. The chill following is the result of infectious distribution.

The myocardium may be the seat of a chronic (latent) fatty degeneration and under the strain of an anæsthetic, and the operation may become acutely diseased, ending in sudden death from cardiac paralysis.

Can sudden post-operative death (from embolism) be retarded? Patients about to be operated upon, especially when the peritoneum is to be opened, should have anatomical and physiological rest for from forty-eight to seventy-two hours, or more, according to the gravity preceding the operation in order to produce maximum visceral drainage, to avoid the fragmentation of any thrombus through the surgical or anæsthetic trauma and extra bodily effort, and also to allow acute inflammatory process to subside.

All abdominal surgeons of experience have observed the frequency of embolus following operations for appendicitis, hemorrhoids, and hernia (*tractus intestinalis*); operations for pelvic diseases, as ovariotomy, pyosalpinx, pelvic peritonitis (*tractus genitalis*); operations on the kidney, prostate, and bladder (*tractus urinarius*). The vast venous plexuses connected with the *tractus intestinalis, tractus genitalis* and *tractus urinarius* are prone to phlebitis and consequent thrombus, which may dissolve or become fragmented, becoming a floating embolus. Simple anatomical and physiological rest may avoid liquifaction or fragmenting of the thrombus.

The great essential in surgery is, first and last, diagnosis. The accurate diagnosis of any pathological lesion in heart, artery, or vein, suggests ample and proper time of preparation, especially for all surgical interventions on the abdominal organs closely related to the large plexuses of veins belonging to the systemic or portal systems where thrombotic veins may exist. The surgeon, as respects embolus, should be on his guard in operations for infected appendix, strangulated hernia, hemorrhoids, and infected pelvic organs. Most emboli appear to originate or to break off as a result of some bodily trauma, hence it is the duty of the surgeon to give the patient the benefit of all doubt by placing the patient in as perfect a condition of physiological and anatomical rest as possible several days previous to operation.

Ample and complete visceral drainage by means of water (better one-half physiological salt solution) is the first essential, not only to avoid shock in the operation, but for physiological and anatomical rest. The *tractus intestinalis* should be completely evacuated, a dozen movements, so that one can see the bile glistening in the stool. The *tractus urinarius* should be drained by drinking eight ounces of half decinormal salt solution every two hours for six times daily, which increases the quantity and clarifies the urine. With the *tractus urinarius* and *tractus intestinalis* drained to a maximum, the patient can be placed in the most perfect condition of physiological and anatomical rest, which is the safest condition for any surgical intervention. It is a prophylactic against embolism. Such a state withstands to the highest degree the trauma of anæsthesia, shock, peritonitis, infectious invasions, nephritis, pneumonia, and embolus.

The avoidable death is the black spot on the surgeon's escutcheon.

Action of the X-Ray in Cancer.—According to v. Bruns of Tubingen the action of the *x*-ray in cancer is simply an accessory to the mutually-occurring degeneration. Quoting Virchow, he explains that cancer is naturally of low vitality and self-destructive, and that could the formation of new nodules be combated, the condition would be self-curative.

THE TREATMENT OF DIGESTIVE DISORDERS.

By JAMES. W. HUNTER, Jr., M.A., M.D.,
NORFOLK, VA.

The methods at present so largely employed in the treatment of digestive disorders are so unsatisfactory in their general application and results, that it seems well to call the attention of the profession to another. I refer to a rational treatment. And, while it cannot be expected that a rational treatment will prove a panacea for all digestive ills, it will have a tendency to produce a number of permanent cures. Moreover, we may reasonably expect to conserve the forces of the human body, and, if we do no positive good, we shall, at least, do no positive harm.

An inability correctly to diagnose digestive affections, as well as a tendency to treat all cases of indigestion by a routine method, has led to a certain amount of neglect. The knowledge, moreover, that certain ferments will relieve a single attack has encouraged their use. But what is the effect upon the patient? Nature, finding that she has no longer to secrete ferments of her own, ceases to do so. The mucosa of the intestinal tract becomes inert; the glandular structures atrophy. Larger and larger doses are required to effect the same relief and in turn there results a chronic dyspepsia. And thus we maintain that no treatment, though affording a temporary relief, which causes a permanent injury is to be commended.

We should not be satisfied with the simple statement by the patient of the symptoms which distress him; a systematic enquiry into his heredity, habits, etc., as well as a physical examination, should always be made. The length of time employed in eating, the preparation of the food, the amount of eructation, whether there exist idiosyncrasies, pain in the precordial region, a palpitating heart, or a constipation, these questions must always be asked and their answers noted. For it is our endeavor, not so much to determine the distress itself, but, if possible, the underlying cause, and to remove it.

We should proceed to make a careful physical examination, observing the general state of health, especially if there be an anæmic or neurotic condition. We should likewise examine the conjunctivæ, gums, skin, facies, etc., also the reflexes. A knowledge of the condition of the lungs and particularly of the heart will also serve our purpose. The position of the latter whether compressed or not, as well as the existence of borborigmi, should be noted. And, lastly, the condition of the abdomen, if tympanitic or dull, and the relation of liver, kidneys, and spleen. It used to be thought that an enlargement of the tympanitic triangle indicated an enlargement of the stomach, but such a theory has long since been abandoned.

An examination of the mouth, teeth, and tongue should not be omitted. This done, we should, in doubtful cases, proceed to administer a test meal, and, upon its withdrawal note its amount, color, soam, reaction, quantity of free hydrochloric acid, and the presence of lactic acid. The sediment should be examined microscopically. The Boas-Opler bacillus, epithelial cells, sarcinæ, etc., will not be without significance. An examination also of the fæces will aid us.

Thus we have examined our patient. We are now prepared to differentiate the factor at fault, and, if possible, to correct it.

It will be well, at the very beginning of treatment, to render the patient's system as thoroughly clean as possible. Consequently, we shall administer a good cathartic (preferably a cholagogue such as

ENGLISH MEDICINE IN THE ANGLO-NORMAN PERIOD.

Dr. JOSEPH FRANK PAYNE chose the above subject for the Fitz-Patrick Lectures for 1904, delivered by him on November 8 and 10, an abstract of which is given in the *British Medical Journal*, November 12. Dr. Payne points out that, contrary to the general belief, the Norman conquest did nothing to assist, though it did not arrest, the progress of medicine in England. Indeed, while the old English medical literature continued to be produced for nearly a century after the conquest, yet during this period no trace is found of any Anglo-Norman medical literature.

The Norman conquest, however, introduced considerable changes in the social position of medical practitioners. The Norman aristocracy, not speaking English, could not employ the old Saxon leeches, but sought the services of physicians of their own race. These physicians were exclusively clerical, and often rose to high office in the church. Many instances occurred under the Norman kings of Norman or French physicians who became the trusted advisers of kings and nobles, and were promoted to high rank. Thus the practice of the Saxon leeches must have been restricted to the lower and middle classes, who alone spoke English. Again, there was another marked difference between the old English and the Norman physicians—the latter were educated abroad, there being no regular school of medicine in England.

All physicians of whom anything is now known studied at Salerno, which at the time of the Norman conquest, like the other great European medical schools, had fallen under the influence of Arabian-Greek medicine. Arabian teachers in many respects were far in advance of the late Latin and Greek authors, on whom the Anglo-Saxons in the Dark Ages depended. A great merit of the Arabian physicians was that they banished the supernatural from medicine, and as their tenets prevailed, superstition disappeared from the practice of medicine.

The Arabians, likewise, introduced a knowledge of diseases hitherto unknown, as smallpox and measles, and gave a better account of some old diseases, as leprosy. They also brought in a far more extended knowledge of drugs and methods of pharmacy, in addition to distillation and other chemical processes. On the other hand, Arabian medicine had a somewhat unfavorable influence, in that its exponents were slaves to dogma in matters of science. The Mahommedans based their most fundamental beliefs on an infallible written dogma, and further, although they were averse to superstition, they were ardent partisans of astrology, and this pseudoscience, with most injurious results, was brought into the field of medicine. "Thus," says Dr. Payne, "for better or for worse, it was this Arabian modification of Greek medicine which ruled in Europe for centuries, and of this Gilbert was no mean exponent."

Dr. Payne then gives a lengthy sketch of Gilbert and the state of medical lore in his time. Gilbertus Anglicus, the first English physician to acquire a European reputation, was at Salerno and in the East about the end of the twelfth century, in the time of Richard Cœur de Lion and the third Crusade. Gilbert was a voluminous writer, and his works form an excellent presentment of the condition of medical knowledge in Europe in his day, and of the medical teaching at Salerno in particular. In the treatment of all diseases Gilbert attached great importance to diet. For drugs he employed, beside simples, a number of old compound medicines called "antidotes." He mentions more than two hundred of these, giving their composition. Gilbert mentions a few empirica—that is, superstitious remedies and charms, but his general method of treatment was that of the modern masters. His observations on leprosy were very valuable and formed the basis of much of what was written on this subject by medieval authors. Dr. Payne says that his description of the external signs of leprosy was evidently from first-hand observation. He described very accurately the anesthesia and other symptoms accompanying what we now call leprous neuritis, and acutely distinguished this affection from paralysis.

Gilbert's description of smallpox and measles was, on the whole, the most valuable contribution to the subject of medieval times. Dr. Payne says that Gilbert was the first author to draw attention to contagion in smallpox. He was also the first writer to suggest the red light treatment of smallpox, which John of Gaddesden is said to have carried into practice successfully in the case of a royal prince.

The last part of Gilbert's book is devoted to the hygiene of travelers by land and sea, in which he airs some theories which have since been recognized as founded upon sound principles. In conclusion, Dr. Payne points out that Gilbert was an eclectic; he sought to unite the old teaching of the school of Salerno with the newer doctrines of the Arabian and revived Greek medicine.

It would appear, as we have already noted, that at the time of the Norman conquest the Normans themselves employed physicians speaking their own language, and that the Saxon leeches practised among their own countrymen, but that the Normans had little or no influence upon English medicine. When, however, the two races began to be fused, a school came into existence, the members of which gained their knowledge in Europe, being both of Norman and of English blood; of these Gilbert was a typical and the most celebrated representative.

VARIOLA HYBRIDA.

DR. A. S. V. MANSFELDE, of Ashland, Neb., read a paper on variola hybrida before the Nebraska State Medical Association, held at Omaha, May 3 to 5, 1904, published in the *Western Medical Review* for September, 1904, in which he took the view that the disease which has been so prevalent throughout the United States during recent years, and which is regarded as genuine smallpox by the majority of physicians—is in truth not true smallpox, but a hybrid form of the disease, hybridized in its seed, whether that be of vegetable or animal origin. Happel defines variola hybrida as a modification of smallpox, in which not the person, but the virus which produces the disease has undergone a vital change.

Dr. Mansfelde contends that the virus of variola hybrida produces a clinical picture sometimes entirely and often greatly differing from genuine smallpox, and its virus differs from that of the virus of varioloid in that it reproduces its kind—a fixed subspecies seems to have been formed. The author bases his argument upon his observations that some at least of the eruptions of true smallpox pass through every phase of their well-known evolution, while the eruption in the disease termed by some "variola hybrida" resembles acne. The shot-like papules of the genuine disease are seldom witnessed, and when the vesicles appear they very often look more like those of chickenpox than of smallpox, and umbilication is not seen. Dr. Mansfelde further states that the temperature after the appearance of the eruption generally becomes normal and remains so; secondary fever is not noticed.

The question as to whether there is such a disease as hybrid smallpox is answered emphatically in the negative by the bulk of the medical profession. Indeed, when Dr. Happel read a paper before the American Medical Association in 1901 to the effect that variola hybrida was the affection from which so large a number of American citizens were suffering, his views met with little or no favorable response. A joint session of the sections on Practice of Medicine and Hygiene and Sanitary Science, at this meeting of the Association, passed the following resolution: "That the disease now prevailing extensively in the United States, and called in some instances pseudosmallpox, is genuine smallpox, and should be so treated with vaccination and quarantine by all health authorities."

The medical textbooks, too, are unanimous in describing several anomalous varieties of smallpox, and the medical writers in this country have, with scarcely an exception, regarded the disease which has prevailed so widely as smallpox in a form modified presumably by vaccination.

Although, however, the weight of medical opinion is adverse to the views promulgated by Drs. Happel, Mansfelde, and others, yet it cannot be denied that the matter is a legitimate one for discussion. All is by no means yet known of smallpox, and the ventilation of radical opinions is healthy, and tends in the direction of increasing our knowledge of this universal scourge.

THE WOOD ALCOHOL QUESTION.

PROGRESS is not always advantageous, and the refinements of modern life are often doubtful blessings. A conspicuous illustration of the untoward possibilities that may attend apparent victories of science, is found in the steadily increasing list of casualties reported since it has been found commercially feasible to deodorize and rectify methyl alcohol. As long as the wood alcohol of commerce was the vile-smelling nauseous, greenish liquid variously known as wood spirit, wood naphtha, pyroligneous spirit, etc., its many offensive qualities caused its use to be restricted to various legitimate manufacturing and other purposes, but in recent years it has appeared under new names, and in a more attractive guise. Deodorized and deprived of its disagreeable taste, it has been put on the market in new forms, highly recommended by its exploiters for many household purposes. Dr. Casey A. Wood, in an interesting discussion of the subject, in the *New York Medical Journal*, of January 7, 1905, points out the dangers attending the dissemination of this disguised poison, which now can be, and is, widely used to adulterate whiskey and other alcoholic beverages, witch hazel, bay rum, eau de cologne, Florida water, essences of all kinds, Jamaica ginger, extract of lemon, etc., and the various liniments, patent medicines, and domestic remedies, so appealing to a large fraction of the population. Dr. Wood says that already one hundred and fifty-eight authentic cases of blindness and one hundred and fifty-six deaths, due to wood alcohol, have been reported, and that there is every reason to believe that if the whole truth were known, the total number of cases would be largely increased, and the full number would exceed four hundred.

Steps are being taken to reduce the risk from this source. One suggestion is to have all wood alcohol preparations placed on the list of poisons. Another, made by Dr. Frank Buller, is that every package of wood alcohol should bear the warning, "this fluid, taken internally, is likely to produce blindness." Such a label might be even more effective than the legend "poison," because to most people the fear of blindness is more impressive than that of possible death. Dr. Wood says that no doubt this precaution would limit the dangers of serious poisoning from methylated preparations, but it is very doubtful whether it will be entirely effective. Either the manufacture and sale of "deodorized" or "purified" wood alcohol, he holds, should be absolutely prohibited, or, as in Germany and Great Britain, an untaxed ethyl alcohol should be allowed for use in the arts, or the methyl alcohol should be rendered undrinkable by the addition of some nauseous compound.

GLUCOSE ENEMAS IN DIABETES.

SOME time ago, J. Arnheim published in the *Zeitschrift für diätetische und physikalische Therapie*, p. 75, 1904, the results of a series of investigations undertaken to determine the reaction of the metabolism of diabetic patients to carbohydrates administered in the form of enemata. The observation that absorption could take place in this way and be followed by appreciably better assimilation than when the food was taken by mouth, as well as that of the disappearance of acetone bodies from the urine, was not only interesting from the theoretical standpoint, but gave promise of some practical bearing. A similar series of investigations undertaken by Orlowski (appearing in the December issue of the same journal) while yielding results which in the main corroborate those obtained by Arnheim still render the practical utility of the method very doubtful. It was found that the rectal administration of glucose produced a much smaller increase in the glycosuria than when the same quantity was given by mouth, and in many instances the amount excreted in the urine was always followed by a prompt rise. Analysis of the feces showed that the amount of glucose absorbed was usually about 50 per cent. of that contained in the anema, and control tests demonstrated that it was extremely unlikely that this amount could be entirely accounted for by intestinal fermentation. The effect of the carbohydrate administered in this way seems to be very slight, however, in diminishing the amount of acetone and allied bodies in the urine, and it is this fact which detracts from the utility of the measure. When a state of acidosis demands prompt action glucose enemas are too uncertain in their effect to be of service, while for long-continued use their employment is attended with so much discomfort to the patient as to render the plan impracticable. The theoretical side of the question remains of much interest, however, and although slowness of absorption or bacterial action may partly explain the modification in the excretion of glucose introduced into the body in this way, there are probably other still unknown factors also at work.

Gonorrheal Pericarditis.

Dr. F. Huber read a paper on the above subject before the American Pediatric Society, published in the *Archives of Pediatrics* for December. With the disappearance of the old view that gonorrhea is merely a local disease, the question of general infection by this disease has been thoroughly investigated during the past few years, and it has been discovered that all the structures of the body may become involved. Dr. Huber points out that gonococci may reach distant organs or structures in one of two ways, either through the blood circulation or by means of the lymphatics. In general it is believed that arthritic processes, endocardial, myocardial, and pericardial affections, pleurisy, periostitis, and phlebitis, are caused by the gonococcus, the majority of the others by the toxins. In many instances, however, a mixed infection has occurred.

In the paper read by Dr. Huber a report is given of a case of probable gonorrheal pericarditis occurring in a child three and one-half years old, under the care of the late Dr. J. Berenson.

Pericarditis, the author says, though somewhat frequent, is rarely the only manifestation. The affection is generally benign, does not give rise to much discomfort, and may run its course without any manifest symptoms. Objectively, it may occur as a dry form or may be attended with exudation. In the first variety the pericardial friction sounds are distinctly heard, in the other case dullness exists with feeble heart sounds. The effusion is generally serous in character, but at times it may be hemorrhagic.

Beurman has reported a case in which pus was formed. Other instances are mentioned in which several serous surfaces were involved (meninges, pleura, etc.). It may be said that the diagnosis of gonorrheal pericarditis is by no means easy. Generally the rheumatic symptoms are misleading. There is little doubt that gonorrheal infection is responsible for many more diseases than is usually believed to be the case, mainly on account of the difficulties in the way of a correct diagnosis.

Statistics of the Japanese Naval Officers and Men Killed or Wounded in the Present War.

The *Sei-i-Kwai Medical Journal* of October 31 gives statistics of the Japanese naval officers and men killed or wounded in the present war.

According to the recent investigations of the Medical Department of the Imperial Japanese Navy the total number of killed or wounded up to the end of September amounted to 2,321 persons. Six hundred and fifty-five of these were slightly wounded, five hundred and fifty-six severely wounded, one thousand and twenty-two killed, and eighty-eight missing.

The loss of the medical staff in the present war up to the date above mentioned was six surgeons killed or drowned, one chief medical attendant killed or drowned, eight medical attendants killed or drowned, and four medical attendants wounded. Six surgeons were attacked by infectious diseases, two assistant surgeons by typhoid fever, and thirteen medical attendants by dysentery or typhoid fever. All these recovered, a sufficient proof that the Japanese naval medical department know how to treat these diseases when contracted, as well as to prevent their occurrence.

The war in the Far East has been pregnant with valuable lessons from a medical and surgical point of view, and the pity is that the United States Government at the outbreak of hostilities did not decide to dispatch medical naval and military attache to the front. The knowledge thereby gained woul have been extremely valuable.

To Poultice or Not to Poultice.

Linseed and linseed meal have been dropped fron army medicines, and the army physicians have bee notified that it is the opinion of the Surgeon General's office that poultices have no place in moder therapeutics, all the good results obtainable fron them being gotten in a much more cleanly way by ho wet compresses. This question, upon which the Surgeon General's office has officially pronounced, is debatable one, and as a matter of fact there are man in and out of the army who will believe that this is litle hasty. There are conditions constantly arising i which nothing but a poultice will, in the opinion o many not very old practitioners, suffice. It is not uncleanly, if properly applied, and can be made antiseptic as well as aseptic; but hot wet compresses ar often more difficult to apply, and even with the greatest care are apt to moisten the bed and cause mor bother than they are worth. The prohibition of th time-honored linseed meal, the best material for poultices, seems to interfere with a method practised b a large number of physicians, who would be incline to testify that without it our soldiers would not receive the best care. There is surely much to b said on both sides. The psychological effect at leas of a poultice is entirely too great for a successful family physician to ignore, and why deprive th soldier of this old-fashioned comfort?

The Mode of Turning, in Walking, as a Diagnostic Sign.

In the *Journal of Nervous and Mental Diseases* fo July, 1903, reference was made to a paper by vo Schüller, in the *Neurologisches Centralblatt*, o January 16, 1903, in which it is said that an organi hemiplegic patient can walk sideways towards hi paralyzed side with little or no difficulty, but o account of the spasticity and lengthening of th palsied leg he has much difficulty in walking sideways in the opposite direction, and must drag th paralyzed leg. It is also pointed out that the functional hemiplegic cannot walk towards the palsie side, but only towards the sound side.

Dr. Leonard Kidd, of London, has been making observations recently to test the truth of this statement, and has concluded that in cases of organic hemiplegia and spastic paraplegia fully 99 per cent of the sufferers spontaneously turn to the spastic or more spastic side when told to walk to the end of the room, turn round, and come back. He has never seen a functional hemiplegic turn round to the affected side, consequently he regards Schüller's phenomenon as a diagnostic point of the highest importance.

Dr. Kidd enunciates the following propositions: (1) If a spastic hemiplegic or a spastic paraplegic turns round in walking to the affected or the more affected side, an organic lesion is present. (2) If he turns to the sound or less affected side, the case is one either of functional or of organic affection; if the latter, there will be no difficulty in deciding in its favor after a careful physical examination. Dr. Kidd further gives it as his opinion that Schüller's phenomenon may have a much wider range than that of hemiplegia, and that a more extended experience will very likely show that in cases of unilateral weakness of organic origin the patient usually turns to the weaker side. If extended observations verify this belief, a diagnostic point of some value in nervous diseases will have been determined.

News of the Week.

American Public Health Association.—The thirty-second annual meeting of this association was held this week, in Havana, Cuba, under the presidency of Dr. Carlos J. Finlay. At a meeting of the laboratory section on Monday, under the presidency of Dr. V. A. Moore, of Cornell University, discussions took place on the "Purification and Preservation of Water Supplies," and the "Disposal of Sewage and Industrial Wastes." Mr. G. W. Fuller, of New York, chairman of the Committee on Standard Methods of Water Analysis, submitted an elaborate report on the changes and improvements in the methods used in bacteriological tests of water. The address of the Chairman, Dr. Moore, was delivered, and then the election of officers was held with the following result: *Chairman,* Dr. W. H. Park, New York; *Vice-Chairman,* H. W. Clark, Boston; *Recorder,* Dr. H. D. Pease, Albany, N. Y. The first general meeting of the Association was held on Tuesday evening, when Dr. Finlay delivered his presidential address, which was devoted chiefly to the history of the study of yellow fever in Havana. The banishment of yellow fever from the city was, he said, the direct outcome of the work of two American commissions, the first that conducted by Sternberg a quarter of a century ago, the second under the lamented Reed, twenty years later. The latter decisively established the true etiology of yellow fever. Two of its members were themselves prostrated by the disease, and one, Dr. Jesse Lazear, died a martyr to scientific zeal. Dr. Finlay praised the work of Major Gorgas, chief health officer under Gen. Wood, who, adopting the commission's findings, succeeded within seven months in ridding Havana of this century-old endemic. With reference to the two cases of yellow fever last October in Santiago Province, Dr. Finlay said it was presumed that they were transmitted by mosquitos from a quarantined ship. These were the only fever cases since 1901.

At the conclusion of his address, Dr. Finlay received a warm ovation from the large audience present. Several speakers accorded him praise for the large share he had had in this work, and full credit was accorded him for the great scientific acumen which had led him to the discovery of the part played by the mosquito in transmitting yellow fever, which discovery had been so positively confirmed by later investigations.

A paper was read by Dr. C. A. Snodgrass describing the system of chemical purification of the water supply now in use in St. Louis. A paper by Dr. A. H. Doty, Health Officer of the Port of New York, who was not present, was read. Its subject was the use of "Sulphate of Copper in the Destruction of Mosquito Larvae." At the afternoon session Dr. Erastus Wilson, of Havana, read a paper on "Sanitary Conditions in Havana and the Necessity for their Improvement." Professor L. C. Robinson, of Brunswick, Me., read the report of the Committee on Disinfectants. "The Disinfection of School Books" was treated in a paer by Dr. Walter Green, Health Officer at Buffalo, N. Y. Dr. C. V. Chapin, Health Officer of Providence, R. I., read a paper on "Sources of Infection."

The banquet took place at the Tacon Theater on Wednesday evening. In responding to a toast to the United States Dr. William Bailey of Louisville, Ky., spoke of the work the American army surgeons had done in the sanitation of Cuba, and said this work was being continued by the efficient health officer of the island, Dr. Carlos J. Finlay.

The Governor and the State Hospitals.—In his message to the Legislation, Governor Higgins dwelt at some length upon the needs of the State hospitals and their administration. He approved of the centralization of the management, effected by his predecessor in office, as regards the financial control, and recommended that the control of all financial matters be left, as at present, in the hands of the State Commission in Lunacy, but that there should be provided for each hospital a board of managers in general charge, through the superintendent, of the internal affairs of the hospital. Referring to the present overcrowding of the State hospitals, the large increase in the number of the insane each year, and the expiration next September of the lease of the buildings now occupied by 1,200 patients in the Long Island State Hospital at Flatbush, he suggested an increase in the capacity of the hospitals already existing and the establishment of a new State hospital. He also recommended that suitable legislation be enacted to enable the State Board of Charities to transfer inmates from one charitable or reformatory institution to another, when it appeared that such transfer would be for the good of the person so transferred. Different classes of defectives, he said, should not be allowed to remain in the same institution if by a proper system of transfers they can be so distributed as to receive the best and most scientific care.

The Harvard Cancer Commission.—The commission appointed by Harvard University, under the terms of the bequest of $100,000 by Mrs. Caroline Brewer Croft, to study cancer has prepared a report of its labors during the past four years. This report, which is now in the hands of the printer, will, if the advance statements of its contents are correct, contain little that is new. Its conclusions are said to be that cancer is neither hereditary nor contagious, that is is not of parasitic origin, and that excision is the only cure except in the case of certain superficial growths which may be cured by radiotherapy.

War on the Yellow Fever Mosquito in Rio de Janeiro.—A translation issued by the Liverpool School of Tropical Medicine of a part of the report of the preliminary yellow fever expedition of the Hamburg Tropical School shows that the authorities in Rio de Janeiro are alive to the fact that yellow fever is caused by mosquitos, and are determined to emulate the feat of the Americans in Cuba by stamping it out. Their antimosquito measures follow the American lines very closely. They include, for example, the disinfection, by pyrethrum, of houses where cases have occurred, the wiring of windows to prevent mosquitos getting in to bite patients suffering from the disease, and the organized employment of 2,000 men to exterminate the insects as far as possible throughout the town. One large source of mosquitos is found in the rain-water drains which form a vast network of pipes close under the surface of the streets; for these the Clayton apparatus comes in very handily. All outlets being covered by mosquito netting, the system is then divided into sections and the gas blown through, rats as well as mosquitos being exterminated. It is to be hoped that this enlightened policy will bear fruit, and be another lesson to the world at large demonstrating how much can be done in mosquito extermination.—*British Medical Journal.*

The Fifteenth International Medical Congress.—We have received the fourth number of the official journal of this Congress which is to be held at Lisbon on April 19-26, 1906. The secretary reports that the titles of 188 contributions have already been received on subjects officially announced for set discussion, in addition to a number of voluntary communications on other subjects. The twelfth section has been divided into two subsections—one on diseases of the nose, throat, and ear, and the other on stomatology.

Increase in the Army Medical Corps.—President Roosevelt has sent a message to Congress urging the passage of the bill, now before that body, for the reorganization of the medical corps of the army. He says he is satisfied that the medical corps is much too small for the needs of the present army, and therefore very much too small for its successful expansion in time of war to meet the needs of an enlarged army, and, in addition, to furnish the volunteer service a certain number of officers trained in medical administration. "If the medical department is left as it is no amount of wisdom or efficiency in its administration would prevent a complete breakdown in the event of a serious war."

The Uncertainties of Sea Travel.—The delegates to the Pan-American Congress at Panama who went by the steamer *Athos* from Baltimore had a sail and nothing else, for they did not arrive at Colon until last Friday, the day the Congress closed. The steamer was delayed a couple of days in Chesapeake Bay by a heavy fog, and lost another day on the way to Colon. There were thirty-eight would-be members of the Congress on board.

Yellow Fever at Panama.—Some apprehension has been caused by exaggerated reports of a yellow-fever outbreak at Panama. According to the report of the Public Health and Marine Hospital Service, however, there were but three cases of this disease at Panama between December 1 and 21, and at Colon there had been no cases since November 9.

War on Spitters.—Ten well-dressed individuals claiming to be business men were arrested in one day last week for spitting in the City Hall station of the subway. The magistrate at the Tombs police court fined them two dollars each. All offenders in this direction are not so fortunate in having the sum necessary to pay their fine, and must serve it out in jail. The wardens of some of the police court prisons say that they have more prisoners now serving time for spitting on elevated and subway station platforms than for any other crime. The recent efforts of the municipal authorities to suppress that habit has rounded up a lot of culprits. In some of the police courts nearly half a dozen are dealt with daily.

Typhoid Fever Diminished by Water-Filtration.—The prevalence of typhoid fever in those wards of the City of Philadelphia supplied with filtered water was in the year 1904 diminished 59.6% in a population of 100,000, as compared with the number of cases in the district supplied with unfiltered water.

Vital Statistics of Philadelphia.—For the week ended January 7 there were reported to the Philadelphia Bureau of Health 478 deaths, as compared with 497 for the preceding week and 656 for the corresponding week of the previous year. The largest number of deaths due to individual causes were as follows: Pulmonary tuberculosis 64; heart-disease 60, pneumonia 43 (not including bronchopneumonia 19 and congestion of the lungs 10), nephritis 39, apoplexy 19, old age 15.

Evanston, Ills., is one of the healthiest cities in the county, according to the figures of the health department of this suburb of Chicago. There were 201 deaths in the city last year out of a population of 23,000, or 8.8 deaths per thousand. The year before there were 212 deaths, or 10 per thousand.

Dr. Edward S. Peck, after an uninterrupted service of over twenty-five years, has resigned the position of Visiting Ophthalmologist to the City Hospital, Blackwell's Island. With one exception this is the longest term of service in connection with the hospital.

Dr. Oliver P. Coe has been appointed Deputy Coroner of Hamilton County, Ohio, by the Coroner-elect Dr. Otis L. Cameron. His salary will be $1,500, and term of service two years. Dr. Coe was formerly interne and later receiving physician at the Cincinnati Hospital.

College of Physicians of Philadelphia.—At a stated meeting held January 4, Dr. James M. Anders read a memoir of the late Dr. F. Savary Pearce. The President read his annual address, and the following officers were elected for the ensuing year: *President,* Dr. Arthur V. Meigs; *Vice-President,* Dr. James Tyson; *Secretary,* Dr. Thomas R. Neilson; *Treasurer,* Dr. Richard H. Harte; *Honorary Librarian,* Dr. Frederick P. Henry.

St. Louis Medical Society.—At the annual meeting of this society, held December 17, 1904, the following officers were elected for the year 1905: *President,* Dr. Frank L. Henderson; *Vice-President,* Dr. John C. Morfit; *Recording Secretary,* Dr. Thomas A. Hopkins; *Corresponding Secretary,* Dr. Chas. J. Orr; *Treasurer,* Dr. R. M. King.

Pennsylvania State Medical Examinations.—As a result of the recent examinations for license to practice medicine in the State of Pennsylvania 87 of the applicants passed successfully, while 39 failed to obtain the required average.

Improvement in Health of Chicago.—As a result of the intercepting sewer system in Chicago, the water from all tunnels has been found by rigid tests, made by the City Health Department Laboratory, to be as good as the samples taken 12 miles from shore, which is the department standard of "safety." The good results of this are seen in the lowest typhoid death rate, in 1904, in the history of Chicago. The reduction of mortality among children during 1904 was largely due to the improved quality of the milk supply, caused by the work of the department, aided by various volunteer agencies.

New York Polyclinic Medical School and Hospital.—The President of the Faculty of the New York Polyclinic Medical School and Hospital gave a reception on December 20 to celebrate the event of the liquidation of a second mortgage of about $40,000, which was accomplished by the personal donations of the members of the staff. This action was applauded by a member of the Board of Trustees in a material way by a personal donation of $20,000 to the new building fund.

The Sanitation of Cuba.—The Cuban Congress, which resumed its services on January 9, has passed the bill appropriating $326,000 for the immediate sanitation of the cities of the island. The Senate's special Committee on Sanitation recommended measures granting all municipalities $2.16 2-3 per inhabitant for city cleaning and sanitation, with an additional ten or twenty per cent. for the larger towns, according to population and importance. The appropriation bill was passed by the House by a vote of 23 to 15, and the recommendation of the Senate Committee for an apportionment to the several cities was informally approved.

Hospital News.—*The American Oncologic Hospital* in Philadelphia was formally opened with appropriate ceremonies on January 4. The hospital is in the old Howell mansion, Forty-fifth and Chestnut streets, and contains provision for twenty-four and assistant attending surgeon at the Women's patients. The attending surgeons are Drs. Addinell Hewson, G. Betton Massey, and Howard R. Swayne, and the attending physician is Dr. Boardman Reed. The address at the opening exercises was delivered by Dr. G. Betton Massey who explained that the purpose for which the hospital was established was not only to treat sufferers from malignant disease, but to diffuse through the public the fact that cancer is a purely local disease and to encourage early application for treatment, and also to engage in a scientific research into the causation of cancer and kindred studies. Special facilities will be provided for the cataphoric method of treatment and for radiotherapy without neglect of the old and well-established surgical procedures in suitable cases.

The Cincinnati Hospital.—The Board of Public Service of Cincinnati has, by a vote of three to one, decided to build the new hospital on the Hill Top site away from the smoke and dirt of the business portion of the city. They also decided on the pavilion plan presented by the commission. The present City Hospital will be abandoned.

Ohio State Hospital for the Insane.—The commission chosen to select a site for this new Hospital have unanimously selected Lima, Ohio. The farm chosen about one mile north of the city contains 620 acres.

Nursery and Child's Hospital.—The annual Charity Ball to be given at the Waldorf-Astoria on February 2, for the benefit of the Nursery and Child's Hospital.

Gift to a London Charity.—The King's Hospital Fund has received as a New Year's gift $1,000,000, in securities yielding an annual income of $55,000, Lord Mountstephen, formerly president of the Canadian Pacific Railroad, is the donor.

Buildings at Cook County (Ill.) Hospital and Dunning Institutions.—The new buildings at these institutions increase the capacity of Cook County Hospital more than one-third, and at Dunning more than one-quarter. These buildings are nearly completed. They comprise cottages for consumptives, contagious diseases hospital, children's hospital, three cottages for insane, farm ward for insane, and pavilion (3 cottages) for insane. The only unfinished ones are the pavilion for the insane at Dunning, and the Children's hospital at Cook County Hospital, but these will soon be ready for service. The old hospital for consumptives at Dunning has been remodeled into a splendid hospital for the physically sick insane. The County has also erected at the Dunning Institutions a morgue and pathological building.

Sinclair Tousey Memorial Bed.—Benjamin Tousey of Syracuse, N. Y., has donated the sum of $5,000 to the Hospital of the University of Pennsylvania as an endowment for a free bed for the use of employees of the Central News Company and to be known as the "Sinclair Tousey Memorial Bed."

Obituary Notes.—Dr. Churchill Carmalt of this city died of grippal pneumonia on January 8, after an illness of only three days, at the age of 39 years. He was born in Susquehanna county, Pennsylvania, and was educated at Harvard University, from which he was graduated fourth in his class in 1887. He received his medical education at the College of Physicians and Surgeons, from which he was graduated in 1891. He was an interne at the New York Hospital and was the first house-surgeon at the Hudson Street House of Relief of this hospital. At the time of his death he was demonstrator of anatomy at the College of Physicians and Surgeons, attending surgeon at the Lying-In Hospital, Hospital. All exercises at the College of Physicians and Surgeons were suspended on Tuesday of this week, in honor of his memory.

Dr. Frederick H. Griffin died at Philadelphia on January 1 at the age of 47 years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1880.

Dr. Bryson C. Pennington died at Atlantic City, N. J., on January 1 at the age of 46 years. He was graduated from Jefferson Medical College in the class of 1881.

Dr. James M. Eagleton formerly of Philadelphia died at Ocala, Florida, on January 4 at the age of 70 years. He was a graduate of the Medical Department of the University of Pennsylvania and served as a surgeon in the United States Army during the Civil War.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL FUNDS; MEETINGS—LONDON SCHOOL OF TROPICAL MEDICINE—CHLOROFORM ANESTHESIA, TWO EVENINGS' DEBATE.

London, December 23, 1904.

The hospital funds have come in for a good deal of notice during the week. The Lord Mayor held a meeting for the purpose of enlisting the help of commercial travelers. Sir J. Dimsdale moved a resolution, and told his audience that during the past year the in-patients numbered 108,687 and the out-patients, 1,771,199, at a cost of about a million and a quarter, and the only fixed income to meet this, amounted to £920,000, leaving a deficit of £310,875. Sir F. Treves, who also spoke, added statistics from the London Hospital, which would perhaps, impress the commercials, viz., that its new patients per annum averaged 183,000, requiring for treatment in the year one million pills, 3 tons of Epsom salts, 3 tons of carbolic acid, 1½ tons of chloroform and ether, 10 tons of lint, 8 tons of cotton-wool, 8 miles of catgut, and 82 miles of silk. About 40 surgical operations were performed daily in that hospital. A resolution was adopted pledging the commercial travelers to raise a fund to be added to the collection at St. Paul's Cathedral.

The Prince of Wales presided over the meeting of the King's Fund, on Monday, at Marlborough House, when Lord Rothschild, treasurer, reported that £67,999 had been received, to which the League of Mercy would add £14,000. The Executive Committee recommended the distribution this year of £8,000, of which £1,000 was provided by the Parochial Charities for Convalescent Homes. No sum is to be taken this year from the reserve.

The committee deprecate the opening of new special hospitals with small accommodation. They view with great satisfaction the removal of King's College Hospital and subscribe to the fund. On the other hand, they could not assist St. Bartholomew's in rebuilding, as that would be contributing to capital expenditure for a hospital with large endowments. They regret, therefore, that they have no power to make a grant for this purpose.

The Prince in moving the adoption of the report, expressed regret that the condition of a munificent anonymous donor had not been fulfilled, viz., the offer of securities producing over £4,600 a year, provided twice the amount were raised before the close of 1904. His Royal Highness went on to comment on efficiency and economy in the administration of the hospitals, stating that statistics had been collected from sixteen of those to which grants were made, and these figures showed some remarkable results. More than £39,000 was expended in excess of the average of these sixteen during 1903. To prevent discrepancies in expenditure, the Fund has made a comparison of the prices for the principal goods paid by different hospitals. As an example, the differences in the price of the same quality of meat equaled 3½ pence per lb. In view of this, and the obvious advantage of large contracts, the Prince suggests the possibility of the smaller institutions combining for the purpose of contracting for supplies. The Fund, as I told you at the time, has appointed a committee to inquire into the question of hospitals contributing to medical education.

Mr. Stephen Coleridge, of course, avails himself of this to push his agitation.

A decided step in advance, is about to be taken by the

London School of Tropical Medicine. Two new chairs are to be established, which will not be for teaching only, but for research in Protozoology and Helminthology. Much satisfaction is being expressed that the money for this departure will be found by the Colonial governments. You will remember that the school owes its existence to Mr. Chamberlain, when he was Minister for the Colonies, and he still retains his interest in it. He has promised to preside at the banquet next May, and meantime his successor at the Colonial office gives all the encouragement he can to the work of the school.

Chloroform anesthesia, a subject of perennial interest, has been discussed by the Royal Medical and Chirurgical Society. The debate extended over two evenings. It began with descriptions of apparatus shown and explained. The most notable of these was that devised by Mr. Vernon Harcourt, with which, by this time, you will have become familiar. Dr. A. G. Levy described an apparatus for regulating the strength of the vapor inhaled, and restricting it within the limits of safety. He adopts the plan of suction of air over chloroform, and the dilution of the vapor obtained by such a further amount of air as may be desirable. He had never exceeded 3.5 per cent., and could easily induce complete anesthesia with his instrument in 5 or 6 minutes, passing gradually from 0.5 to a 3 p. c. or 3.5 mixture, as soon as narcosis is complete. The regulator is moved to allow only 2 p. c. to continue the supply.

Dr. A. D. Waller described his "wick-vaporizer." He employs a three-wick lamp, over which a continuous stream of air is conveyed. The area of the wicks is such that at ordinary temperatures, rather more than 1 p. c. of vapor is given off to 12 liters of air per minute by one wick, while a second and third wick increases the percentage to 2 or 3.

Another apparatus was described by Dr. B. J. Collingwood. He conveys air through an inclined tube, furnished with several inlets which can be opened or closed at will. A stream of chloroform runs down the tube and according to the number of inlets open the amount of vapor taken up is controlled.

The discussion was opened by Dr. Hewitt, who said experience convinced him of the necessity of distinguishing (a) simple chloroform anesthesia from the (b) complex condition when a surgical procedure is taking place. He holds that an unembarrassed airway must be maintained during the administration. Many admirable appliances for adjusting percentages had been devised, but in use he had often seen symptoms of asphyxia occur with them. In many cases the evidence of asphyxia was so slight that only the experienced and attentive ear perceived it. With any advantages of a percentage inhaler there are also disadvantageous; they are cumbrous, complicated, and liable to get out of order and occupy the attention of the anesthetist which ought to be rivetted on the effects of the chloroform in the patient taking it. Apparatus is not suitable in some cases. All are liable to get fouled with blood or other fluids, and can hardly be sterilized. Some impose a suction effort on the patient and involve an asphyxial element. Others permit sudden penetrations from casual movement—a serious risk. All are rather slow. An experienced administrator could keep up an equable vapor of proper percentage by simple methods. With a small Skinner's frame and a drop bottle, so adjusted that it would not be easy to drench the absorbent surface, it is questionable whether there is more risk than with percentage appliances. Dr. Hewitt does not consider chloroform the best agent to begin the administration, and whenever circumstances permit, uses the nitrous oxide—ether sequence to the point when soft snoring coincides with the not yet abolished corneal reflex, when he substitutes chloroform. The chief risk of chloroform is in the excitement stage, and this plan completely eliminates it, and is, therefore, best in the ordinary run of surgical cases.

Sir L. Brunton said an inhaler might be useful in helping to maintain a steady anesthesia, but its use is limited and success depends on the care and knowledge of the administrator. It was most important to prevent shock—whether from operation, too highly concentrated a vapor, spasm and suffocation from regurgitated food and syncope from position or interference with respiration or movements of the chest or abdomen.

Dr. Dudley Buxton said a prolonged use of the Vernon-Harcourt inhaler convinced him of its value and safety as well as its enabling the anesthetist to control the degree of narcosis. In complex anesthesia a light narcosis was safer than a deep one.

Sir V. Horsley had no doubt some form of regulator would soon be generally employed. The question was one of dosage. In the induction period 2 p. c. was enough. As soon as the skin incision was made, 0.5 or even 0.4 would keep up anesthesia. A Skinner's mask might be safe for the most experienced, but for others, not for the percentage, might rise irregularly and suddenly. With the Vernon-Harcourt inhaler he had found 2 p. c. effective o animals and men. The asphyxia mentioned by Dr. Hewi was due to overdose.

Dr. F. M. Chapman had found the Dubois apparatus excellent. It did not depend on suction. Any apparatu that did was bad.

Mr. Eve considered the Vernon-Harcourt apparatus to cumbrous, and it could not be used in some operations, a about the head and mouth. He objected to nitrous oxid on account of the cyanosis produced.

Mr. Rowell discountenanced inhalers, and said the administration could not be reduced to a mere matter o weights and percentages. He had found Dr. Levy's apparatus efficacious, but constant care would suffice; the dange was in any interference with respiration.

Dr. Scharlieb showed tracings taken in conjünctio with Prof. Schäfer to illustrate the effect of chlorofor given to animals with alcohol and atropine. In too larg a dose chloroform excited the cardiac center unduly, stopping the heart and then the respiration. Atropine prevente this, although the blood pressure fell. Alcohol diminished the tendency to inhibit, and caused the pressure o respiration to be maintained with full percentages.

Mr. Bellamy Gardner insisted on a free airway, to secure which stertor should be relieved, whatever caused i It was unsafe to completely abolish corneal reflex, as lon as a weakly reflex continued, even in one eye, respirator inhibition would not occur, but failure of breathing ofte set in as soon as both reflexes were completely abolishe If these could be abolished with the regulating appliance they were no safer than simpler methods.

Dr. A. D. Waller said asphyxia was due to retention o the chloroform in the blood. Dosage was the most important point of all. The plenum apparatus was to be preferred to the vacuum.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

CARE OF THE INSANE—AMŒBÆ IN DRINKING WATER—CULTIVATION OF PROTOZOA—AMEBIASIS—MORTALITY AMONG PRISONERS.

MANILA, November 14, 1904.

The question of properly caring for the insane of th islands is a problem that has given the authorities considerable trouble since the advent of American rule in th Philippines. At various times arrangements have bee made with the different orders of the Catholic Church fo doing this work, but the number of cases that have com under observation recently has increased so rapidly tha the facilities were no longer adequate. For a time the surplus was confined to Bilibid prison, but that institution i already overcrowded, and it was considered desirable t remove them from there. For a long time it was hope that upon the completion of the sale of the Friar lands t the Government, that the La Lomboy estate, which i situated just out of Manila, could be used for this purpose. But now the property has become involved in legal complications and it is difficult to forecast when it will become available. The next most suitable place was considered to be San Lazaro Hospital, but the room at that institution was already taken up with its various departments. However, the situation demanded that something be done immediately, and accordingly the Womens' Department for venereal diseases, will be removed December 1, 1904, to a building located in Sampoloc, the district from which most of its patients are recruited. The quarters vacated at San Lazaro Hospital will be utilized for the public insane, and it is estimated that there will be room for about one hundred inmates. The new quarters will not be ideal by any means for this purpose, but they will serve temporarily, and will be better than those provided in the past.

The presence of amœbæ in the Manila and other water supplies, has recently been the subject of considerable discussion in local medical circles. One thing, at any rate, seems certain, and that is, that there still remains much work to be done with regard to the morphology and pathogenesis of amœbæ. Only a few weeks ago, the presence of amœbæ in the water supply of Mariveles was demonstrated beyond question. This water has been exclusively used by that village for three years and since its introduction diarrheal diseases have disappeared almost entirely among the natives, although before its use it is reported that diseases of this nature were quite common. But what is much more important from a scientific standpoint, is the fact that one company (over 50 men), of American soldiers, has been stationed at Mariveles for about three years, and it has been constantly under medical observation, and not one case of dysentery occurred among the soldiers which could be traced to the Mariveles water. At the quarantine station, located at Mariveles, there have been among others seven Americans under even closer medical observation than the soldiers, and they drank this water constantly without its being boiled, sterilized, or distilled, and yet not a single case of dysentery has appeared among them. It is generally admitted among the laboratory workers of the city, that there is no way of distinguishing between pathogenic and a non-pathogenic amœbæ. The foregoing facts, however, would seem to indicate that there must be two varieties at least. Dr. W. E. Musgrave, the pathologist of the government biological laboratory, published in his recent work entitled, "Laboratory Bulletin No. 18, October, 1904. Amebas: Their cultivation and etiologic significance. By W. E. Musgrave and Moses T. Clegg. Part II. Treatment of intestinal amebiasis (amebic dysentery) by W. E. Musgrave"; is of the opinion that there is no case on record where an individual failed to show symptoms of the disease when the stools showed the presence of amœbæ for a period longer than the incubation time of dysentery. Among other things the author states that he did not succeed in growing the amœbæ in pure culture, but he was able to show that they could be better grown when the bacteria that were found in the stool with them were used for inoculating the artificial media in which the amœbæ were cultivated. By using this latter method amœbæ could be cultivated in the majority of instances (60 per cent). He was unable to grow amœbæ, unless they were in symbiotic relation with bacteria. The author also uses the word amebiasis instead of amebic dysentery, stating that the names of other affections as, filariasis, etc., are already in common use in the same way. He produced experimental dysentery in a number of monkeys and in one human being, by feeding them cultures of amœbæ. The experimental value of the dysentery produced in monkeys, however, loses much of its significance when it is remembered that it is not an uncommon thing for the monkeys kept at the government laboratory to develop dysentery without the cause being apparent. For the treatment of this disease he believes in high rectal injections of quinine solution. He does not seem to have much faith in the treatment by cold injections. He also thinks that every case in which the amœbæ are found in the stools should undergo active treatment, regardless of the fact whether there are any symptoms present or not.

That amœbæ seem to be present throughout the islands was again shown by the fact that their presence was demonstrated in a sample of water taken from the proposed site of the penal colony about to be established on the island of Paragua.

The deaths reported at Bilibid, the large Insular prison, during the nine months ended August 31, 1904, amount to a total of 207, which gives an average of 23 per month. Estimating in round numbers that the total number of inmates is about 4,000 it will be seen that the annual death rate is 69 per mille. These figures show a very large mortality. The Commissioner of Public Health has repeatedly invited attention to this high death rate and has claimed that the prison was overcrowded. Nothing was done, however, until recently when the policy was changed. Many of the prisoners were transferred to the military prison at Malahi which is situated on Laguna de Bay. It is the intention also to put others to work on road construction. Still others are to be sent to a penal colony, plans for which are now being made to establish one on the island of Paragua near the port of Puerto Princesa. It is the intention to select such of the Bilibid prisoners as have good records, to permit them to take their families with them and then to give each a piece of land to cultivate. It is believed that in a short time the prisoners would become self-supporting and that upon the expiration of their sentences they would be in better condition to become useful citizens.

USE AND ABUSE OF ATHLETICS.

To the Editor of the Medical Record:—

Sir: So many comments have been made by editors and reviewers, who are more or less in favor of athletics, regarding one statement made by me in article on "The Use and Abuse of Athletics," published in Medical Record of September 24, 1904, that I feel an explanation will not be improper.

Conclusion 5 reads: There is no evidence to prove that athletics and muscle building improve the constitution. Constitution is here considered as an inherited "general condition peculiar to an individual" (Billings' Medical Dictionary). So far as I have been able to observe there is no evidence to prove that athletes or others with built-up muscles are less liable to be attacked by any of the infectious diseases. When they are attacked the mortality rate is no lower among them than in the average individual. They succumb to diseases and severe injuries just as readily as those who are not athletes or individuals with built-up muscle. In other words, their constitutions are not improved by athletics to the extent of resisting infections or prolonging life under the conditions stated.

Brooklyn, N. Y. Robt. E. Coughlin, M.D.

Progress of Medical Science.

The Boston Medical and Surgical Journal, January 5, 1905.

Cardiac Collapse during Examination of a Postpharyngeal Abcess.—David Cheever reports this case. The patient was a child of three years, with a history of about two weeks' duration of illness, feverishness, and anorexia. The throat was sore, and there was difficulty in swallowing. The neck was swollen, chiefly on the right side. Respiration had become labored. The child was considerably exhausted, with a pulse of 140, respiration 46, and slight cyanosis of the finger-tips and lips. Examination showed a swelling obstructing the oropharynx, but the struggles of the child made it impossible to determine its exact origin. The gravity of the situation was explained to the mother, and her consent was obtained. The necessary manipulations were carried out by force, but as gently as possible. No anesthetic was employed. The introduction of the gag caused such choking and cyanosis that it was withdrawn, with immediate relief to the symptoms of asphyxiation. The gag was again placed in position, and the condition suddenly became alarming, and breathing ceased. The child was instantly laid on the table and artificial breathing begun. The picture was that of death. With the patient in the Rose-Trendelenburg position, the abscess, which was retropharyngeal, was opened and evacuated. The amount of air which was entering the lungs was not satisfactory, so a large No. 28 French soft rubber catheter was introduced through the mouth into the trachea, and the expansion of the chest by manipulation was supplemented by direct insufflation.. There was no evidence of any heart action, and cardiac massage was begun by rhythmical pressure at the rate of 60 to the minute, over the third, fourth, and fifth left costal cartilages. This massage, together with the artificial respiration, was continued for 4½ hours, till further efforts were useless. Brandy and strychnine were injected directly into the heart, the legs were bandaged firmly from toes to groin, the abdomen was manually compressed, and heaters and blankets were applied, without interruption of the respiration or massage. Death was evidently caused by cardiac collapse, due to shock. To the observers it was beyond controversy that the circulation of the blood was restored, and maintained, and that the blood was fairly well oxygenated, for feeble pulsations were detected in the radial and femoral arteries always immediately following the pressure on the heart. These pulsations were not felt when the massage was interrupted for a moment. Bleeding from incisions in the arm and neck proved the existence of circulation in the smaller vessels and capillaries, and the color of the blood and mucous membranes showed a fair degree of oxidation. The extreme exhaustion of the patient before she was brought for relief was probably a very important factor in the failure to restore the vital functions.

New York Medical Journal, December 31, 1904.

Surgical Diseases of the Sigmoid.—H. D. Niles summarizes his views in the following propositions: (1) The various pathological changes to which the physiological functions and anatomical structure and relations of the sigmoid render it especially susceptible, may be regarded as successive stages or steps of the same morbid process, rather than so many different diseases. (2) In many instances, medical treatment is fruitless and we must rely on surgery. (3) Early recognition and timely surgical intervention in initial processes may prevent later malignant disease. (4) Acute obstruction from volvulus unless promptly relieved by rectal inflation, calls for operation; so also do bowel torsions with partial or complete suture, all inflammatory or necrotic processes that include the peritoneal coat of the gut with or without angulation or stricture. (7) Inflammatory lesions and obstructive distortions of the sigmoid are by no means rare and each must be treated according to a rational surgical conception of the condition present. (8) While past surgical results are not particularly flattering, there is no reason to doubt that we shall eventually obtain just as good results as in another department of pelvic surgery. A series of illustrative cases is given.

Enuresis and Its Treatment.—J. Allman reviews the theories of etiology of this affection and summarizes treatment as (1) hygenic, (2) psychical and suggestion, and (3) physical or mechanical. He lays special stress on the massage treatment combined with atropine internally. The different steps of the massage are thus described, its object being to remedy the weakened and insufficient action of the detrusors and sphincter vesicæ: (1) the rectum is freed of feces, and massage is applied by means of the index finger to the sphincter vesicæ. The child lies in the lithotomy position and the sphincter vesicæ is gently tapped by the operator with the index finger in the rectum for half to one minute. (2) A deep circular massage is applied over the hypogastric region for two to three minutes. (3) The patient, lying in the dorsal position with knees tightly drawn together, is told to resist while the knees are drawn apart; and, with the knees widely separated, he is asked to resist while they are drawn together. The same resistant adduction and abduction movements are also employed with the legs. These movements occupy about two minutes. (4) The patient, standing against a wall or door, crosses and recrosses one thigh over the other for a period of five minutes. (5) The patient is next taken across the knee, and with the side of the hand the lumbar and sacral regions are sharply tapped very frequently by the operator, thus giving a vibratory sensation.

New York Medical Journal, January 7, 1905.

The Management of Pneumonia.—O. T. Osborne insists on the ventilation of the sickroom, and the frequent moving of the patient from side to side, so as to permit hypostatic congestion of the unaffected lung. Venesection may abort the disease in plethoric patients. Antipyrine may be given in one dose of a gramme, followed by a brisk purge, with some morphine to stop the pain. Dry cupping may be used at this stage. The old treatment with aconite or veratrum, will probably have just as good an abortifacient effect. We should not overfeed. One quart of milk with two raw eggs furnishes sufficient nutriment for twenty-four hours. Expressed beef juice is a good heart muscle stimulant. Bowels should be moved once daily. High fever may be reduced by sponging with tepid water the abdomen and extremities, but not the chest. If the leucocytosis is deficient, we should give some nuclein preparation. Poultices are permissible if desired. Codeia is the best sedative for an irritable cough; for a stimulant expectorant we may give ammonium muriate with a little ipecac in syrup of citric acid. Alcohol should be used only when the circulation calls for it. One to three drams every three hours is probably enough. Nitroglycerine will equalize the circulation; strychnine restores a flagging, tensive, and irregular pulse. Adrenalin should be used cautiously at this stage if at all. Camphor and olive oil may relieve an acute heart failure. Oxygen should be used in severe cases. It keeps the patient more comfortable, though in no way curative. Chloral and ergot may quiet delirium, morphine to be used, if at all here, with the greatest caution. The ice cap may relieve headache. The value of serum treatment is as yet unproved.

Pneumococcus Arthritis.—One case is reported by W. Litterer, whose patient was a man of 36 years, with double pneumonia. He turned the critical point, and did well till the sixteenth day, when pus was discovered in the left pleural cavity, and removed in the usual way. At this time the right knee began to swell, and fluid was removed therefrom. The patient became thoroughly septic and died on the nineteenth day after his initial chill. A septic thrombosis affected the right arm for a few hours before death. Cultures taken from the knee exudate revealed in the latter the diplococcus of pneumonia; those from the pleural exudate the same organism and also staphylococcus pyogenes, the latter predominating.

The Medical News.

Disturbances of Digestion in Infants Resulting from the Use of Too High Fat Percentages.—L. Emmett Holt believes that disturbances of digestion resulting from an excess of fat are quite as serious, if not quite so obvious, as those which follow the use of too high proteids, and that they need to be studied just as carefully. Two errors are commonly made in this work: In following the book formulas, instead of using an ordinary milk, with a fat content of 4 per cent., a rich Jersey milk containing from 5 to 5.5 per cent. fat is used. Or the physician intentionally increases the fat almost without limit, for the purpose of overcoming chronic constipation. The consequences of these mistakes may be very serious. The writer has seen many of these cases, and records a few of them that he has seen within a few months. A child of 8 months, who had been overfed with fats, weighed 21 pounds. The baby had been considered a superb specimen of physical development. He was receiving in his food not less than 6 per cent. of fat. When about 8 months old, general convulsions developed, followed later by tetany, laryngismus stridulus, and fatty liver (?). The stools were found to consist of almost pure fat. It was about three months before the child recovered, and although then he was digesting well and thriving, he weighed only 19 pounds. Another baby of 8 months had been fed with high fat percentage, notwithstanding which he suffered from constipation, and moderate rickets. Acute disturbances of digestion developed, with repeated convulsions. In another case of high fat feeding, vomiting had been persistent almost from birth. The child was very much wasted, and weighed at ten months, only 2¾ pounds more than at birth. The condition of the child was alarming. Change in food and stomach-washing resulted in recovery. Not only gastric catarrh may follow the use of very high fat, but disturbances of intestinal digestion may occur, and even chronic constipation may be greatly aggravated by such feeding. The physician, in order to correctly interpret the result of milk examinations, must learn to think in percentages. Children differ very much in their capacity to digest fats, just as they do in other respects. The writer has never seen any advantage, but often much harm, from raising the fat about 4 per cent. He considers this the limit for the average child. Whenever there are marked symptoms of either gastric of intestinal indigestion, the fat should be reduced much below the normal 3 or 4 per cent.

Anal Fissure.—William M. Beach discusses in this paper the simple traumatic type of anal fissure. The mucous membrane in the anal region is very delicate, and thus easily wounded by the passage of hardened feces, the introduction of a syringe tip, or unskilful use of specula. Fissures may follow operations for removal of hemorrhoids, fistula and adenoids. Some authorities believe that painful ulcer is more frequent in women on acount of parturition. Proctitis is generally a concomitant symptom of fissure, in which is found the presence of feces that finds lodgment in one of the anal pockets. A foreign body lodged behind the crypt is apt to cause damage. In a certain number of cases, the foreign body will infect a pocket and burrow its way under the mucosa. This condition is commonly known as a blind fistula. The writer calls it a concealed ulcer. A newly made fissure is comparatively free from pain. But when the stage of sphincteralgia is reached, and the so-called "sentinel" pile is formed, severe, tearing pain follows a stool, subsiding only after a period of two or three hours, when the paroxysms of contractions cease. If the ulcer be located between the sphincters, and be irregular in shape, the nagging and sense of weight may continue the entire day. The pain is generally reflected to the sacrococcygeal region. Patients suffering from fissure are, as a rule, high-strung and melancholic. Reflex pain may be felt in the region of the bladder, prostate, urethra and testicles, ovaries, tubes and uterus. These pains may also be felt in the thighs, legs, heels, and back of the neck. Flatulent dyspepsia sometimes develops. The speculum, except in very obscure cases, is rarely required to locate an ulcer. Most diseases of the anal rectum are found between the ental and ectal sphincters. The treatment of anal fissure will depend upon the stage of the disease. In the first stage, a laxative and topical use of iththyol will usually result in cure. When the sphincteralgic stage has been reached, surgical measures are demanded. Local anesthesia may be used. The secret is to overcome the paroxysmal contractions. Stretching the sphincter is unnecessary. The best procedure is to cut a few fibers directly back of and beneath the ulcer, and then to cut through the base of the lesion. The second incision should extend above and below the margin of the sore, and then the indurated margins should be trimmed and all the granulations curetted. Sinuses should be opened first. The margins of the wound after the operation, must be kept apart by daily insertion of the finger and the application of ichthyol or silver nitrate, gr. xx to the ounce, to a healthy granulation. The electrocautery knife, advocated by the writer, is used extensively.

American Medicine, January 7, 1905.

Tuberculosis in Japan.—S. Kitasato, after a thorough review of human and bovine tuberculosis in Japan, concludes human tuberculosis is as frequent in Japan as in the civilized countries of Europe and America. Primary intestinal tuberculosis is relatively common in adults and children, although cow's milk plays no rôle at all in the feeding of children. There are large districts in Japan, where, in spite of the existence of human tuberculosis the cattle remain absolutely free from the disease. In these regions it is not customary to consume either meat or milk from bovines. This is very important proof for the fact that under ordinary conditions human tuberculosis is not infectious for bovines, as the opportunities for infection certainly cannot be lacking. Among Japanese in general very little cow's milk is used, especially in the dietary of children. Under natural conditions the native animals show but little susceptibility for tuberculosis. If large doses of tubercle bacilli are inoculated into them either intravenously or intraperitoneally, they become tuberculosis to a certain degree; they do not seem to be at all susceptible to subcutaneous infection. The imported and mixed-race animals are very susceptible to tuberculosis. Human tuberculosis is not infectious for native and mixed-race animals.

Is Mortality Necessarily Higher in Tropical than in Temperate Climates?—V. Havard asks whether mortality is much higher in tropical than in temperate climates, because of the inherent and necessary effect of meteorologic conditions, or because of violation of sanitary laws. Mortality is the resultant of many factors, of which latitude is only one, and, in the opinion of the writer, not the determining one. The chief physical elements of a tropical climate are great continued heat and a high degree of humidity; but if the diet and habits are so modified as to diminish the calorifacient function, no injurious effect need result even from prolonged exposure to these conditions. Moist heat doubtless promotes the generation of micro-organisms, but the worst of these, those responsible for cholera, plague, yellow fever, malarial fever, and tuberculosis, make as many victims in temperate as in tropical climates under favorable conditions. The high deathrate of the tropics is due to endemo-epidemic diseases, whose cause and mode of propagation are now pretty well understood, and which, therefore, are to a large extent preventable. Yellow fever will soon be completely eradicated, malarial fever is steadily diminishing, and cholera and plague have almost disappeared from our colonies in the Pacific. Tuberculosis is more easily and successfully combated in warm countries, where patients can remain much of the time out of doors. On the other hand, most of the acute diseases which cause the bulk of the mortality in temperate and cold countries, such as pneumonia, diarrheal diseases, Bright's disease, cancer, diphtheria, scarlet fever, typhoid fever, etc., are mush less frequent and of a milder type in tropical countries. Havard concludes that climate plays but a secondary rôle in the production of disease. Mortality in any country is chiefly dependent upon its degree of civilization and the quality of its government. Thus Havana, under Spanish government, had a mortality of 36 per 1,000, which during the American occupation fell to 21.

Observations Upon Astigmatism.—Doane bases his observations upon a careful study of his last 500 cases. A cycloplegic was used in most patients of 45 and under, and in some over. Beside the usual methods for guiding the axis of astigmatism, the Maddox rod test was frequently employed. Of the 500 cases 6.2 per cent. only were without astigmatism; the right eye alone 4 per cent, the left eye alone 3 per cent.; 5.2 per cent. were hyperopic, 1 per cent. myopic, while myopia including myopic astigmatism furnished 20 per cent of all cases. Mixed astigmatism was found in both eyes in 6.6 per cent.; right eye alone 4.2 per cent., left eye alone 5 per cent.; while astigmatism "against the rule" existed in both eyes in 12.8 per cent.; right eve only 8.2 per cent., left eye only 5.8 per cent., and in both or either 26.8 per cent., which shows this disposition of the axis is not uncommon. As astigmatism is the source of various local and systemic disturbances, it requires accurate correction for allayment of symptoms. The optician is not competent to do the work, and the oculist should have the undivided support of the profession, to the end that ultimately all such patients may have the benefit of his skill.

Cerebellar Abscess.—John H. Allen reports a fatal case of cerebellar abscess in which, owing to its indefinite course a correct diagnosis was not made. The disease began with acute otitis media accompanied by mastoiditis. Brain abscess was suspected, but it was not localized in the cerebellum. Three operations failed to reveal the seat of the disease. Post-mortem examination disclosed a large abscess of the cerebellum.

American Medicine.—E. J. Kempf treats this subject under the headings of colonial medicine and the medical history of the United States. In reviewing colonial medicine Kempf describes the difficulties which the medical men of that period had to contend with, as well as their achievements. Though there were medical colleges in America then men depended largely on the European schools of medicine. Under the second heading he sketches briefly the work done by illustrious American physicians; emphasizes the importance of American medical literature evidenced by superior journals, text-books, etc., and cites the influence of "medical societies," both national and state, which taken all together have built up a history which to-day gives the United States the foremost place in medicine in the world.

Journal of the American Medical Association, January 7, 1905.

The Passage of Different Foodstuffs from the Stomach.—W. B. Cannon believes that after food reaches the stomach all evidence suggests that the signal for an onward movement into the bowels is the appearance of free acid. This on the gastric side of the pylorus is the stimulus which opens the latter and initiates the chemical control of the sphincter. Consequently a portion of the acid chyme passes through. Duodenal acid closes the sphincter, but it is known to be the stimulus for the flow of the alkaline fluids of the pancreas. No inorganic acid is normally present beyond the first few inches of the small bowel. The acid is, therefore, here neutralized. As the neutralizing of the acid proceeds, the stimulus to the closing of the phylorus is weakened and again the stomach acid opens the pylorus and the process is repeated until the stomach is empty. On this theory of automatic action, the carbohydrates on which the stomach works no change, go early and quickly into the intestine, where they meet their proper ferment; thus, automatically, proteids are retained in the stomach to suffer alteration by the gastric juice, and only after such alteration be permitted to go on; thus, automatically, the intestine is saved from oppression by overwhelming discharges from the gastric reservoir; and, by this same automatic mechanism, the gastric secretion, harmful to the action of the intestinal ferments, is rendered harmless because of its admission little by little into the duodenum.

The Diagnosis of Enlarged Bronchial Lymph Nodes.—Broadly stated, the physical signs of enlarged bronchial lymph nodes are, according to A. Friedländer, always those of compression, but in the early stages of the condition, it is not easy to positively determine the existence of the enlargement. An accompanying cervical adenitis is always a suspicious condition, the glands are over the sternum, being more often involved in connection with the bronchial nodes. Percussion yields no positive information. Broncho-vesicular breathing on the left side with prolonged and very harsh expiration is always suggestive. Rough breathing on the right side in children must be taken cautiously. Definite bronchial compression will naturally give a diminished respiratory murmur. Other signs of importance are distended cervical veins, facial edema and atalectasis of one lung with cardiac dilatation. Recently the author has made a series of blood counts on ten patients and finds in all a lymphocytosis. This he looks upon as a reactive process due to glandular irritation. He also notes that in two diseases in which we know clinically a tracheo-bronchitis exists—pertussis and measles—there is a constant lymphocytosis and this he is inclined to attribute to the irritation of the tracheo-bronchial glands.

The Importance of an Early Aural Examination in Acute Diseases of Children.—A plea for such examinations is made by J. F. McKernon, who notes that aural lesions in children are common in not only the exanthemata, but also in gastro-intestinal diseases, lacunar tonsilitis, enlarged tonsils, coryza, non-pharyngeal catarrh, typhoid fever, and mastoiditis. Eczema of the external auditory canal should always lead to examination of the ear. In making the examination care should be taken that the speculum be not too large and that the auricle be drawn gently downward and backward. Cerumen calls for syringing with warm sente water previous to the use of the speculum. The various clinical conditions commonly found in the drum are described and early paracentesis advised in the event of the accumulation of inflammatory products in the middle ear.

Congenital Dislocation of the Hip.—H. M. Sherman gives his experience with arthrotomy in this condition and states his results as follows: There have been 28 hips in 20 children submitted to reduction by arthrotomy. The oldest was 11 years, the youngest was 10 months. Between these ages there were 3 in the second year of life, 3 in the third year, 5 in the fourth year, 2 in the fifth year, 1 in the sixth year, 1 in the seventh year, 1 in the eighth year, 1 in the ninth year, and 1 whose exact age is not known, but, as I remember, it must have been about 6. In each instance the femoral head has been put into the acetabulum cartilage to cartilage. Seventeen hips are known to be in stable position, with the head in the acetabulum, at times varying from 2 months to 6 years after the operation. In those children who were operated on earlier in life—below 7 years—there is ample range of motion at the hip, so that they can sit down, and can go up and down stairs, and can run and jump. In these younger children there is no tendency to ankylosis. In those who were older there has been a tendency to ankylosis, which has had to be combated, or else a practically immobile hip has resulted. This may be a permanent condition or the joint may work loose, the final result depending more on the disposition of the child—for the active child will develop motion when the passive child will not—than on any condition in the hip. Eight hips are known to be subluxated or reluxated, and the times of observation are about the same as in the group just cited. In three hips the final result is unknown. Dr. Sherman's paper is a protest against the unqualified acceptance of the claims of Lorenz. He does not believe that the latter obtained good anatomical results in half of his cases, and possible accidents of the Lorenz method are fractured bones, injured nerves, lacerated muscles, torn capsules, and ruptured blood-vessels.

The Lancet, December 24 and 31, 1904.

The Parasites of Small Pox. Vaccinia and Varicella.—W. E. de Korté claims to have discovered an amœboid protozoon in the lymph of variola, vaccinia and varicella, as well as in the analogous disease, amaas or Kaffir milk pox. The parasite of vaccinia and variola is described as an amœboid organism about 1-2500th of an inch in diameter, its protoplasm containing highly refractive greenish particles regarded by the writer as spores, which in many cases render the nucleus invisible. On the warm stage in the case of the amoeba found in human vaccine lymph there is very active amoeboid movement, while in the case of that from small pox lymph although alteration of contour occurs no pseudopodia have been seen. In glycerinated calf lymph large amœbæ are to be observed which are regarded as encysted forms. The amœbæ can best be studied in hanging-drop preparations of the lymph itself, and since they are very easily destroyed by the manipulative process required for staining they may not be found in stained preparations, although they are capable of being stained. The writer discusses the possibility that the supposed organisms may be leucocytes and negatives it among other reasons because they persist in the lymph for as long as six months, whereas leucocytes in human blister-fluid disappear after fourteen days even though kept at the body temperature, which would hardly seem a very cogent reason in the absence of details of the origin of the blister fluid or of information of the duration of life of leucocytes in vaccine or variola lymph. No multiplication of the amœbæ by direct division and no sexual reproduction has as yet been noted.

Some Observations on Convulsions in Children and their Relation to Epilepsy.—R. O. Moon says that to many practitioners, convulsions in children are referred generally to either teething, tuberculosis, meningitis or epilepsy. He shows, however, that the matter covers a wider etiological range. Among predisposing causes are heredity and alcoholism of parents. The first fit may come from rickets, specific fevers, trauma, indigestion, emotional shock or indefinite illness. A convulsion in a child should not be looked on merely as an accidental, intercurrent event without further evil effect on the child's life and growth. The cause must be searched for and if possible removed, for if the attacks recur they may easily lead up to what really becomes epilepsy. Even where there is no hereditary factor, and assuming that a peripheral irritation is adequate in itself to produce a convulsion in a perfectly normal brain, yet the mere fact of the convulsions being often repeated makes the brain cease to be normal and creates a distinct pathological basis for the production of epilepsy. Even if this does not happen, the effect on the mental and moral condition of the child is disastrous in the extreme. Extreme unstability, liability to passionate outbursts, mischievousness and destructive tendencies are all possible dangers. Homicidal attempts have been occasionally noted. In regard to treatment, the author has found borax of great service even when potassium bromide has failed.

The Treatment of Streptococcic Puerperal Fever by Antitoxic Serum.—A. G. R. Foulerton reviews the steps of the work in this direction and then gives his own experience. In connection with Bonney, he has found streptococci of one sort or another in the uterus in 46.3 per cent. of a series of 54 cases which we have examined, and in these cases the organisms have been found under conditions which indicated that they were the primary cause of the fever. If, however, we exclude the less severe cases of fever occurring after childbirth and consider only those which either ended in death or were clinically of a distinctly serious nature we have found streptococci present as the presumable cause of disease in 62.5 per cent. These authors are convinced that there is more than one distinct species of germ concerned in these cases and describe their own method of preparing a serum. They note that with any of the sera now in use it is advisable to commence with an injection of at least twenty cubic centimeters and we must be prepared to renew this dose, if necessary, at least every twenty-four hours. They refer to the prejudice among the physicians at large with reference to untoward effects following the injections such as rashes and transient arthopathies, but do not regard them as any more common with antistreptococcic serum than with any other. A greater frequency, if present, is doubtless explained by the larger dose necessary than with other sera.

A Case of Variola Following an Unusual Course.—R. Rolfe reports the case of a man of thirty years, who after exposure to the disease, presented the usual features of a moderately severe initial fever of variola, but during one night his temperature fell to normal and no rash could be found. He was vaccinated for diagnostic reasons. The temperature remained normal and he felt well. In a day or two some papules appeared, soon becoming vesicular, and it was decided that the patient had a modified variola. The case is of interest in view of the absence of all severe symptoms, and the presence of a normal temperature. The author notes that the case might have been easily overlooked or at most considered as simply influenza and dismissed without an appreciation of its gravity.

British Medical Journal, December 24 and 31, 1904.

An Operation for Fixing Movable Kidney.—Andrew Fullerton describes an operation by which a movable kidney is slung up by its own capsule in excellent position, although of the angle between the last rib and the erector spinæ about 4 inches long is made from a little to the vertebral side of the angle between the last rib and the erector spinæ about a finger breadth below the rib, in order to avoid all risk of injury to the pleura. The incision is deepened down to the thin transversalis fascia which is first nicked close to the vertebral end of the incision to avoid wounding the peritoneum and intestine. The kidney is then found, and pushed up to but not out of the wound, and a small puncture is made in the true capsule, so that a probe may be insinuated and a large blister gradually separated from the posterior (vertebral) surface and outer border of the kidney. A horseshoe-shaped flap of capsule can be separated, so that the base is just above the center of the horizontal axis of the kidney. One blade of a blunt-pointed pair of scissors is now inserted under the blister, and the margin cut. The inner limb of the incision may be made a little longer than the outer, to preserve the inner tilt of the upper border of the kidney. The finger is now insinuated under the ligamentum arcuatum externum and the tissues on its deep surface peeled up, so as to get rid of the pleura should it be lower than usual. With the finger protecting the pleura, an incision is made about one-third of an inch above the lower margin of the ligament and parallel to its fibers for the whole available distance between the quadratus lumborum and the tip of the last rib. The last dorsal nerve should be avoided. A pair of Kocher's artery forceps is pushed through the slit that has been made, and the free end of the separated capsule is drawn through, spread out, and stitched down to the ligament and neighboring parts with formalin catgut or silk. The kidney is thus slung as on a pulley. If necessary, stitches may be used to unite the capsule at the margins of the raw surface to the lumbar fascia at the sides and below. The wound is sutured in layers. The operation is easy to perform and according to the writer's short experience, fixes the kidney effectually.

A Note on the Treatment of Thrombosis of the Superficial Veins of the Lower Extremities.—C. Mansell Moullin says that prolonged venous stasis with consequent malnutrition of the walls of the veins is the usual predisposing cause of superficial thrombosis, and some trivial injury, perhaps scarcely noticed at the time, does the rest. The usual treatment for these cases is prolonged rest in bed with the leg elevated, and covered either with lead lotion or with some mixture of extract of belladonna and glycerine. The writer has, however, for some years abandoned this treatment and has at the earliest opportunity excised the whole thrombosed part of the vein. His results have been excellent. The wound is sound in a week and the patient can get up without any risk of embolism, deep thrombosis, or recurrence. In one case, both internal saphena veins were plugged right up to the saphenous opening. The vein was carefully exposed, and slit open close to its termination, the clot was withdrawn and a catgut ligature was tied around the vein immediately below its junction. The rest of the vein was then excised, and the patient left the hospital within a fortnight. Deep communicating branches, the anatomical situation of which is fairly constant, should, if thrombosed, be treated in the same way. A moderate degree of inflammation does not seem to make any difference. It subsides as soon as the vein is removed. In such a case the wound should not be sewn up tightly, as there is sure to be a considerable amount of oozing afterward.

Chrysoidin in Trypanosomiasis.—Andrew Balfour found some years ago that chrysoidin was extremely lethal to fish. This was true when even very dilute solutions were used. This of all the dyes that were used in various experiments seemed to have the greatest penetrating power. It appeared to pass readily into the blood stream and undoubtedly possessed a marked affinity for the central nervous system, staining the brain and spinal cord a brilliant yellow. Although so toxic to fish and other low forms of life, comparatively large doses could be given with impunity to rabbits. Its toxic action, the writer believes to be due to the fact that it is an azo compound. Although its effects are very similar to those of methylene blue, it is more poisonous and more speedy in action. Chrysoidin has met with favorable results when given in bilharzia disease. The writer thinks that it may be found beneficial in cases harboring protozoal blood parasites, and hopes to induce those who have the opportunity of trying it in cases of trypanosomiasis to do so.

A Tubal Pregnancy of Some Years' (?) Duration.—E. Hurry Fenwick was called to see a patient of 45 years, who had a large abdominal tumor, fecal urine, pneumaturia, hectic temperature of long duration, and great emaciation and cachexia. Cystoscopy showed that the bladder was comparatively healthy. It bulged forward, and under the prominence was a fistulous opening. The diagnosis of suppurating ovarian dermoid was made. An incision was made into the tumor above the pubes. Pus, feces and gas escaped in large quantities. After thorough irrigation, a bare fetal femur appeared and then a humerus. A macerated fetus was now felt lying in a puddle of corruption.

The writer tried to open the peritoneal cavity at the sides in order to dissect out the wall of the fetal sac, but the bowels were adherent to it and were also softened. The cavity of the sac had to be packed. The patient rallied, but died in a few hours. The patient gave the history of having become pregnant 8 years before. The various symptoms of pregnancy had gradually disappeared, but a large "lump" remained in her side. Three months ago she received a hard blow on this lump. Two days later she suffered great pain in her abdomen and she had been sick ever since. Post-mortem examination showed a left tubal pregnancy which had suppurated, becoming adherent in every direction and had finally perforated into the bladder and sigmoid bowel. The fetal sac could not be dissected away from the hollow viscera which surrounded it. The bones showed the fetus to be about the fifth month.

A Preliminary Note on the Bacteriological Findings in Seven Cases of Enlarged Prostate.—L. S. Dudgeon and Cuthbert Wallace in their examinations of enlarged prostates have discovered that in the greater number of cases the tumors removed from the prostates showed unmistakable signs of infection by microorganisms, and that in some instances the infecting organisms were the same as those found in the urine. These observations, to a certain extent, lend support to the view that the initial lesion in prostatic enlargement may in certain cases be a septic infection from the bladder. Yet it is difficult to accept the view that all such enlargements are due to such a cause as this would mean septic infection of a large proportion of bladders in individuals over 50 years of age. The most careful antiseptic precautions were observed in all of these proceedings. Although a medium of blood agar was used in each case for the examination of the prostatic tumors, gonococci were not isolated. Pure cultures of the staphylococcus albus were obtained; the bacillus coli was also isolated. A brief history of several cases is given.

A Test for Constipation.—C. Graham Grant believes that many people complain of constipation when this condition is not really present, and also that many individuals think that their bowels are in good working order when constipation really exists. He believes that the test depends upon the time consumed by the passage of food. If the morning motion consists of the débris of the food consumed during the previous day, constipation does not exist. If, instead, the débris of food consumed some days previously forms the stools, constipation does exist. In many cases this is an important matter to determine. The writer suggests giving a tablesponful of animal charcoal to doubtful subjects and time its appearance in the stools. In normal persons it comes through in 24 hours. In one case it delayed for a week. This patient, moreover, thought because she went to stool every morning that she could not be constipated. This test is of value in suspected intestinal obstruction. It is also possible by this test to convince mothers that their children do not need castor oil every night. The gritty charcoal is unmistakable in the excreta.

Berliner Klinische Wochenschrift, December 12 and 19, 1904.

The Physical Properties of Solutions in the Human Stomach.—Sommerfield and Roeder were able to make freezing point determinations on human gastric contents uncontaminated with saliva, by using as a subject a girl of ten years old who in consequence of total cicatricial occlusion of the esophagus was fed through a gastrostomy wound. It was found that all solutions introduced into this stomach suffered a change in their molecular concentration, those istonic with the blood and those hypertonic becoming more dilute, while those hypotonic to the blood increased in density. Hypertonic solutions even after a sojourn of several hours in the stomach, reach a point which is still above the freezing point of the blood and therefore leave the stomach in a hypertonic state. In no case could any augmentation of the amount of fluid in the stomach be detected.

The Eye Lesions of Chronic Lead Poisoning.—L. Lewin gives a list of occupations in which more or less serious damage to the eyes of the workmen is likely to result. Substances likely to be dangerous to workers are carbon disulphide in the vulcanization of rubber, ethyl bromide, mercury in all forms, wood alcohol, arsenic, dinitro-benzol, anilin and anilin colors, carbonic oxide, hydrogen sulphide, lime, chinon compounds and lead. The last of these is often underestimated in importance but forms a most treacherous and dangerous foe to the workman. The author cites thirty different trades in which the use of lead was followed by damage of greater or less degree to the eyes of 130 patients. The gravity of the condition is shown by the statistics of 114 cases in which cure could be effected in only 40, while atrophy of the optic nerve was noted 36 times. The ocular symptoms caused may be of many sorts and degrees of intensity but even when cured always leave the patient with a susceptibility to the poison which makes a continued exposure very hazardous.

Hypochondriasis.—Schott maintains that hypochondriasis is not a nosological entity but that it represents one of the manifestations of degeneration. Hypochondriac states are often associated with neurasthenia and hysteria, and may appear in any form of insanity. In dementia praecox hypochondriasis demands especially careful analysis owing to the danger of confounding it with simple neurasthenia or hysteria. In aggravated cases the tendency to suicide or self-mutilation must always be reckoned with and in hypochondriac insanity there is always more or less danger to the attendants. A state of hypochondriasis always demands a careful physical examination and all sources of peripheral irritation must be removed as completely as possible. The treatment must be directed to the underlying condition, but the use of drugs should be restricted.

Syphilitic Infection of Horses.—Piorkowski reports interesting results following an attempt to infect a horse with syphilis. The successful infections recently made by various observers on monkeys led the author to make use of the blood of patients who had been subjected to a more or less vigorous mercurial treatment, thinking that in this way a certain reactive effort on the part of the parasites would give rise to the formation of an especially active serum. Small amounts of blood were taken from 80 patients in various stages of the disease and injected into a horse, either subcutaneously or intravenously, in quantities of 5-10cc. Each injection was followed by a moderate febrile reaction and the injections were repeated as soon as this had subsided. The treatment was well borne, and four weeks after the first inoculation a fairly well marked papular cutaneous eruption appeared, which both in its gross characters and microscopical structure was pronounced syphilitic in nature by various specialists. Glandular enlargements also developed. The serum obtained from the horse was found to be harmless to small animals and the author is prosecuting further control experiments on other horses.

Münchener medizinische Wochenschrift, December 13 and 20, 1904.

What Is the Value of Leucocytosis in Appendicitis?—Federmann takes issue with the writers who have recently decried the value of leucocyte counts in appendicitis and says that the degree of leucocytosis before operation furnishes the most reliable prognostic evidence we have. Operation performed when leucocytosis is high gives a good prognosis, but the outlook is unfavorable if the clinical symptoms are severe and leucocytosis is slight or absent. The value of the information obtained from the leucocyte count depends entirely on the manner of its interpretation, for all the other symptoms and the stage of the illness must also be taken into consideration. In all cases of severe infection the leucocytosis is high, 20,000 or over, in the first few days, but this does not necessarily indicate the presence of pus. If the patient's powers of resistance become impaired the leucocytosis drops while the other symptoms increase in gravity. Simple appendicitis without involvement of the peritoneum only rarely exhibits a leucocytosis of 20,000, and if present this rapidly subsides to normal together with the other symptoms. A leucocytosis of 20,000 in the first few days is an indication for prompt operation, as well as a low count with grave clinical signs. Moderate counts, between 12,000 to 20,000, in general are to be subordinated to the other features in coming to a conclusion as to the line of treatment.

The Treatment of Bony Ankylosis of the Elbow.—Schanz describes a plan of operation which he employed with success in a case of ankylosis of the elbow following rheumatism. On exposing the joint it was found that the ulna and humerus were the seat of a complete bony union which did not, however, involve the radiohumeral articulation. The plan of procedure consisted in chiseling out enough of both bones at their point of union to leave a crevice 1 cm. wide. A pedicled flap of subcutaneous fatty tissue was dissected up and pushed into the space between the ends of the bones and the wound sutured. The result of the operation was a painless restoration of usefulness to the arm without any evidence of a tendency to relapse, and the author warmly recommends a trial of the interposition of fat flaps in all similar conditions.

A Case of Chromhydrosis.—Platter describes the case of a woman of middle age who suffered severely from attacks of migraine. These could be controlled only by the use of large amounts of coal tar analgesics, which had been consumed in great quantities for about three years. For the same length of time the patient had suffered from a very profuse avilary secretion of deep blown, thick sweat, which required daily changes of linen. Under vigorous hydropathic treatment the migraine was relieved to such a degree that the analgesics could be dispensed with and the chromhydrosis disappeared also. A single dose of the coal tar preparation sufficed to cause a return of the condition for twenty-four hours.

Modern Theories of Eclampsia.—Wormser and Labhardt have conducted further experiments in an attempt to establish the value of certain modern views as to the nature of eclampsia. The three most important of these theories are those of Veit, Ascoli, and Weichardt. The first author assumes that syncytial elements washed into the maternal blood stream are the cause of eclampsia. Ascoli accuses an overproduction of syncytiolysius, and Weichardt believes that in the process of syncytiolysis, syncytiotoxins are produced and give rise to the disease. The author's experiments were conducted on the serum of rabbits adapted to placental extract obtained from fresh placentæ washed free from blood and hashed under the most scrupulous aseptic precautions, but, like those of other investigators, the results obtained showed so many inconsistencies compared with preceding observations that the authors feel the subject is still in too unsettled a state to permit the formation of definite conclusions. Although the matter rests in so unsatisfactory a position the authors do not go so far as Pollak, who, in consequence of the negative nature of his similar experiments, discredits the possibility of applying the modern lore of immunity to the question of eclampsia and seeks for the cause of the condition in maternal intoxication with products of fetal metabolism. A case of Hitschmann's in which eclampsia accompanied a mole pregnancy without a fetus proves that this theory alone is not sufficient to explain the phenomena, and certainly does lend some color to Veit's hypothesis.

Leucocyte Counts and Early Operation in Appendicitis.—Berndt, who is a warm advocate of early operation in this condition, says the leucocyte count, while of value when high, may be misleading, as suppuration may be present with a normal number of white cells. A more reliable index as to the nature of the case is to be found in the pulse. The behavior of the pulse is the decisive factor in determining between the severe and mild types of appendicitis and its abnormalities are earlier and more regular in their appearance than any other symptom. If a pulse rate of over 100 accompanies the initial symptoms of pain, vomiting or nausea, the case is to be regarded as a serious one and should be kept under constant observation, the pulse being recorded hourly. If the rate remains at the same height or rises during the ensuing six to twelve hours, operation is indicated and delay is dangerous. Early operation performed by a competent surgeon is without danger, and cases seen some time after the onset of the symptoms should be promptly operated, no matter what the day of the disease, if the pulse rate exceeds 100. Early operation offers the only means of reducing the mortality from appendicitis.

Deutsche medizinische Wochenschrift, December 22, 1904.

A New Method of Obtaining Antibodies.—Loeffler says that considerable difficulty has been experienced in obtaining antibodies from animals, owing to the fact that the substances injected were often infectious and killed the animals. By experiments on various forms of albumen, bacteria and albuminous substances, such as portions of organs from cases of various diseases, carcinoma, serpent venom, etc., he has established the fact that it is possible to sterilize these agents without impairing their antibody producing power. The substances are first dried at low temperatures and placed in a desiccator till there is no further loss of weight. They are then subjected to a temperature of 150° C. in a closed drying oven for a period of half an hour. Both agglutinins and bacteriolysins can be produced by this method, as the preliminary heating appears not to introduce any disturbing factors. The plan offers the further advantage of permitting the preservation for indefinite periods of material for such investigations.

The Effect of Sea Water on Sunlight.—Leo has investigated the interrelationship existing between sea water and the sun's rays. The fact that there must be some intensifying influence present at the seashore is shown by the greater severity of the solar erythema caused by exposure under these conditions, and the author's experiments bear out this inference. Oxidations in certain chemical bodies were produced when these were dissolved in sea water and exposed to sunlight, but did not occur in the dark or when plain water was employed. The decomposing effect of light on enzymes and yeast cells is not increased by the presence of sea water, and in some instances it appears to reduce the photodynamic activity of the light. Boiled sea water, as well as that artifically prepared, seems to have the same protochemical properties as the natural product.

The Protective Action of the Zinc Chloride Eschar.—Bröse, who is an advocate of zinc chloride as a cauterizing agent, has studied its action on wounds as a protective against infection. Experiments were made on rabbits and on bacteria directly. The author concludes that even in concentrated solutions, zinc chloride is wholly devoid of antiseptic properties, but that the eschar it produces when brought into contact with aseptic wound surfaces absolutely prevents subsequent infection with pathogenic organisms. The penetrating powers of the caustic are so great as to give it the ability to protect the wound against infection even if it is not applied until the expiration of a minute after the infective agent. The eschar produced is not a culture medium, for bacteria and pathogenic organisms cannot be recovered from experimental eschars two or three days after their application to it.

French and Italian Journals.

Treatment of Frontal Sinusitis.—Sebileau declares that a certain number of cases of acute frontal sinusitis recover after very simple operative procedures. It is even probable that a certain number have recovered without operation. When the affection is chronic, intervention is indicated—destruction of the fungoid growths. After resection of the anterior wall of the sinus, the writer cleanses the cavity, and removes all of the diseased parts, avoiding injury to the cribriform plate. It is to the destruction of this bone that the greater number of cases of meningitis are due. The writer is careful not to cause any pressure by means of the dressings. In one patient, he replaced the wall by a gold plate. The result was satisfactory.—*Journal des Praticiens,* December 3, 1904.

Apropos of the Mechanism of Propagation of Cancer of the Breast.—According to Tuffier, the propagation of cancer of the breast can occur in two ways, which are well known. One of them, however, has not been described. It concerns those small cancerous foci that are seen to reappear at a certain distance from the cicatrix. These foci develop in the thickness of the skin and are completely independent of the lymphatic system. Tuffier has been able to isolate and examine one of these neoplastic nodules, and has determined that the epidermis was intact and that the glandular cancerous cells were in the hair follicle. The patient had had an ulcerated cancer of the breast, and it was probably by means of the dressing which she applied to the tumor that the propagation to the hair follicle took place.—*Le Bulletin Médical,* December 3, 1904.

Serious Lesions from the Bite of a Viper Treated by Calmette's Serum.—Moindrot cites a case in point, the patient being a child of 8 years. While playing near a woodpile, the boy was bitten by a viper, on the right ring-finger. The wound was not considered serious, the child's parents being satisfied with pressing the injured finger, thus forcing out a small quantity of blood. A few minutes later the boy began to complain of a sensation of distention in the region of the injury, a sensation due to edema, which increased at an alarming rate. On his entrance to the hospital, seven hours later, the patient's condition was very grave. There had developed edema of the fingers, hand, entire right arm; of the cervical region of the same side, and of the anterior surface of the thorax as far as the lower border of the floating ribs. This edema was slightly painful and rather tense. These parts were cold and livid, and spotted with ecchymotic areas. The wound itself had no special features. The general condition was bad. The child could not stand up; he was indifferent to all about him, and groaned when he was examined. The pulse was weak, compressible and irregular. The extremities were cold. The respiration was accelerated—30 per minute. No urine had been voided since the accident. Although the condition seemed desperate, Moindrot made an injection of 20 cubic cm. of Calmette's serum, at the same time making a crucial incision at the site of the wound, bathing it in a solution of permanganate. This treatment was followed by the application of a wet dressing to the entire arm. The child was put to bed, and artificial heat applied. Caffeine was injected as well as artificial serum. From the next day, the condition was more satisfactory. A series of injections of permanganate was given in the lower thoracic and in the cervical regions. Recovery took place by degrees, although it had been seven hours after the accident before treatment was instituted.—*Revue Française de Médecine et de Chirurgie,* November 28, 1904.

The Nervous Ganglia of the Stomach in Some Gastric Diseases.—D'Amato refers to experiments made by him with reference to the alteration of the nerve ganglia in gastric diseases. Gastritis produced in dogs by administration of alcoholic mixtures causes changes in the plexuses of Meissner and Auerbach, consisting of hyperemia, chromatolysis, vacuolization, cariolysis, and atrophy of nerve cells. In cases of long continuance there was increase in the formation of connective tissue, even amounting to glandular sclerosis. They observed cases of pyloric cancer and chronic gastritis in man, and found the same lesions there. The glandular lesions may be explained as the result of poisonous substances, either introduced into or formed in the stomach. Such lesions, together with the alterations in the mucous membrane, are the basis of gastritis. What symptoms they produce we cannot as yet say.—*Rivista Critica di Clinica Medica,* November 19, 1904.

Book Reviews.

Weather Influences. An Empirical Study of the Mental and Physiological Effects of Definite Meteorological Conditions. By Edwin Grant Dexter, Ph.D., Professor of Education at the University of Illinois. With Introduction by Cleveland Abbe, LL.D. New York: The Macmillan Company; London: Macmillan & Co., Ltd. 1904.

The effects of weather changes upon physical and mental states are so evident that literature and folk-lore are full of references to them. The popular beliefs are contradictory, as nothing exact was ever known of the matter, and we have been content to state that we are "under the weather" as sufficient explanation of every abnormal act, ill feeling, or minor ailment. Professor Dexter has, therefore, performed a valuable work in classifying an enormous number of abnormal acts, as to their commission in different states of the weather, and has discovered unsuspected relationships, the results in some cases being the opposite of popular beliefs. His investigations were primarily undertaken to discover the reasons for those occasional periods of bad work or bad conduct of school children, which have been the despair of teachers. He has shown, for instance, that the deportment of children is best in the winter months, but that it begins to deteriorate in the spring, and continually deteriorates to a maximum of badness in June; it is good on very cold and very hot days, but is at its worst in moderate temperatures; it is best on days of high barometer, and when the humidity is greatest—the latter being contrary to general belief.

It is evident that if the reasons for these proved facts can be found, educators will be able to avoid conditions which are undoubtedly injuring school children. Unfortunately, Professor Dexter's explanations of the phenomena cannot be wholly accepted, as he has not touched upon the effects of light and darkness—a matter which is of great medical importance, since we have learned that concentrated light rays have a profound influence upon living protoplasm, and that blondes are more susceptible than brunettes. Nor has he discriminated between different physical types, for the weather conditions which may be the most comforting to the negro may be so irritating to a Caucasian as to be the determining cause of an illness or some abnormal act. He finds that abnormal acts are greatly lessened on dark, cloudy, and rainy days.

The recorded data in the book also prove that certain meteorological conditions do vary the number of cases of suicide, drunkenness, sickness, and arrests for insanity and crimes, and that the variations are in definite directions. Though the generalizations are of purely scientific value now, they are sure to lead to practical therapeutic and preventive measures when the causes of these results are worked out. Manufacturers, who find that certain kinds of weather reduce the output of the factories, may counteract the evil by more sanitary buildings.

On the whole, the work is of value, and the hope can be expressed that there will be more of like kind. Americans are all far from their normal European habitat, and are anxious to know if they are really being injured by the changed conditions, and why.

Appendicitis and Other Diseases About the Appendix. By Bayard Holmes, B.S., M.D. Professor of Surgery in the University of Illinois, Professor of Clinical Surgery in the American Medical Missionary College, Chicago; Attending Surgeon the Chicago Baptist Hospital. New York: D. Appleton & Company, 1904.

In the first section of this work the author deals with the subject of appendicitis exhaustively. From the initial catharrhal process to the cystic, ulcerative, or gangrenous stage the appendix is laid bare in all its iniquitous doings. The symptoms produced by these pathological changes and eventualities, with the essentials of differential diagnosis are herein presented with telling directness. In this connection the work is to be commended for the frequency with which actual cases are cited with the operative findings illustrative of the particular phase of the disease under consideration. These pen portraits constitute a valuable library of silent witnesses to the reader who is seeking clinical pictures that will explain some confronting symptomatic problem. Apropos of this, the chapter on "Obscure Forms of Appendicitis" is a plea for persistent investigation along the lines of modern diagnostic methods, until the appendix is acquitted or convicted of being responsible for existing conditions.

In regard to treatment, the author condemns in no soft language the fatuous complacency with which some authorities recommend palliative treatment for the "cure" of the diseased appendix. First and last, he adheres unswervingly to his contention that "every case of appendicitis is a surgical condition, *i.e.* for appendectomy. . . . . . In acute cases operate at once, in chronic, as soon as suitable surroundings can be secured. . . . . . . There is no condition from the time that the disease is relatively and exclusively diagnosed to the last expiring breath of the patient in which immediate operation is not indicated."

Intussusception, perforating typhoid ulcer, and carcinoma of the intestinal tract, are considered briefly but to the point, in the second section. The author focalizes his diagnostic limelight on only the crucial symptoms of the above conditions, and familiarizes the reader with the indications for laparotomy in each respective instance. Few practitioners, we venture to say, can read this work without having their diagnostic range amplified, and the courage of their convictions in regard to the surgical aspects of appendicitis augmented.

Mental Defectives: Their History, Treatment and Training. By Martin W. Barr, M.D., Chief Physician Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa. Philadelphia: P. Blakiston's Son & Company, 1904.

Dr. Barr's experience of nearly twenty years in the care of the feeble-minded affords ample justification for an authoritative expression by him upon a subject of the profoundest practical importance and having to do with matters involving true philosophic insight of the highest order. Although the volume before us is addressed more especially to laymen—parents and teachers—medical men and others will find in it much of the greatest interest related in a most attractive manner. The work deals especially with idiocy and imbecility in their various gradations, and also mere backwardness or mental enfeeblement. An interesting chapter is devoted to the history of the subject given at some length. This is followed by a discussion of classification and by a chapter on etiology and one on diagnosis, prognosis, and death periods. Training and treatment are considered with especial fullness in a most admirable manner. Craniectomy as a therapeutic procedure receives unqualified condemnation, while asexualization is as heartily endorsed as a means of preventing the propagation of defectives. Cretinism and myxedema, microcephalus and hydrocephalus, epilepsy, idiots, savants and insanity, echolalia, and adenoma sebaceum are discussed in separate chapters. Sixty-five pages are given up to reports of illustrative cases and a separate chapter to a full consideration of the case of Samuel Henderson, a juvenile murderer, and a discussion as to his responsibility. The final chapter contains a number of stories relative to mentally deficient children, while a full bibliography and an ample index complete the volume. There is no chapter on pathology and morbid anatomy. The volume is warmly to be commended to all interested in the subject of mental deficiency, physician and layman alike.

A Treatise on Bright's Disease and Diabetes, with Especial Reference to Pathology and Therapeutics. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania, etc. Second edition, illustrated. Including a Section on the Ocular Changes in Bright's Disease and in Diabetes. By George E. de Schweinitz, M.D. Professor of Ophthalmology in the University of Pennsylvania, etc. Philadelphia: P. Blakiston's Son & Company, 1904.

Since the appearance of the first volume of this treatise twenty-three years ago our views on the nature of nephritis and diabetes have been modified in many more or less important particulars. Theoretical investigations have been accomplishing much in these as in all other branches of medicine, but the practitioner still finds that clinical experience is the basis of success at the bedside. The author's advantages in this respect have given him the right to speak as one having authority, and the volume, therefore, contains much of the greatest interest and value in everyday practice. The classification of the different forms of nephritis adopted represents the present standpoint of most authorities and the descriptions of the pathological anatomy of each condition are clear and detailed. The author's methods of treatment are fully described and will prove most suggestive to all clinicians. Dr. de Schweinitz has contributed to this edition chapters on the ocular changes in Bright's disease and diabetes which should stimulate practitioners to make more frequent use of their ophthalmoscopes. The illustrations throughout are well chosen to elucidate the text and the numerous colored plates, including three excellent depictions of changes in the fundus oculi, are of admirable execution. The only criticism that might be made is that the chemistry of the urine is somewhat inadequately treated. Of course, the book is not intended as a handbook of laboratory methods, but having decided to devote as much space as he does to the examination of the urine, the author might well have gone a little further and have greatly increased the practical utility of the volume by adding to the scanty number of tests described some others of the methods now in everyday use, as, for example, Spiegler's tests for albumin and the phenylhydrazin test for sugar.

Society Reports.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Fourteenth Annual Meeting, Held in Milwaukee, Wisconsin, December 28 and 29, 1904.

(Continued from page 35.)

Surgical Diseases of the Pancreas.—Dr. D. C. Brockman of Ottumwa, Iowa, stated that recent studies of the pancreas showed the importance of internal secretion from the islands of Langerhans; also the influence of regurgitation of bile into the pancreatic ducts, as a cause of pancreatic inflammation. Biliary disturbance was mentioned as the chief cause of pancreatic disease, and the author stated that pancreatic cysts were believed to be mostly due to this cause. He reported three instructive cases of cyst of the pancreas, and then gave an outline of inflammatory troubles, with special reference to the diagnosis and treatment of acute and chronic pancreatitis.

Cysts of the Pancreas.—Dr. D. W. Basham of Wichita, Kansas, followed with a paper on this subject. He referred briefly to the physiological anatomy of the gland, in order to elucidate the principles underlying the formation of a cyst of this organ. He recounted the symptomatology, and pointed out the difficulty attending the diagnosis. As to treatment, Gussenbauer was the first to marsupialize the sac, and since then this had been a favorite procedure with most surgeons. The only question regarding this method was whether to attach the sac to the abdomen, and incise at once, or to operate *à deux temps.* If there was plenty of time, and the cyst was not so large that a day or two might make any difference in the result, he thought it was better to operate in two stages, stitching the sac to the peritoneum and muscles, and opening two or three days later. Excision of the sac was not often practical, but might sometimes be attempted. Often such a course would expose the patient to the risk of contaminating the peritoneal cavity with pancreatic secretions. He reported the case of a tumor of the pancreas in a woman 62 years of age. The tumor was removed. The patient left the hospital at the end of seven weeks, and he had not seen her since. The woman's dyspeptic manifestations were better after the operation than before, but were not entirely relieved. About the first of December, the patient began to have serious trouble with her stomach, and called a physician, who was able to outline a tumor in the region of the pylorus, which he diagnosed as cancer of the stomach.

Dr. William D. Haggard thought inflammations of the pancreas occupied the most prominent position in the future development of surgery. Disease of this organ was closely allied to the surgery of lesions in the upper abdomen. When one stopped to think how our knowledge had been amplified in the last two years relative to this sequestered organ, and when one considered that many cases of so-called gastritis, intestinal obstruction, etc., were after all, probably instances of pancreatitis, it made surgeons realize that the lesson had been appreciated; we had not yet mastered the diagnosis of this as well as other lesions, but nevertheless more attention should be addressed to lesions of the pancreas than had been done in the past. He referred to the three types of infection, and called attention to the excellent work done by Opie, Robson, and others.

Dr. Brockman, in closing, expressed the opinion that pancreatic cysts were not so uncommon as had been supposed. He had had four such cases in the last twelve or fourteen years.

Excision of the Elbow Joint for Traumatic and Arthritic Ankylosis.—Dr. B. Merrill Ricketts of Cincinnati, Ohio, read a paper on this subject, in which he drew the following conclusions: "(1) Excision of the elbow joint for ankylosis, due to any cause, at any age, is a most rational procedure. (2) If possible, it should be done before or at the time ankylosis is complete. (3) A posterior median incision is the most practical. (4) With care the operation can be done without injury to blood vessels or nerves. (5) Drainage should always be provided for. (6) The arm should be placed upon a right angle splint. (7) Results are better when only the articulating surfaces are removed. (8) If there is complete bony union of the articulating surfaces, much more bony tissue must be sacrificed, because disarticulation cannot be accomplished. (9) All soft structures cut transversely will unite, but new insertions are formed which destroy their function. (10) All attachments of tendons and muscles should be preserved. (11) All periosteum should be preserved. (12) If excision of the joint is complete, leaving only the ends of the shafts, flail joint can be prevented by approximating their ends with kangaroo tendon at the time of primary operation. (13) Wire or nails may be used, but their removal sooner or later will be imperative. (14) Flail joint rarely results from any form of excision, but is more likely to be found following excision of the entire joint. (15) If flail joint results, a mechanical device may be employed. (16) Injections of alcohol or one or more of the various astringents will increase fibrous tissue both in quantity and density."

The Operative Treatment of Fractures and Sprains.—Dr. A. E. Benjamin of Minneapolis, Minn., stated that frequently fractures were not recognized, and that complicated joint fractures without operative tretament gave poor results. All fractures should be examined with the *x*-ray to diagnose positively and locate the injury. The ordinary form of treatment of even simple fractures often resulted in a deformed and crippled limb. The term ununited fracture was a myth; the condition was invariably due to some preventable cause. The habit of using the *x*-ray in all fractures led to more operative measures, although without its use diagnosis was frequently impossible and treatment uncertain. There was frequently as great a subcutaneous injury in a simple fracture as in a compound fracture, and it was just as essential that an operation should be performed in such cases, in order to prevent a lasting injury to the nerve and muscle tissue. By an operation upon these fractures drainage was established, pain and fever lessened, exostosis and the organization of the exudate were less permanent, and necessarily there followed less permanent injury to the soft structures. Associated with fractures there was frequently a sprain or a tearing away of ligaments and cartilages, and dislocation. The progress of a joint that had been sprained was often slow and discouraging, resulting in a weak and insecure union of ligaments. It was advisable to operate upon a number of sprains, especially where there was a great deal of exudate and pain. By the operative method drainage was established, pain relieved, the ligaments could be stitched in their natural place of habitation, the convalescent period was shortened, and a greater proportion of cures resulted.

The Surgical Considerations of Gastric Dilatation.—Dr. A. M. Pond of Webster City, Iowa, after considering the etiology of gastric dilatation, stated that in the last three cases of gastric dilatation due to impairment of the stomach wall he had modified the standard operation. Sufficient time, however, had not elapsed to warrant a description of the operation. The last case was operated upon in June. In each instance a very satisfactory result was obtained The success of the operation depended upon two very important factors, patency of the pyloric orifice, and the ability of the gastric muscle to regain its normal tone. The author believed that gastric dilatation was usually a sequence rather than a primary cause of discomfort, and that it owed its presence to some disturbance of the elemental dynamics of digestion. It was, on close analysis, merely one of a symptom-complex of the upper abdomen, but a very valuable one, the importance of which should be included in the consideration for operative restoration.

Treatment of Acute Perforations of the Upper Abdominal Viscera.—Dr. Van Buren Knott of Sioux City, Iowa, pointed out the importance of the early recognition of such an accident, saying that an accurate diagnosis as to which organ was involved was neither possible nor necessary at all times. The symptoms of gastric or duodenal perforation would usually be more intense than those of perforation of the gall-bladder. Previous history of the case was of importance in making a differential diagnosis. The treatment was successful in direct ratio to the promptness with which it was instituted. The resulting peritonitis was the most important result of the accident, and its treatment in the various cases was similar. He emphasized the value of posture in treatment.

Pneumatocele.—Dr. L. L. McArthur of Chicago reported a rare case of pneumatocele, saying that it was a gas-containing tumor of the cranium, very rare, there being but thirty-two recorded cases since 1741. It always originated in connection with either the mastoid or frontal sinuses. It was not to be confused with emphysema, which was gas in the cellular tissue. Pneumatocele was gas beneath the pericranium. Incident to the elevation of the periosteum, were secondary bony outgrowths, giving the tumor a peculiar feel. In the preantiseptic era the simple benign pneumatocele became a dangerous affair, because of the frequent connection with mastoid sinuses, with the potential septic meningitis. Since antiseptic surgery had become well established, all of these cases ended favorably.

The Value of Skiagraphy in the Treatment of Fractures.—Dr. H. A. Sifton of Milwaukee, Wis., exhibited in connection with a paper on this subject numerous skiagraphs. He was of the opinion that, when it was possible, the Roentgen ray should be used in the treatment of every fracture. It had its deceptions, but these meant nothing to the physician who had made a study of the subject and was familiar with the conditions under which the skiagraph was taken. Some urged its use in the obscure or complicated cases only, but the difficulty with this plan was that we could never tell whether or not a fracture was complicated until a radiograph of it was taken. It was the surgeon's duty to do his best for the patient, and to do this he should look upon every case of fracture as complicated, until it had been shown to be otherwise by a good radiograph. A good radiograph was of value for future information from a forensic standpoint, but no radiograph, in his opinion, should be admitted as evidence in any medicolegal dispute, unless both parties to the dispute knew the conditions under which the radidograph was taken.

Dr. L. L. McArthur said the *x*-ray was of immense importance to the surgeon from a forensic standpoint. He urged that the surgeon protect himself, whenever possible, by making an *x*-ray picture of a fracture after the limb had been put in the best possible position and condition, and submit it to the patient, telling him that that was the best position that could be obtained, and asking him if he was satisfied with it. In this way the surgeon allowed the patient to know that he had utilized every means in his power, and all the instruments of precision to accomplish a good result. The surgeon should impress upon the general practitioner and the laity that it was not essential for a good functional result to have actual anatomical reposition of the fractured ends.

Dr. J. W. Andrews said it was a revelation to him that several skiagraphs of the same case could show such a great difference. He concurred with Dr. McArthur that it was unnecessary to have absolute apposition of the fragments, yet the laity and some physicians, especially in the malpractice suits, felt that there must be absolute apposition, and that union must take place in that position; hence there was a growing tendency on the part of the laity to have fractures examined by some one with the *x*-ray after healing had occurred, and unless the result was a perfect one, there were threats of a malpractice suit.

Dr. C. E. Ruth said a number of malpractice suits emanated as the result of fractures, in which the basis of the proceeding had been the supposed findings from skiagraphs. He would dislike very much to treat a case of fracture without having taken skiagraphs, or having made fluoroscopic examinations of the limb in different positions. The surgeon should be careful not to tell any patient that he would get a perfect result.

Dr. A. I. Bouffleur stated that as a confirmatory measure the *x*-ray was of great value, but as a substitute for ordinary means, it was, in his opinion, not proper to place the reliance on it which he had heard at different times concerning it.

Dr. M. L. Harris said the Association should not go on record as supporting the statement that in the treatment of fractures the *x*-ray should be used. He did not think it was a necessary means of diagnosis. In nine cases out of ten it was not only unnecessary, but it did not furnish the surgeon with any information which could not be obtained in other ways. He admitted its value in showing something which one could not detect in any other way. He pointed out the fallacies of the *x*-ray. It was impossible in many instances for anyone to interpret correctly an *x*-ray picture. Skiagraphs should never be admitted as evidence in a medico-legal contest.

Dr. A. E. Benjamin said it was well to employ the *x*-ray as an additional confirmatory aid in the treatment of fractures.

Tin Splints.—Dr. Arthur T. Mann of Minneapolis, Minn., made a plea for the general utility of tin splints. He pointed out the simple equipment necessary to make them; also the ease of making the splints and patterns for them. He described several tin appliances which were useful to the surgeon, and among them a device for regaining flexion and extension of the elbow joint after fractures and dislocations. He also exhibited a device for the protection of the line of sutures in operative cases of cleft palate.

Syncytioma Malignum.—Dr. H. C. Crowell of Kansas City reported a case of this comparatively rare disease, which was accompanied by a detailed pathological report of the specimen removed. He referred briefly to other cases which he had found in the literature.

Dr. Archibald Mac Laren reported a case of what he had supposed, from the history, to be a soft edematous fibroid, which came on five months after delivery. Probably there was no growth present until after the birth of the child. There was no extension beyond the wall of the uterus. The fundus was diffusely infiltrated with this peculiar fungous mass. Sections of the mass were examined by a competent pathologist, and a diagnosis made of syncytioma malignum. The uterus was removed above the internal os, in the belief that it was simply an edematous fibroid, and the case was treated like any ordinary supravaginal amputation. The woman at the present time had had no return of the disease, and there was no extension apparently to the lymphatics or neighboring tissues. A year had elapsed since the operation was done.

Fractures of the Tarsal Bones.—Dr. Daniel N. Eisendrath of Chicago called attention to the surgical anatomy of these bones, and the mechanism of fractures. He spoke of compression fractures; fractures of the neck of the astragalus following sudden dorsal flexion of the foot; fractures of both astragalus and calcaneus following forced supination or pronation of the foot; fractures of the astragalus which resulted from forcible action of the muscles of the calf; crushing fractures, and gunshot fractures. He discussed the symptoms and diagnosis together. In considering the treatment, he reported six interesting cases, after which he drew the following conclusions: "(1) The astragalus and os calcis bear the entire weight of the body. (2) They are most frequently broken in falls from a height directly upon the feet (compression variety), or by tearing off a portion of one of the bones either when the heel is fixed on sudden supination or pronation, or in forcible dorsal flexion of the foot. (3) Early diagnosis, on account of the danger of sepsis from secondary skin necrosis, is of great importance. (4) If there is no displacement of fragments, treat the case by a cast for six weeks, with early massage. If displacement threatens necrosis of skin, convert into open fracture, and remove the fragment or suture it."

Ptosis of the Abdominal and Pelvic Organs.—Dr. R. C. Coffee of Portland, Oregon, read a paper on this subject, which was accompanied by numerous illustrations. He said that the peritoneum was attached to the diaphragm, and by all its outer surface to the abdominal and pelvic walls by means of loose connective tissue, which allowed it to move freely, but held it always in contact. This connective tissue was much increased around the attachment of the supports of each organ. The peritoneum itself was but slightly elastic, its seeming elasticity being due to the elasticity of the subperitoneal connective tissue. Two peritoneal surfaces brought together and held firmly in an aseptic state would blend and become one membrane. In the case of suppuration blending did not take place, but inflammatory adhesions were formed. The former condition was permanent, while the latter was transitory, the adhesions being absorbed generally. This differentiation was all-important. The uterus was suspended entirely by its peritoneum and connective tissue. The so-called true ligaments were not true ligaments, but muscles. Their function was to sustain the normal poise or balance of the uterus during the changing positions of the body. Whatever the cause, ptosis was a stretching of the peritoneum or connective tissue, either or both. The condition might be local or general, and might involve the support of one, more than one, or all the abdominal pelvic organs. The treatment of ptosis in general was the shortening of the peritoneum at the points at fault by some method of plication and blending, or by bringing the peritoneum back to its normal contact with the abdominal wall. He described a method for suspending the liver by shortening the normal suspensory ligament, and supplementing it by extending the ligament to one or both lobes by blending of peritoneum. He said that none of the operations for gastroptosis was either theoretically or practically ideal for all cases. The hammock operation, stitching the omentum to the abdominal wall, was best suited to those cases due to adhesions holding the stomach out of place by its omentum. Posterior gastroenterostomy was the best operation for those cases due to dilatation or pyloric obstruction of any kind.

Appendicitis in Women.—Dr. Archibald Mac Laren of St. Paul, Minn., said that in the light of recent experiences, he believed the only safe advice both to the patient and the physician was that the appendix should be immediately removed in the early hours of every acute attack of appendicitis, and especially in first attacks, when the symptoms lasted six hours. On the other hand, he did not believe that every case of appendicitis should be operated upon as soon as the diagnosis was made, because the surgeon frequently did not see these cases until from the third to the sixth day. The favorable time had now passed, and, as Richardson had said, some of these cases were in such a bad condition that the operation itself might be enough to take away the only remaining chance of recovery. He had made 422 appendectomies. In the first 241 there were 72 suppurative cases. Of these there were 42 men and 30 women, in spite of the fact that his work was largely the surgery of women. During the same time he had removed appendices showing chronic inflammatory changes 153 times in women and only 17 times in men. He did not quote these figures for the purpose of giving the impression that they fulfilled his idea of the true relationship of chronic appendicitis in the sexes. He did not believe that chronic appendicitis was as frequent in men as in women, but it probably was not twice as frequent in the latter. It was, he believed, only a curious accident that he had seen proportionately so many acute cases in men and so very few chronic cases.

Management of Hospitals in Cities of One Hundred Thousand Population or Less.—Dr. D. S. Fairchild of Des Moines, Iowa, stated that the problems involved in the management of hospitals in the smaller cities were difficult and complicated, growing out of two important facts; first, the supposed self-interest of individual members of the medical profession, and, second, the lack of experience and knowledge on the part of boards of management. Public hospitals were generally of three kinds, as determined by the auspices under which they were organized and in part supported: (a) Hospitals under the auspices of some church; (b) hospitals under the auspices of some society, and (c) city hospitals supported by public taxation. The method of appointment of physicians to hospitals was liable to abuse only when piety or church zeal was mistaken for competency. The author discussed the management of hospitals at great length.

Arthrotomy.—Dr. E. Wyllys Andrews of Chicago described a new method of arthrotomy for old dislocations of the shoulder joint, and after mentioning the steps of the procedure at considerable length, he presented the following conclusions: "(1) It must be considered established that great force is never justifiable in old shoulder dislocations. (2) Few cases can be left unreduced, on account of pain and pressure symptoms on the brachial plexus. (3) Resection is satisfactory, but not ideal or wholly safe. (4) Arthrotomy by the old incisions is tedious, and never has been widely practised. (5) Arthrotomy by the author's method is simplified, and made quicker and safer. It would possibly be as safe as resection, and much more ideal in results."

Curettage and Puerperal Sepsis.—Dr. C. E. Ruth of Keokuk, Iowa, discussed the etiology of puerperal sepsis, the kinds of infection, prevention, dangers, as well as curettage, drainage, and hysterectomy in such cases.

Our Duty to the United States Army and Its Medical Corps.—Dr. Donald Macrae, Jr., of Council Bluffs, Iowa, pointed out the importance of having a more efficient medical corps in the United States army. He made an appeal to the patriotic sense of the American surgeon in civil practice to stand by the recommendations of the Surgeon-General of the army, and otherwise to use his best endeavors to relieve a most deplorable condition in the most important branch of the service. He thought that the Surgeon-General should be elevated to Lieutenant-General, and be equal in rank to the head of any other branch of the army. A medical officer should be added to the general staff.

A resolution was introduced and unanimously adopted respectfully petitioning President Roosevelt to direct that the military authorities provide a field medical organization for our army at least equal in all respects to the best that exists in any army, and which would meet the approval of military sanitarians generally, to the end that the sick and wounded in future wars might receive adequate care and attention. The secretary was instructed to forward a copy of this resolution to President Roosevelt at once.

Removal of the Covering of the Ovaries in Ovarian Dysmenorrhea.—Dr. George G. Eitel of Minneapolis, Minn., presented a preliminary study on this subject, and described the technique of the operation he had performed in seven cases, as follows: "The ovary is brought into clear view through a median abdominal incision; one hemostatic forceps is placed at the juncture of the utero-ovarian ligament and ovary and another on the upper border of the broad ligament close to the ovary (lateral). By means of these two forceps the ovary is held by an assistant in the proper position, while the operator makes an incision with a sharp scalpel from the utero-ovarian ligament to the lateral attachment to the broad ligament through the covering, and then carefully dissects one side and then the other, down as far as cysts are encountered. The flaps of the covering of the ovary are now trimmed off, preferably by means of a pair of scissors. This having been done, the utero-ovarian ligament is shortened by doubling it upon itself in a similar manner as is in vogue in shortening the round ligaments, in order to hold the uterus in a normal position. There is generally some hemorrhage as the base of the ovary is encroached upon, which can easily be controlled by pressure forceps and fine ligatures."

Diagnosis of Early Tubal Pregnancy.—Dr. William E. Ground of Superior, Wis., after going into the diagnosis exhaustively, and quoting from the literature, stated that during the last year he had operated upon ten cases of tubal pregnancy. He had operated upon twenty-eight cases altogether. His deductions were based on the histories and the gross appearance of the uterus and appendages at the time of operation. He was firmly convinced that some lesion was always present to cause the arrest of the fecundated ovum in the tube. Five of his cases were in primiparæ, who gave a history of painful menstruation and leucorrhea. Thirteen cases gave a history of a prolonged period of sterility; by this he meant three years or longer. The remaining twelve cases occurred in parous women, who had borne children or had been pregnant within less than three years. Many of these women gave unmistakable evidence of preexisting pelvic disease. One primipara had been married three years, one five, and another eleven years, before tubal conception occurred. Two cases occurred in unmarried women, one of whom had had a criminal abortion produced. Complications arose, and she was sent to the speaker for abdominal section, when an unruptured tube containing a six weeks' fetus was found. In another case, a woman living apart from her husband was known to have had chronic appendicitis; she was taken with a sudden severe pain in the right lower abdomen, followed by considerable shock, but soon rallied and had a slight fever. At this juncture the speaker saw her. Menstrual irregularities were denied. Tenderness was present rather low in the iliac fossa for appendicitis, the uterus was enlarged, and a slight bloody discharge came from the vagina. There was an ill-defined tumor to the right of the uterus. The abdomen was opened, and found to contain blood clots and bloody serum. The right tube was ruptured on its dorsum, at about the middle, but the fetus was still in the tube. Chronic appendicitis was also present, and the appendix was removed. Two of the patients had small fibroids, and one had an ovarian cyst as large as an orange on the opposite side.

Officers.—The following officers were elected for the ensuing year: *President,* Dr. H. D. Niles, Salt Lake City, Utah; *Vice-Presidents,* Drs. E. Wyllys Andrews, Chicago, and W. W. Grant, Denver, Colo.; *Secretary-Treasurer,* Dr. B. B. Davis, Omaha, Neb.

Kansas City, Missouri, was selected as the place for the next meeting, with Dr. H. C. Crowell as Chairman of the Committee of Arrangements.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held December 8, 1904.

Dr. David Bovaird, Jr., Chairman.

Rachitic Fracture of Femora, with Radiograph.—Dr. L. E. LaFetra presented this patient, a rachitic child, with fracture of the femora at the middle. The particular interest in the case was the difficulty of diagnosis. When first seen by him the child could not sit or stand without support. Rachitic symptoms were present—sweating of the head, bowing of the humeri and the radii, protrusion of tongue, enlarged spleen and liver, hyperplasia of inguinal and epitrochlear glands, etc. There was also angular deformity of the femora with the convexity outwards, with some swelling of the shaft at the middle on each side. Syphilis and scurvy were both thought of, but a careful examination of the femora showed that the tenderness was at the middle of the shaft and not at the epiphysis, where it would be if the condition was syphilis or scurvy. The child was in such bad condition physically that no attempt was made to correct the deformities, although the baby had improved very markedly under treatment. The deformity was quite misleading in that it resembled the anteroexternal deformity of rachitis. If it had not been for the tenderness over the seat of fracture this diagnosis would not have been made in all probability.

Treatment of Erythema Induratum (Scrofuloderma).—Dr. L. E. LaFetra presented this patient, a boy, whom he first saw in June, 1903, when he was two years of age. The child was presented to show the marked improvement that had taken place under treatment. The brief history of the case was as follows: The mother had had one miscarriage. One uncle had died of tuberculosis but had never lived in the same house with the child. The child was circumcised and then began to have swelling of the midphalanx of the fourth finger of the left hand; this increased greatly and then diminished. In December, 1902, a bluish spot appeared on the side of the face and then on the other side; both spots were deeply indurated, freely movable subcutaneously, and could be better felt than seen. After a few days a lump appeared under the left ear, and there then followed enlarged cervical glands. There were no night sweats and no fever. The physical examination at the time of the first visit (June, 1903) revealed a small elevated mass in the skin on the inner aspect of the right forearm and of the left hand. The localization of other spots was referred to, near the patella, the right calf the size of a lentil, the left leg, over from the thigh, sole of right foot, outer side of left buttocks, etc. The liver and spleen were slightly enlarged. Guaiacol was given in two-minim doses twice a day, and cod-liver oil. The daktylitis opened and discharged; some of the pus was taken and examined for tubercle bacilli, but none was found. Great improvement occurred in the general condition of the child. The nodules in the skin began to diminish in size, and now most of them were hardly discoverable. A nodule from the left hand was incised and examined, and a few tubercle bacilli were found along with a cheesy mass in the center. During February, 1904, the little boy had measles, followed by lobar pneumonia, and he made a satisfactory recovery without a trace of the disease being left in the lungs. This was interesting, because it was well known how much measles and pneumonia predisposed one to tuberculosis. This child had tuberculosis all over the body surface, and had measles which was followed by lobar pneumonia, and still he did not present a trace of anything in the lungs at present time. There was also an absence of general glandular involvement.

Dr. Jacob Sobel said he had never seen such a case in a child so young. The location upon the lower half of the leg and posteriorly was also rather unusual. If the condition was diagnosed early before any ulceration had occurred the chances for improvement were more marked than if the diagnosis had been a late one.

Dr. David Bovaird, Jr., said that he left school with the impression that such cases were always syphilitic, but nearly all the instances that he had since seen were tuberculous.

A Case of Cephalocele Occipitalis Inferior.—Dr. Sara Welt-Kakels presented this case. The patient was nine months old, breast fed, and was brought to her office some three weeks ago on account of a tumor on the occiput. Her parents were healthy. There were five children and two were still born, in the eighth and ninth month of pregnancy. Two were living and well. The last child, the one presented, was born at full term with an easy delivery. The child was cyanosed at birth, breathed very feebly, and did not cry until about fifteen minutes after birth. The tumor was noticed at birth, but had not grown since. The baby had always been ill and very restless. Last summer she suffered about two months from whooping cough. Previous to the time Dr. Welt-Kakels saw her she had diarrhœa and vomiting and was so weak she could not hold her head up, did not appear to recognize her mother, and had no teeth. The child's present condition was: weight, eleven and one-half pounds, very poorly fed, listless, organs of chest and abdomen normal, thymus dullness present, liver slightly enlarged, spleen easily palpable, urine free from albumin and sugar, and, in the occipital region, a tumor, soft, compressible, translucent, covered by normal skin; when the child cried the tumor increased. The tumor was not sensitive to pressure and could be completely reduced without any cerebral symptoms resulting. After reduction an opening in the skull could be made out which seemed to communicate with the foramen magnum. Examination with the *x*-ray revealed a slight shadow which could be caused by the presence of brain substance. The old division of these tumors was into meningocele, a protrusilon of the meninges; encephalocele, a protrusion of the brain substance; and hydrencephalocele, protrusion of a portion of brain substance, containing in its interior a cavity filled with fluid, which communicated with the distended lateral ventricles. The origin of these malformations was dependent upon a faulty closure of the cerebrospinal tube. This took place about the second week of fetal life, when the human embyro measured about two to three mm. in length. In some cases amniotic adhesions would be responsible for this defective state of the skull. The prognosis was very bad; according to the statistics obtained by one man out of 199 patients with encephalocele only seven reached adult age, and Miller was quoted reporting thirty-nine foundlings with encephalocele who died before the end of the first year. On the other hand, the results of surgery had been much better and one individual had collected reports of sixty-three patients who were operated upon, with thirty-three recoveries; while still another individual reported but two deaths out of ten nurslings operated upon for this malformation.

Demonstration of a Method of Obtaining Urine from a Female Infant.—Dr. SARA WELT-KAKELS gave this demonstration, using for the purpose a bottle and a strip of adhesive plaster.

Remarkable Mental Improvement Following Operation for Depressed Fracture of the Skull.—Dr. B. V. D. HEDGES of Plainfield, N. J., reported this case, to be published later.

Hypertrophy and Stenosis of the Pylorus in Infants.—Dr. F. L. WACHENHEIM read this paper. He reported the case of an infant aged five weeks, breast fed, who had had uncontrollable vomiting after the second week; the condition of the bowels varied from constipation to moderate diarrhœa with green stools. Examination of the child revealed nothing but extreme loss of flesh and strength. Albumen water and ordinary barley water were vomited within twenty to thirty minutes, the vomiting being forcible. Very dilute barley water and lime water were retained usually, but not invariably. Five days' observation led him to suspect a hypertrophic stenosis of the pylorus, though the stools led him to suspect a catarrhal condition of the stomach. The child died at the age of seven weeks. Autopsy showed enlargement and moderate congestion of the liver and spleen, the former overlapping the pyloric region; under it the almost cartilaginous mass of the pylorus could be palpated. Not counting the pyloric end the stomach had an extreme length of 10 cm., distended with air and gelatinous fluid, the walls tense and of about normal thickness. The pyloric end of the stomach was 3 cm. in length, and so thick and firm as to appear like a new growth, projecting into the duodenum like a cervix uteri; its diameter was 14 mm., while that of the duodenum was only 8 mm. The walls of the pylorus had a thickness of 6 mm., and evidently consisted chiefly of muscle, though there was a thickening of the submucous connective tissue. The mucous membrane appeared perfectly normal, but was thrown into longitudinal folds. The result of the autopsy was a positive finding of hypertrophy and stenosis of the pylorus. Only about sixty cases of this condition, he said, had been reported. Clinically and pathologically these cases of hypertrophy and stenosis of the pylorus in infants might be divided into three groups. First, those that attained an age beyond infancy, presenting throughout their lives more or less obstructive symptoms. unless they sought operative relief. Here the stenosis must be of moderate degree, the pylorus measuring 6 mm. or upward. Secondly, those infants which present during some weeks similar symptoms which gradually d appeared under medication and diet. Thirdly, the babies which were either promptly relieved of an alm total obturation by surgical means or who died within few weeks. The paper was confined chiefly to a consider tion of the third group. From the moderate number cases that had come to autopsy he deduced a clinic picture. The average age at onset was two weeks, t average age at death nine weeks and one-half; it mig safely be decided that every case surviving beyond fo months did not belong to this clinical group. Mal dominated in the ratio of two and one-half to one. Alm all the infants were breast fed, thus eliminating improp food as a causative factor. The intensity and frequen of vomiting were directly proportional to the quantity a consistency of the ingesta. In a number of cases pu water or thin barley water was retained, while food for ing semisolid masses in the stomach was ejected. T acidity in the vomited matter was not always due to fr hydrochloric acid; biliary vomiting was not so very rar and was a symptom that would not be expected. Th symptom as well as diarrhœa and green stools gave ri to diagnostic doubts. It often required a week or more observation before one could make a diagnosis, and, i deed, most cases remained unrecognized and unreporte being passed by as gastrointestinal catarrh. The palp tion of the hypertrophied pylorus was an uncertain quantit and was rendered difficult or impossible by the consta crying of the infant. Visible peristalsis and dilatation the stomach were usually noted only when that orga was well filled; sometimes only in the terminal stages of th disease, and often not at all. In view of the usu designation of this affection as congenital it was curiou that most of the cases showed no symptoms during th first week or two, the onset usually being quite abrupt, an from these circumstances the question of the pathogenesi was difficult to answer and clinicians held views diametri cally opposed. Still was convinced that the chief elemen in this disease was spasm, that hypertrophy was secondar and not of a high degree, that the relatively short duratio of the affection admitted of only moderate muscular overgrowth, that serious and permanent changes were inconsistent with the reported cures, and that the narrowing o the pyloric lumen as found post mortem, was often ver moderate. Other authorities considered the lesion wholl anatomical. Again others were prepared to accept bot propositions. They believed that there was one conditio that consisted in an overgrowth of the muscular and submucous coats of the pylorus, aggravated by a tonic contraction which, in all probability, was due to the abnorma innervation that usually accompanied muscular hypertrophy. They could also admit a pyloric spasm pure an simple, possibly accompanied by some slight muscula hypertrophy. It was evident that the prognosis of the firs condition was bad, and of the second fairly good. A combination of moderate primary hypertrophy and stenosis with spasm was possible. Still and Pfaundler had made valuable contributions to our knowledge of the dimensions of the normal infant pylorus. Still stated that the average thickness of the organ was 2.5 mm. with an absolute maximum of 3.3 mm. in infants of about six months. Pfaundler set the lumen at birth at 6.3 mm., and 8.5 at six months. According to both, a lumen of 5 mm. at two or three months could hardly amount to a serious obstruction. When the pyloric lumen measured less than 3 mm. the attendant spasm of the hypertrophied muscle seemed sufficient to cause almost complete and permanent closure, absolute, however, in not a single recorded case. The histological findings in his case showed nothing abnormal in the mucosa and its glands. The submucosa was about twice the normal thickness, with considerable round-cell infiltration. The muscular coats were enormously hypertrophied; the circular coat had from four to five times the muscles was proportionately nearly as great. In the muscular coats there was a moderate amount of inflammatory reaction. There was no change in the blood vessels out of proportion to the excessive development of other tissues. The reader of the paper was of the opinion that the rarity of the disease had been exaggerated, as the diagnosis was by no means easy, especially in the summer, when there might be a combination of pyloric stricture with digestive disturbance. The keynote to the diagnosis of this affection was the combination of obstinate vomiting with equally obstinate constipation, and gradual loss of weight. In the vomiting, important points were its violence and its close dependence on the ingestion of food. The appetite was above normal; a combination that could hardly occur in any other disease. As it was impossible at once to tell whether spasm or organic obstruction was playing the chief rôle, and since operative intervention was attended by a high mortality, it was well to begin by assuming the milder condition, and to treat accordingly. Freund seemed to have had good results by giving Carlsbad water with the usual diet, breast milk, and later on whole milk. Some benefit seemed also to be derived from lavage. Small and frequent meals of highly diluted albumen water and barley water were also recommended. It was an error to continue this treatment beyond two weeks unless the infant increased in strength and weight, as further than this normal thickness, and the overgrowth of the longitudinal all treatment must be surgical. He gave a summary of cases in which operative procedures had been employed, which showed that in fifteen cases in which gastroenterostomy (suture) was done six were cured and nine were fatal; one case of gastroenterostomy (Murphy) was fatal; four cases of pyloroplasty resulted in two cures and two fatalities; three cases in which divulsion was performed resulted in two cures and one fatality. This gave a total mortality of 57 per cent., and it was probable that these figures were too favorable. The summary seemed to show about equally good results from all procedures, even from the Murphy button, which had not had a fair trial.

Dr. Robert T. Morris said it was noteworthy that Americans had contributed a very small number of these cases to literature, and he believes these cases were more common than supposed.

Dr. John Dorning said there was no question regarding the difficulty in making a diagnosis of these cases of pyloric obstruction in infants. Great difficulty was encountered in palpating the abdominal contents when the baby cried, unless it was much emaciated and very apathetic, when the abdomen would be found to be somewhat relaxed. When much resistance was encountered by the palpating fingers, he said he failed to see how harm could result from a few whiffs of chloroform, and he had given this in hundreds of cases of obscure abdominal affections, and without any untoward results.

Very little was known regarding gastroenterostomies in infants, and their results, and he believed very little could be said regarding the results of these operations, unless the cases were followed for months, perhaps years. We did not know either why an artificial opening made in the stomach would contract and become obliterated. In some cases this contraction of the gastric mucous membrane, but not of the intestinal, would result fatally.

Dr. Roland G. Freeman emphasized the statement that many of these cases were undoubtedly overlooked, and also that many cases reported were not really cases of stenosis at all. In many instances this simple thickening of the gut was very deceptive, and he had seen at least one case in which there was no thickening to be found in the specimen.

Dr. Wachenheim said that pains were taken to exclude doubtful cases, and there were as many as twenty or thirty of them; no cases were accepted without autopsy. It was difficult to give a border line between normal and pathological thickenings.

Philadelphia County Medical Society.

At a stated meeting held December 14, Dr. Brooke M. Anspach read a paper entitled "The Differential Diagnosis and Treatment of Acute Pelvic Peritonitis of Gonorrheal Origin." He stated that gonococcal peritonitis is usually confined to the pelvis, and that even when generalized, the prognosis is comparatively favorable. The disorder may cause permanent disability and chronic invalidism, but rarely a fatal result. At times it bears a close clinical resemblance to appendicitis. In the one condition, however, symptoms of leucorrhea or vesical irritability have appeared soon after marriage or suspicious intercourse, while in the other there is a history of previous attacks; the one sets in at or directly after a menstrual period, the other after some indiscretion in diet; the one is attended with pain in the lower abdomen, worse, perhaps, on one or the other side, the other with pain at first in the epigastrium, and later localized in the region of the appendix; both may be attended with nausea, vomiting, and constipation, which are, however, likely to be more marked in cases of appendicitis. A correct diagnosis is important, because appendicitis, especially if complicated by peritonitis, should be subjected to early operation, while pelvic peritonitis of gonorrheal origin should be treated by means of rest in bed, copious douches of hot salt solution, applications of heat to the abdomen, and the administration of saline laxatives. Operation during the acute attack appears unwarranted in the latter form of peritonitis. Should, however, the inflammation of the peritoneum become general, immediate celiotomy is indicated. If on opening the abdomen a collection of fluid be found, this should be evacuated, no attempt being made to remove fibrinous deposits on the bowel, or to separate adhesions. If the diseased tubes contain appreciable amounts of pus, they should be removed. If, after expectant treatment, gross inflammatory alterations are discovered about the adnexa, operative interference becomes justified.

Dr. Robert H. Chase read a paper entitled "The Significance of Abulic Symptoms in Cases of Mental Disease." He stated that abulia, or a weakening or diminution of the will-force of the individual, finds expression in hesitation, indecision, and in many forms of powerlessness, as well as in defective energy of attention. It is observed normally in the inertia of convalescence, and in the lassitude of spring time; abnormally in various forms of mental and nervous disease. Abulia may be systematized, localized, or general. It must not be confounded with amnesia. Aprosexia is a condition of lessened power of voluntary attention.

Dr. T. Horace Evans read a paper entitled "The Advisability of a National Department of Public Health, and a Medical Cabinet Officer." He spoke of the intimate relationship between disease and the prevalence of crime, and he claimed the right of Medicine in government to control every matter concerning the physiological being of the citizen. The boundaries of social conduct may be defined by law, but once apprehended, the subsequent treatment of the criminal should fall within the domain of medicine. Marriage and education also are matters that come within the sphere of activity of the physician, as are likewise the questions of the proper training and licensing of practitioners of medicine and surgery, and the care of contagious diseases, and of the sick poor generally. Mental and moral defectives require the supervision of the State, and their restraint in suitable colonies is a means of greatly reducing crime. For the accomplishment of the foregoing ends, a national department of public health is necessary.

Result of Exposure to Radium.—According to Dr. Roux of Paris, mice which had been exposed continuously for twenty days to radium lost their hair. The hair subsequently returned, but was quite white. Mice exposed for longer periods developed muscular paralysis.

Pathological Society of Philadelphia.

At a stated meeting held December 22, Drs. M. P. **Ravenel** and C. A. **Fife** presented a communication entitled "Tuberculosis of the Peritoneum," and showed specimens from the body of a child two years old that had died of tuberculosis of the mesenteric glands, to which apparently the inflammation of the peritoneum was secondary and giving rise to the formation of an intraabdominal mass of considerable size binding loops of intestine intimately together. There was no tuberculous involvement of the lungs, which exhibited the lesions of bronchopneumonia, and it was impossible to determine with certainty whether the mucous membrane of the bowel was involved. The child had been fed on milk obtained from doubtful sources. Histological examination of the tissue disclosed the lesions of tuberculosis, with the presence of tubercle bacilli; and organisms presenting characteristics conforming with those of the bovine tubercle bacillus were obtained on culture. The case thus appears to be clearly one more of those in which infection took place by way of the intestinal tract, probably through the medium of contaminated milk, as tubercle bacilli have been found in a number of specimens of market milk examined with this point in view.

Drs. **Leonard Pearson** and S. H. **Gilliland** presented a communication entitled "The Effect of Tuberculosis Vaccination Upon Tuberculous Cattle." Of twelve calves, the offspring of members of a tuberculous herd, six were used as controls, three were treated with intravenous injections of non-virulent tubercle bacilli and the remaining three with similar injections in alternation with occasional subcutaneous injections of tuberculin. Of these three groups the results were worst in the controls, less bad in those treated with injections of tubercle bacilli alone, and best in those treated jointly with tubercle bacilli and tuberculin.

Dr. **Warfield** T. **Longcope** presented a communication entitled "A Study of the Bone-marrow in Typhoid Fever and Other Acute Infections." He described at some length the changes that took place, especially in the leucocytes, in both red and yellow marrow, as compared with the conditions present in normal marrow.

Dr. W. B. **Cadwallader** read a paper entitled "Basophilic Granulations of the Red Cells in Lead-poisoning and Other Conditions, with Special Reference to the Nuclear Origin of the Granules."

Dr. H. R. **Alburger** exhibited a specimen showing "A Nail in the Vermiform Appendix." During life there had been little indication of the existence of such a condition and anatomically there was no evidence of inflammation of the appendix.

Dr. **George** S. **Crampton** demonstrated blood from a case of "Filariasis." The patient was a colored man, who had lived most of his life in Charleston, S. C., and who, form time to time, passed milky urine. He knew of a comrade who exhibited the same peculiarity and examination of the blood in both instances disclosed the presence of filariæ.

Dr. **Robert** N. **Willson, Jr.**, exhibited a consolidated lung from a patient in whom during life percussion had yielded the signs of a cavity; and also the heart of a colored woman with a history of syphilis, which showed mitral and tricuspid obstruction.

Dr. H. E. **Wetherill** exhibited a color scale for the determination of hemoglobin percentages by daylight and a hematokrit operated on the principle of the whirligig.

Chicago Medical Society.

The subject of "Pneumonia" was discussed in its various aspects at a meeting held December 14. Dr. C. S. **Williamson** read a paper on the "Onset in Pneumonia, Typical and Atypical." The author stated that pneumonia frequently began with sharp abdominal pains, and this fact was first impressed upon him by observing a distinguished surgeon operate upon a case for supposed salpingitis, because of intense pain in the lower abdom The patient died within twelve hours, and autopsy reveal no abdominal or pelvic disease, but a double croupo pneumonia. The commonest group of these abdomi cases embraced those in which the pain and tenderness we localized at McBurney's point for the first two or thi days—the appendicular form. The author agreed w Massalongo as to the frequency of this form in childho In other cases the pain was localized to the gall-blad region, and might mimic biliary or even renal colic, gastric ulcer for the first twenty-four or thirty-six hou It was not justifiable to recognize separate groups of ca in acordance with the localization of the pain at the ons He called attention to the fact that the onset in old pe ple was apt to be entirely latent. In some cases th was a chill, with but very slight elevation of temperatu A chill occurring in old people without apparent ca should be always regarded as suspicious of pneumonia. the terminal pneumonias, the onset, frequently the ent course, was latent. In alcoholics the same stateme would apply. A small proportion of cases of croupo pneumonia were due to the pneumobacillus of Friedländ The clinical symptoms did not ordinarily differ from tho of cases caused by the pneumococcus except in one i portant point, namely, in regard to the character of t sputum. In the Friedländer pneumonia the sputum w so characteristic that from it alone a fair diagnosis of t form of pneumonia might often be made. It was intense mucoid, ropy, and stringy, and when lifted upon a kni blade or similar instrument it could be drawn out in lo threads. This was a point which had hitherto escap general observation. Attention was directed to the fa that the Friedländer pneumonia might be readily recogniz post mortem by observing the character of the cut su face. This, instead of being dry, as in the pneumococ form, was bathed with a ropy, tenacious, rusty-looki mucus, which was highly characteristic of cases produced the pneumobacillus. Very much rarer than the above case but much more important, were the cases where the ons was with a pneumococcus septicemia. The author quot a case seen by him in consultation, where the onset w with a bloody discharge from the nasopharynx and midd ear (through an old perforation in the drum), and whe the lung findings were entirely negative. Examinati showed a nearly pure culture of pneumococci in the bloo serum from the nasopharynx and the ear; the cultur from the blood revealed the pneumococcus in pure cultu Twenty-four hours later a pneumonia developed. In th case the march of events was undoubtedly that the i fection occurred from the nasopharynx and ear, fro which sources bacteria were taken into the blood to pr duce, several days later, a croupous pneumonia.

Dr. **Robert** H. **Babcock** contributed a paper on "T Physical Basis for Diagnosis in Pneumonia." He stat that the pulmonary findings on which the diagnosis acute coupous pneumonia might be based were determin by the pathological conditions within the lung, and as th latter varied much in extent and in character, during t different stages of the process, the physical signs display corresponding differences in definiteness and characte After laying down three propositions, which the auth regarded as fundamental to a correct understanding of t data furnished by examination of the chest in this affectio and discussing the state of engorgement, the stage of hep tization, mensuration, palpation, percussion, auscultatio and the microscopical examination, Dr. Babcock relat a case, recently seen in consultation, of a man, 60 yea of age, who was suffering from cardiac insufficiency. H had been having a cough of chronic bronchitis and t weeks ago was edematous. Treatment had improved h condition, but the last three days he had been slightly d lirious. He found a heart lesion, to be sure, but the pul was only 96, and signs of stasis were not present. T thing that impressed him at once was the character the respirations, which were shallow and forty to the minute. Mouth temperature was normal, but in the rectum the thermometer registered 103° F. The lungs were then carefully examined, with the result that on the left posterior axillary line, not far from the scapula, was discovered a small patch of dullness, with increased resistance, slightly exaggerated tactile fremitus, and bronchial breathing. Of these findings a diagnosis of pneumonia was made. Without the loss of normal pulse respiration ratio he would not have suspected acute pneumonia, but with this and the rectal temperature he was led to go over the lungs with more than ordinary care, and with the result just stated.

Dr. Arthur R. Elliott followed with a paper on "The Cardiac and Renal Aspects of Pneumonia." Among other things, he pointed out that on the heart and kidneys rested the safety of the pneumonia invalid. Owing to special conditions imposed by the disease, circulatory considerations took precedence of all others in importance. General agreement existed that cardiac insufficiency was the usual cause of death. The author distinguished between symptomatic involvement of the heart and inflammatory lesions of the cardiac structure occurring as complications, and restricted himself to a discussion of the former. Three forms of cardiac failure were observed in pneumonia, viz., collapse with a high temperature, collapse occurring at the time of crisis or soon after, and collapse following exertion during convalescence. Various explanations have been advanced to account for the cardiac collapse in pneumonia. The author proceeded to discuss the various theories, taking up serially the ideas of von Jürgensen regarding the importance of pyrexia in bringing about circulatory crises, the importance of the direct action of pneumococcus toxins in the production of cardiac asthenia, the effect upon the heart of the obstruction of the pulmonic circulation in causing right heart paralysis, and the vascular theories of Romberg and Passler and Rolly. Blood pressure observations in pneumonia were analyzed, and the author concluded that heart failure was probably due to several causes, the principal of which were vasomotor paresis, paralyzing distention of the right heart, and the direct action of toxins on the myocardium. The clinical signs of cardiac collapse were next reviewed, and attention was directed to the importance of studying the pulse and pulse respiration ratio in pneumonia. The renal aspects of pneumonia were discussed, regarding which but little information was current. Pneumonia complicating Bright's disease was frequent, but acute nephritis as a complication of pneumonia seldom occurred. One was not warranted by experience in ascribing to the pneumococcus any more important influence in the production of nephritis than was possessed by other infective organisms. Cloudy swelling and other slight degenerative changes were noted in the kidneys in the majority of cases of pneumonia examined, and more or less albuminuria was observed during the course of the disease and systematically tested for. Statistics showed the association of a high death rate, and albuminuria probably because of resulting renal inadequacy. From this standpoint albuminuria might be regarded as an unfavorable development. Pus, blood, and casts in the urine pointed to mycotic endocarditis or a local pneumococcus infection of the kidneys. Other urinary considerations were of less importance.

Sixty-One Meters of Tenia.—Chavigny reports this unusual case. The patient was a soldier (in the south of Algeria) became infected with tapeworms. On his return to France he underwent treatment by pelletierine with all of the usual precautions. In one morning the patient passed a remarkable quantity of these parasites. On examination of the fragments, there were found two complete tenias with the head; four fragments each belonging to a tenia, but without a head. In all, there was the part or the whole of six worms, and the entire length of the fragments expelled measured 61 meters. *Lyon Médical*, November 27, 1904.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 7, 1905:

	Cases.	Deaths.
Measles	122	11
Diphtheria and Croup	300	45
Scarlet Fever	227	22
Smallpox	....	....
Chickenpox	138	....
Tuberculosis	282	168
Typhoid Fever	47	11
Cerebrospinal Meningitis	....	24
Typhus Fever	....	....
Yellow Fever	....	....
Cholera	....	....
Totals	1,116	281

Calomel an Intestinal Antiseptic.—Alexander McAlister declares that calomel is the best antiseptic in pediatric practice. Unlike the so-called intestinal antiseptics, calomel does not interefere with the action of digestive ferments. It does not retard a single normal process, whether secretory or mechanical. On the other hand, it liberates the stagnant bile, increases the pancreatic secretion, and stimulates all the intestinal glands. The result is not merely the characteristic large watery calomel stool, but the restoration of functions which make for a normal intestinal flora. Bacterial activity is essential to normal digestion and assimilation. The presence of a powerful antiseptic in the intestines is injurious to that degree in which it is destructive to this normal flora. In conditions of excessive bacterial activity, the indications for treatment are always threefold; fecal accumulations must be removed, glandular activity stimulated, and the excess of bacteria reduced to the normal proportion. Calomel meets this threefold indication for treatment. The writer, as a rule, administers one-tenth grain doses every hour till one grain has been given, or till evacuations occur. If the condition treated is diarrheal, smaller doses are employed or the interval lengthened. The first object in treatment is to reduce abnormal bacterial activity. For this purpose the combination of sodium bicarbonate with calomel acts beneficially by facilitating the conversion of the insoluble chloride into soluble compounds.—*The Therapeutic Gazette.*

Histology of Roentgen Ulcers.—A. Gassmann exposed a rabbit daily to an intense *x*-ray and excised parts of the resulting ulcer at short intervals, to be examined microscopically, with the following results: In the specimens taken from the ulcer when over a month old, he found in the large vessels very marked and definite changes. There were present sieve-like perforations of the muscularis, thickening of the intima with perforations, and loosening of the elastic layer. As regards the partial thickening, the intima was not only split, but in places doubled and tripled, especially in the arteries (similar to that described in syphilitic endovasculitis). In the veins and larger lymph vessels, the thickening at times reached a stage of complete obliteration. Here, besides the spindle cells, there were more or fewer mononuclear and polynuclear leucocytes present. That is, there was an inflammation of the intima. It was difficult to determine how the loosening, especially of the smooth muscles, took place. The spaces were not intracellular, but pericellular. The most probable explanation points toward an œdema of the cells. They had in their swollen condition filled up a space which remained vacant on their hardening and retraction. Another possibility was that they were surrounded by a fluid exudate, which became absorbed. In this specimen there was also evident a marked degeneration of the cross-striped muscular fibers.—*Archiv für Dermatologie und Syphilis.*

The Nature of Tabes and General Paralysis.—Leredde in his book on "The Syphilitic Nature and the Curability of Tabes and General Paralysis," speaks very strongly against Fournier's proposition that tabes and general paralysis are of a syphilitic origin, but not of a syphilitic nature. He is of a contrary opinion, and does not believe in the existence of "parasyphilitic manifestations," but looks upon all manifestations as specifically syphilitic. Tabes and paralysis he classifies as "tertiary atypical sclerotic syphilis." He refers to Renaut, who considers syphilis as a sclerosis produced by an endarteritis, which, according to Leredde, in tabes and paralysis, has affected the nervous system. As a further proof of his assertion, he refers to Nageotte, who claims that the meningitis in every case of tabes is syphilitic. The poor results derived from antisyphilitic treatment he believes due to the insufficiency of the mercury administered. Only pure mercury has the proper effect, and this is contained in varying quantities in the different preparations. Calomel contains the largest percentage. He prefers injections to inunctions. In tabes and paralysis we should begin with smaller doses than in other syphilitic nerve manifestations, and continue to increase the dose according to the reaction produced. If fever develops or loss of weight the drug should be discontinued for twenty-four hours and begun again in smaller doses. Leredde believes that with sufficient and properly regulated administration of mercury tabes and general paralysis are absolutely curable.—*Archiv. für Dermatologie und Syphilis.*

Action of Radium on Some Organisms.—H. H. Dixon and J. T. Wigham report on experiments made to determine the action of radium on growing seeds. The exposures were made to a tube containing 5 mg. of radium bromide. The effect was slight and consisted in a reduction in the rate of growth of those seeds within a distance of 1 cm. from the tube. "In one case a seed germinated immediately under the tube and the plant grew up in contact with it." In experimenting on various bacteria, such as pyocyaneous, prodigiosus, anthracis, and typhosus, they found a more marked effect. The tube containing the radium bromide was supported over the surface of the cultures as close to them as possible, and it was found that the organisms within a distance of 1 to 3 cm. from the tube failed to grow or were delayed. Three degrees of inhibition were observed. 1. Where the growth of bacteria was rapid the radium simply retarded it. 2. In others, growth took place as soon as the radium was removed. 3. In the majority of cases no growth occurred even after prolonged incubations free from the action of the radiations. The radium did not seem to act by injuriously affecting the medium on which the cultures were growing, but by the actual inhibition of the bacteria themselves.—*The Dublin Journal of Medical Science.*

Improvements in Subcutaneous Hebotomy.—Döderlein adds four more successful hebotomies to the nineteen he has already published, and describes two radical improvements in the technique. In one case through inadvertence during the extraction, the thighs were separated to an unnecessary degree and a tear into the vagina resulted. To avoid this accident the author now counsels the application of a sterile rubber bandage about the pelvis before the operation is done, in order to prevent undue separation of the severed ends of the bone. In cases where it is possible that extraction may succeed without enlargement of the pelvic strait the author makes the incision and places the wire saw in position, but gives it in charge of an assistant. The extraction is then proceeded with and, if necessary, the bone can be divided in ten seconds, whereas if the delivery is effected without this measure the slight wound of the soft parts is of no consequence.—*Zentralblatt für Gynäkologie.*

The Rachitic Hand.—Henry Koplik calls attention to the peculiarities of the rachitic hand. He states that most of the children in whom the rachitic hand could be demonstrated suffered from marked rachitis, accompani by pain in the bones to such a degree that one would apt to think of syphilis. But the picture was so differe from that of syphilis that the real nature of the disea could not be questioned. The changes occur in the sha rather in the epiphyses of the phalanges. The midd of the diaphyses of the phalanges of both hands is bow and thickened. A radiograph is shown in which it can seen that the soft parts are free from undue thickness, t peculiar conformation of the fingers being due to thickeni of the bones of the phalanges. The appearance of t hand is not caused by any fatty tissue which may present in the fingers. The fingers of the hand are long and more tapering than is usual in the hand of an i fant of the same age. This seems to be due to a laxi of ligamentous structure of the joints of the phalange The distance between the extremities of the phalang which make up the joints is greater in the rachitic than the normal hand. This may account for the peculiar i curvated appearance of the fingers at the situation of t joints.—*Archives of Pediatrics.*

The Action of Milk on Blood Pressure.—Colombo d scribes experiments carried on in the laboratory of D Mosso to determine the effect of the ingestion of lar quantities of milk on blood pressure as registered b Mosso's sphygmomanometer. It was found that durin the first few hours after taking, milk raises the blood pres sure to a moderate degree and makes increased demands o the activity of the heart and respiratory organs. As soo as a certain degree of vascular tension has been reache diuresis and persistalsis are stimulated and the excess c fluid is excreted. The blood pressure now sinks suddenl not only to the normal, but below it, and the pulse an respiration are also lowered. Therefore, the seconda effect is one of a diminution of blood pressure and of le sened work for heart and lungs.—*Zeitschrift für diätetisch und physikalische Therapie.*

Health Reports.—The following cases of smallpox, ye low fever, cholera, and plagle, have been reported to th Surgeon General, Public Health and Marine Hospital Se vice, during the week ended January 6, 1905:

SMALLPOX—UNITED STATES.

		CASES.	DEAT
Colorado, Larimer County	Nov. 1–30	7	..
District of Columbia, Washington.	Dec. 24–31	1	..
Illinois, Chicago.	Dec. 24–31	11	3
Danville	Dec. 17–31	2	1
Michigan, at 52 Localities.	Dec. 17–24	(Present.)	
Missouri, Saint Louis	Dec. 17–24	18	1
South Carolina, Georgetown	Nov. 16–Dec. 31	8	..
Tennessee, Memphis.	Dec. 24–31 imported.	3, 2 cas	
Nashville	Dec. 24–31	8	..

SMALLPOX—FOREIGN.

Austria, Prague	Dec. 3–10	15	..
Ecuador, Guayaquil	Dec. 7–14	..	1
France' Lyon	Dec. 3–10	1	..
Paris	Dec. 10–17	4	1
Great Britain, London.	Dec. 10–17	2	..
Newcastle-on-Tyne.	Dec. 10–17	19	..
South Shields.	Dec. 10–17	5	2
India, Bombay	Nov. 31–Dec. 6	..	14
Italy, Catania.	Dec. 8–15	..	1
Milan.	Oct. 1–31	1	..
Mexico, City of Mexico	Nov. 19–Dec. 10	3	1
Norway, Christiania	Dec. 10–17	1	1
Russia, Moscow.	Nov. 27–Dec. 8	5	2
Odessa	Dec. 3–10	1	..
St. Petersburg	Dec. 3–10	5	..
Warsaw	Nov. 5–12	..	5
Turkey, Constantinople	Dec. 4–11	..	20

YELLOW FEVER.

Ecuador, Guayaquil	Dec. 7–14	..	3
Mexico, Juchitan	Dec. 18–24	2	1
Texistepec	Dec. 18–24	2	1

CHOLERA.

India, Bombay	Nov. 30–Dec. 6	..	2
Calcutta	Nov. 26–Dec. 3	..	69

PLAGUE.

Arabia, Aden	Nov. 25–Dec. 2	18	14
India, Bombay	Nov. 30–Dec. 6	..	76
Calcutta	Nov. 26–Dec. 3	..	8
Straits Settlements Signapore	Nov. 6–19	3	3

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Original Articles.

A CONTRIBUTUION TO THE ETIOLOGY OF MALARIA, AND TO THE ANALYSIS OF SOME RELATIONS OF METEOROLOGY TO CHEMICAL PATHOLOGY.

By HOMER WAKEFIELD, M.D.,
NEW YORK.

In the syndrome so long identified under the name of malaria, plasmodium and ring bodies have been recently recognized as specific features of blood changes. Lately, all cases presenting the typical symptoms, but not the said blood changes, have been by many excluded as non-malarious. The mosquito, and later the anopheles, specifically, has been identified as an agent of transmission and infection, and now we are face to face with an attempt to impose a recognition of the mosquito, and of the anopheles, as the specific and sole agent of infection.

The purpose of this paper is a protest against these undue excesses of speculative conclusion, which, like all fads, are the consequence of an unwarranted drift of opinion, and are unworthy of a scientific profession. The following fragmentary collation on malaria is humbly submitted as a nucleus of evidence in behalf of my contention that malaria is a syndrome, more typical in symptomatology than in the incidental blood change, or in a specific mode of infection. Moreover that it is essentially a disease of general stasis of catabolism, involving primarily blood destruction, and is, in different cases, caused by the suboxidation of humidity, vitiated atmospheres, etc., by toxicity, of many mosquito bites, by intravascular bacterial toxins, and undoubtedly, also, by direct inhalation of atmospheres heavily impregnated with decaying organic matter, which is absorbed by the blood circulating through the pulmonary alveoli.

The medical writers of the nineteenth century have recognized certain preexisting conditions in certain persons, by virtue of which they were said to possess a proclivity toward the manifestations of certain symptoms or a group of symptoms, which have always been known by the name of malaria. These symptoms briefly were: Frontal headache, pain in the back and legs, occasional chilly sensations, capriciousness or absence of appetite, coated tongue, constipation or diarrhœa, disturbed sleep, foul breath, nausea, enlarged and tender spleen, scanty and highly colored urine, a pallid and sometimes an icteric complexion, lassitude, debility and fever.

It is observed that a syndrome embodying many of the above symptoms, common to humid weather of "open winters," is generally conceived as "grippy," and as influenza when combined with catarrhal affections of the respiratory tract. *Plasmodia malariæ* have been found in the blood, when examined, in some of these cases, but that has only led to diagnoses of malaria, or to la grippe, complicated by latent malaria, and so reported. These syndromes appear to simulate the recognized malaria of humid and rainy weather of spring and autumn of temperate zones, more than that of the summer weather of the same or of a tropical zone.

In the words of Sternberg:[35] "The most marked characteristic of the fevers recognized everywhere as malaria, is indicated by their name, intermittent. But it must be remembered that intermittence is not peculiar to malarial fevers." All of the factors of subcatabolism, hereinafter to be analyzed, figure conspicuously as predisposing and exciting causes of malaria, but the principal recognized cause of malaria, an essential factor, cooperating with the abovementioned factors, is the exposure of the victim to the gaseous emanations of stagnant swamps and marshes, in relation to which the infection transmitted by the anopheles mosquito has been more recently added. A characteristic of typical "miasmatic" atmospheres is its humidity or moisture, and perhaps of no less importance is the presence in the soil of organic matter. Sternberg[35] says: "The general rule holds good that soils rich in organic matter are most prolific of malaria. Such soils are found in low marshy places, in the deltas of great rivers, in the broad alluvial plains bordering great rivers, and in the valleys of smaller streams." * * * An impervious subsoil, of whatever character, is everywhere recognized as a condition favorable for the production of malaria, and this presumably because it retains water, which, as we shall see, is an essential factor." * * * Denudation of soil covered by forest or rank vegetation is, where other conditions are favorable, a very common cause of increased prevalence of malarial diseases." * * * Denudation of the soil probably operates to produce malaria, not only by exposing the surface to the direct action of the sun's rays, and of the atmosphere, but also by setting free effluvia resulting from organic decomposition, which previously were consumed by the growing vegetation." * * * In a general way the importance of heat as a factor in the production of malaria is shown by the fact that malarial fevers are extremely common and virulent in tropical regions; that in temperate regions they are less frequent and less fatal; that they are of rare occurrence during the winter months, and that as we approach the frigid zone they become less frequent and finally disappear." * * * When there is an abundance of moisture in or upon the surface of the soil the atmosphere is humid and mists are of common occurrence. To what extent this atmospheric moisture is necessary or accessory to the production or preservation of malaria it is difficult to say, as soil moisture and atmospheric humidity are so intimately connected in malarious localities that the latter condition cannot well be considered alone."

Thus it is observed that the two essential elements of the morbid miasmata are humidity and effluvia from moist earth impregnated with decaying or other organic matter.

These factors I will undertake to prove are alone sufficient to produce all of the manifestations of malaria, which I hold are those of subcatabolism. Firstly, let us refer to the researches of Oliver[28] for an analysis of the pathology of atmospheric humidity. Oliver's experiments in studying the remarkable effect of altitude in raising the proportions of the red corpuscles and hæmoglobin, were performed by proving that the hæmoglobin index and the red cell ratio are increased by virtue of increased loss of water from the blood, through the skin and respiratory tract, in consequence of the great diminution of humidity of the atmosphere of high altitudes. Now if this factor is so potent in concentrating the serum and in thus raising the percentage of the corpuscles; in the language of Oliver:[28] "It is but reasonable to suppose that the increased consumption of water should counteract this influence of dry air on the blood; and at Davos I found that an extra supply of water reduced the concentration of the corpuscles 3.5 per cent. Furthermore, at Arosa in support of this view, I obtained some evidence which tended to show that in a general way variations in the relative humidity had some effect on the proportions of the corpuscles."

While Dr. Oliver did not carry his researches to the extreme degrees of humidity common to some marsh lands, it is evident that the same ratio of reduction of hæmoglobin would be maintained inversely with the increase of humidity, thus establishing the parallelism between humidity and suboxygenation, and hence systematic oxidation and subcatabolism.

It is interesting in connection with the work of Oliver, that Dr. R. Cadwallader,[2] of California, apparently not cognizant of Oliver's findings, has from extensive clinical observation convinced himself that there exists in malaria a state of hydræmia, which is an essential element of the disease. He also holds that the condition of hydræmia predisposes to infection, which likewise conforms to my interpretation of it as a condition of anoxæmia and subcatabolism.[*]

Cadwallader sustains his contention with many extremely pertinent and significant facts, among which may be mentioned: In each case observed, there was a history of increased amount of water ingested or of a lessened excretion. Cases of malaria exactly follow, in inverse ratio, the water excretion of the people. In relation to cutaneous excretion he mentions that men, while actively engaged in work involving free perspiration, are never attacked, however exposed, but always succumb after cooler weather and discontinuance of sweat-producing labor. In relation to the kidney function, he mentions that anuria is a serious complication and that diuretics always accentuate the value of quinine, and even succeed in cases where quinine fails, or is not tolerated. In relation to the bowels, he refers to the fact that notwithstanding that malaria so universally attacks the weak and exhausted, those suffering from debility following typhoid fever seem to be largely exempt, probably owing to the associated diarrhœas.

In this connection I quote a paragraph setting forth his argument that other factors than the mosquito bite must be accepted: "If all were equally
susceptible, every bite of an infected mosquito wou
be followed by the disease. Allowing a large p
sonal factor, we would start in the spring with o
infected mosquito who poisons two men. A seco
crop is hatched, and from these two, four ca
arise, and so on to the *n*th power and we have
arithmetical progression until cool weather kills t
bulk of the mosquitos and the cases recover. B
the reverse is true. We see a few cases early
the spring, usually in those sick in the fall. Th
are rallies and declines until autumn. During
the hot weather when mosquitos swarm and bre
rapidly but few cases occur. When cold nights
in the mosquitos breed slowly and are sluggish co
cident with a lowering of water elimination, when
mirabile dictu—behold half of our season's malari

Dr. Cadwallader[2] quotes from Hirt's Obstetr
to account for the postpartum or puerperal malari
"The whole volume of the latter (blood) is
creased, but not by an equal increase of all t
constituent parts. The corpuscles are relatively
creased in proportion to the liquor sanguinis. T
watery element of the blood is proportionately
creased, making the condition of the blood duri
pregnancy one of hydræmia." * * * "At t
end of two weeks it is much nearer a normal co
dition than it was in the latter half of pregnan
although it is still somewhat deficient in red blo
corpuscles and hæmoglobin."

The above assertion of Hirt is confirmed by t
recent researches of Lobenstine,[17] who foun
"There is a marked diminution in the molecular co
centration of the blood in pregnancy, the avera
being 51. There is likewise a diminution of the co
centration of the blood in the puerperium, the av
age being 53, but a rise over that of pregnanc
Thus is observed an initial condition in the rig
direction, only requiring a contributory or co-op
ating factor to constitute a well defined syndro
of malaria. This brings us to the question, Wh
is the most distinguishing feature of malari
Manson (Tropical Diseases) declares that perio
icity is the only sure sign, and this is denied
Sternberg.[34] Osler[24] says: "If the practitioner w
take to heart the lesson that an intermittent fe
which resists quinine is not malarial, he will av
many errors of diagnosis." This again is denied
Moore, Cadwallader, and many others.

A patient exhibiting the syndrome of malaria, m
or may not respond to quinine. One will respo
to quinine, but fail to show the plasmodium in t
blood, another will be negative in regard to t
etiological relation of the mosquito. Still anoth
will be lacking in periodicity, etc. I trust that t
herewith submitted facts will suffice to warrant t
deduction that the real typical pathological cond
tion of malaria is hydræmia, that the sympton
pathognomonic of the disease are those characte
istic of the general suboxidation and subcatabolis
incident to the hydræmia, and that the attenda
blood changes are simply those of the anoxæmi
and are typical of other equally pronounced cond
tions in general, as for example anæmias.

We have seen that postpartum malaria is undoub
edly a condition of hydræmia, intimately related
subcatabolism, but not specifically as a predisposi
agent, to infection. Postpartum and postoperati
malarias may be considered as accentuated late
malarias, but they must also be recognized as pr
mary as well as secondary hydræmias *per se*.

It would be just as illogical to ignore postope
tive pneumonia, as postoperative malaria; one is ju
as distinctively a disease as the other. The sa
etiological elements are largely involved in bot
namely, operative or surgical shock and profoun

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[*] While possibly Dr. Cadwallader set forth the deduction that malaria is a disease of hydræmia, in ignorance of prior claims of others, it should be mentioned here that Dr. Osler has recognized it many years prior to Cadwallader's writings, with which I am familiar. Dr. Cadwallader's recorded observations are, however, no less valuable as confirmatory evidence and a modern revival of this important attribute of the disease. Dr. Osler, however, alludes to hydræmia only in relation to pernicious malaria. He wrote "The blood is hydræmic and the serum may even be tinged with hæmoglobin."

general suboxidation from prolonged anæsthesia. In postoperative pneumonia, pulmonary irritation by the anæsthetic, and congestion as a result of the venous stasis involved in the shock, similar to that occurring in heart disease, have variously been alluded to by writers as determining factors, while malaria from the same cause appears to be a more or less general subcatabolic disease, minus the pulmonary features, signalizing pneumonia. Neither is necessarily primarily or essentially an infectious disease. Seibert[32] in his statistics of three years, observed that a rise of the relative humidity of the atmosphere during "descending or existing low temperature was attended by an increased number of cases of pneumonia." Thus others than postoperative pneumonias are related etiologically with recognized causes of malaria. Humidity will be recognized as a causative factor of hydræmia, by virtue of its retardation of cutaneous excretion, and of anoxæmia directly, owing to the atmospheric dilution by watery vapor.

Infections are frequently enough found, but no particular or specific organism is pathognomonic, for in divers pneumonias, different organisms predominate, both in virulence and numbers.* In malaria we must admit from accredited facts that both the infection and the plasmodium are more consequential than causative. A discussion on the biological nature will be found later on.

The beneficial effects obtained in malaria by a sojourn in the mountains or other high altitudes, as recently discussed by Holmes,[10] is made clear by the fact determined by Oliver,[28] that altitude has "a remarkable effect in raising the proportions of the corpuscles and hæmoglobin." The temporary ill effect observed by Holmes,[10] on the initial accession to elevations is explained as an accentuation of the effects of the anoxæmia incident to the hydræmia, prior to the attainment of the heightened specific gravity necessary to comfortable oxygenation at the higher altitude. This experience is commonly observed in connection with that part of the Schott treatment of chronic heart disease, in which, if during the mountain sojourn following the first course at Nauheim, altitude is attained too rapidly, ill effects are experienced not far removed from mountain sickness.

The etiological relation of fatigue in malaria is also illuminated by Oliver,[23] who has determined that muscular activity uses up hæmoglobin, and thus in fatigue, the exhaustion exceeds its new formation, thereby producing a low standard. I have elsewhere pointed out that the acidity and toxicity of fatigue products are destructive to the solid elements of the blood in general. Lloyd Jones[12] has demonstrated the rise of the specific gravity of the blood as a result of free perspiration, thus supporting Cadwallader's theory.

It should be observed that we have evidence that the successful therapeutics afforded by diuretics, diaphoretics, and hydragogue cathartics, not only augments the elimination of toxins and other products of malcatabolism, but reduces the hydræmia and thus provides for better oxygenation so necessary for convalescence and future health. Firstly, those toxic products of metabolism which, like fatigue products, inhibit oxidation by virtue of the tissue reactions to the irritation, and secondly, the hydræmia, by virtue of its dilution of the oxygen-carrying elements of the blood and consequent anoxæmia, are simultaneously removed by these therapeutic agents. The fact should not be neglected, in this connection that during periods of suboxidation from any cause metabolic excretory products occur in excess owing to the accumulation of the additional products of suboxidation.

Now to return to the other element of marsh atmosphere, let us consider the chemical factors. I can do no better to establish the presence of the most prolific sources of suboxygenation than to quote literally from Parkes:[25] "The air of typical marshes contains an excess of carbondioxide, which amounts, perhaps to 6 or 8 or more per 1,000 volumes. Watery vapor is usually in large quantity. Hydrogen sulphide is present, if the water of the marsh contains sulphates, which in presence of organic matter are converted into sulphides,. from which S H_2 is derived by the action of vegetable acids. Marsh gas is also present, and occasionally free hydrogen and ammonia, and it is said, hydrogen phosphide. (Foder, die Luft, p. 84, 1881.) Organic matter also exists in considerable quantity. It was discovered by Vanquel in (1810-11, in the air collected over the Lanquedoc marches), by De Lisle, and again by Moscati (1818 in the air of a Lombardy rice field), and examined more recently by Boussingault (1829, 1839), Gigot (1859), and Becchi (1861). It blackens sulphuric acid when the air is drawn through it; gives a reddish color to nitrate of silver, has a flocculent appearance and sometimes a peculiar marshy smell, and heated with soda-lime affords evidence of ammonia."

We have seen the pernicious effects of a combination of toxic factors of malaria. Carbon dioxide alone, when present in excess in the atmosphere, is capable of producing headache and vertigo, great feebleness of the circulation, and usually slowness of the heart's action, quickening of the respirations, and even dyspnœa of extreme degree. When, however, the air is rendered impure by respiration we have the added effect of humidity and organic matter. Of this Parkes has written:[5] "The effect of the fetid air containing organic matter, excess of water and CO_2, produced by respiration, is very marked upon many people; heaviness, headache, inertness, and in some cases nausea, are produced. From experiments on animals in which the carbon dioxide and watery vapor are produced, and organic matter alone left, Gavarret and Hammond have found that the organic matter is highly poisonous. * * * When the air is still more impure than this, it is rapidly fatal as in the cases of the Black Hole of Calcutta," the prison which proved fatal to 260 out of 300 prisoners. (This instance, however, included the added effect of oxygen famine, *per se.*)

Parkes[25] continuing upon the effects of atmospheres vitiated by respiration, wrote: "Persons soon become pale and particularly lose their appetite, and after a time decline in muscular strength and spirits. The aëration and nutrition of the blood seem to be interfered with and the general tone of the system falls below par."

In this connection it is of interest to recall that there is a recognized group of symptoms from the above-mentioned causes, which have been associated with malaria. Of this Sternberg[34] has written: "It is pretty well established that a non-specific continued fever may result from exposure, in overcrowded and illy ventilated apartments, to the

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*For the benefit of those who may be surprised at the above statement, it may be briefly stated that both the *Diplococcus pneumoniæ* of Frankel and the *Bacillus pneumoniæ* of Friedlaender are by no means found in all cases of undoubted pneumonia, and conversely these parasites are predominant in other widely diverse processes, which is evidence that they are not pathognomonic of pneumonia syndromes. Moreover cases of mixed infection are of frequent occurrence. The most constant etiological relation is borne by one or other of the factors of subcatabolism, viz., chill, shock, fatigue, intrinsic and extrinsic chemical and mechanical irritants, etc.

noxious emanations given off from healthy human bodies—crowd poison—and from decomposing animal matters in cesspools, sewers, etc., the idiomalaria of Dr. Edward Miller. This kind of malaria has been denominated 'civic malaria,' as differentiated from 'paludal malaria.'" Again Sternberg[25] alludes to "crowd poisoning" as the true cause of the ill health of northern latitudes which is not infrequently attributed to malaria. He believes the so-called remittent fevers of northern localities to be of this character. He continues: "The tendency among miners, mountaineers, soldiers, and sailors in cold climates is to huddle together in narrow apartments for the purpose of keeping warm, without regard to ventilation, which is necessarily a secondary consideration. A sanitarian who should see the 'dug-outs' or stockade houses which many of these hardy adventurers occupy perforce in northern latitudes during winter months, would scarcely be at a loss to account for the malaise and the fever of a mild remittent type from which they often suffer."

In 1903,[26] in commenting upon subcatabolism I described a type of what I denominated "noninfection malaria which I had observed so much at my medical clinic at Bellevue Hospital. To recapitulate: "If permitted to invent an appellation there is a form of noninfected malaria which I see much of at my clinic among the New York poor, in a class living in houses in which the sun seldom or never peeps, where dampness, filth and poverty reign, and especially in certain seasons of the year when only moderately cold, but damp and wet weather prevails. Though it resembles the infectious malaria of the swamps and the tropics, it is not entirely identical in manifestation. That suboxidation is caused, in these cases, by carbonic-oxide and carbonic-acid poisoning there can be no doubt. Proximity to damp cellars, damp, mouldy walls, badly lighted and ill ventilated rooms are undeniable prolific causes of a suboxygenation of the contained air, which becomes impregnated with the exhaled carbon dioxide, with the carbonic oxide emanations from the damp walls, dark air-shafts and cellars of these poorer classes of tenements and old houses. Also, leaky gas-mains in the streets and pipes in these superannuated buildings pour their toxic monoxides into the already vitiated air of these living quarters. In such cases the gas proves doubly toxic when combined with the noxious vapors from unsanitary water-closets, open and unvented waste pipes connecting with the sewers, sulphureted hydrogen, ammonium sulphide, together with nitrogen. The symptoms of chills, fever, headache, vertigo, nausea, weakness, and rarely loss of consciousness are among the observed results. Another affection, on the order of the types mentioned and often associated, is a form of 'biliousness,' a manifestation of an excess of tissue débris in the system which may be cleared away largely by cathartics, diuretics, and oxidants. In this affection the tongue is loaded with a dirty-looking coating of epithelium detritus, the muddy appearance of the skin approaches nearer to a cachexia than a jaundice (no yellow in the conjunctiva). This condition is usually entirely independent of biliary obstruction, and such an association may not be developed."

Evidence is abundant to prove that practically the same etiological factors and symptomatology are involved in the several malarial types, but we must proceed with the analysis of the other factors as hydrogen sulphide, ammonium sulphide,* etc., which are also the toxic factors of sewer gas and to which Parkes[25] thus portrays suboxygenation sequences: "Cases of asphyxia from hydrogen sulphide, ammonium sulphide, carbon dioxide, and nitrogen (or possibly rapid poisoning from organic vapors) occasionally occur both in sewers and from the opening of old cesspools. In a case at Clapham, the clearing out of an old privy produced in twenty-three children violent vomiting and purging, headache, and great prostration and convulsive twitching of the muscles. Two died in twenty-four hours. These are instances of mephitic poisoning in an intense degree; but when men have breathed the air of a newly opened drain in much smaller amounts, marked effects are sometimes produced; languor and loss of appetite are followed by vomiting, diarrhœa, colic, and prostration. * * * When the air of sewers penetrates into houses, and especially into bedrooms, it certainly causes a greatly impaired state of health, especially in children. They lose appetite, become pale and languid, and suffer from diarrhœa; older persons suffer from headaches, malaise, and fever; there is often some degree of anæmia, and it is clear that the process of aëration of the blood is not perfectly carried on. In some cases decided febrile attacks lasting three or four days and attended with great headache and anorexia have been known. Houses into which there has been a continued escape of sewer gas have been so notoriously unhealthful that no persons would live in them, and this has not been only from the prevalence of fever, but from other diseases."

Thus we observe that the combined factors of "paludal" malaria are sufficient to account for all of the symptoms manifested, without the interaction of microorganisms, though our evidence does not disprove that there may exist a form of the disease due to and typical of the effects of a certain microorganism, which may be responsible for some of the vicious cycles of the progressive processes. I have pointed out in a previous paper[26b] that parasitic organisms always act by producing subcatabolism, and conversely subcatabolic tissue changes, especially gelatinification, predispose to infection.

That Bence Jones,[11] that pioneer among English physiological chemists, believed in the suboxidation basis of malaria, as well as the infectious phase of it, is attested by his remarkable etiological theory, in which, though he singularly has ignored the suboxygenative action of the miasmatic effluvia, in certain writings,[11a&b] in which he directed attention to the fluorescence of quinine, he suggested the probability that as such it acted as an oxidation promoter in malaria.* In a later work he,[11c] referring to what he called the "ague ferment," wrote: "Probably it acts most strongly on the nerves that regulate oxidation, causing for a time contraction of the arterial vessels and consequent suboxidation everywhere. The increased obstruction of the small arteries reacts on the tension of the blood, and this produces increased contraction of the heart, which continues to increase until the obstruction yields, and a state of peroxidation is set up by which the poison is partially destroyed. * * * This theory of ague admits of a reasonable explanation of the action of quinine and arsenic in stopping the paroxysms of the complaint. On the ague poison itself quinine and arsenic may have no action, but they pass into every texture from the blood, and combining with the nervous substance on which the ague poison acts, they form a compound on which the ague poison is incapable of producing an effect before it is oxidized and destroyed."

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* Bence Jones analyzes its action thus: "Sulphuretted hydrogen H_2S is decomposed by the ozone of the blood, the sulphur being precipitated whilst the hydrogen reduces the blood to a lower state of oxygenation. An excess of sulphuretted oxygen destroys the hæmoglobin of the blood and thus gives rise to a deficiency of oxygen in circulation."

*Von Tappeiner and Jodibauer[27] have recently reported interesting researches on the fluorescent substances and their dynamic actions, confirming their powers of acceleration of the oxidative effects of light. Edelefson[7] has also added to our evidence as to the oxidating action of fluorescent substances. He has determined that the peculiar germicidal action of fluorescing substance is solely due to oxidation.

Dr. A. F. A. King,[13] of Washington, D. C., who was the original promulgator of the theory of the transmission of the germs of intermittent fever by mosquitos, has in the last few years negatively supported the hypothesis of the suboxidation nature of malaria* by endorsing the views of Bence Jones, and personally proposing and defending the theory that the relative immunity of the negro is due to the opacity of the dark skin to any but the actinic elements of the solar rays, thus protecting him from the red (heat) rays.*

Recent researches by Cabot[1] have divulged the fact that the ring bodies found in the blood in malaria are not pathognomonic of malaria, but rather of the coexisting anæmia, he having found these bodies in many undoubted cases of nonmalarious anæmia and leukamia.

In the foregoing paragraphs upon malaria but little effort has been made other than the submission of evidence without argument in support of my contention that malaria is essentially a subcatabolic disease, and I have given but passing notice to the facts relating to infection, thus resting on my own conviction that it is but a single factor in the etiology. This involves the conclusion that the typical features of malaria are simply expressions of a phase of subcatabolism, and are not peculiar to any particular etiological factor.

The subject of water-laden atmospheres and their relation to disease has been further elucidated by the investigations of Baldwin Latham,[15] in India, on the climatic etiology of the plague. By means of a series of observations of comparative temperatures and degrees of moisture of the atmosphere and the earth, he found that, during periods of great heat and general atmospheric dryness, damp and heavy earthy effluvia are emitted from the ground, and prior to the diffusibility of the gases, they become essentially a factor of subcatabolic disease. There is a generally prevalent idea that humid and damp atmospheres are superior conductors not only of heat and cold, but also of organic emanations of the earth's surface, superficial and subsoil. It is a common observation that during humid and damp weather all bad odors are accentuated, and often odors, not at other times perceptible, are at such times pronounced. In the words of Sternberg:[35] "There are facts which seem to show that an extremely dry air either neutralizes the malarious poison or has no carrying power."

In relation to the plague, Latham[15] wrote: "While it is admitted that plague is due to a specific microbe, it cannot spread except under certain meteorological conditions associated with the conditions of the ground, which must be in such a state as to exhale what is necessary for the propagation and spread of this particular disease. * * * Some authorities are of the opinion that it is greatly augmented by a cadaverous poison in the soil, due to the presence of dead bodies and to refuse from slaughter-houses."

Hodges,[9] in directing attention to an "affinity" between plague and scurvy, wrote: "The affinity between a pestilence and a scurvy is not a slight and supposititious conjecture."

The significance of this will appear later on. Latham[15] wrote: "It will also be noticed that the deaths from the plague, remittent fever, and diseases of the respiratory system other than phthisis, and phthisis itself, follow each other in parallel lines."

Lynch[18] has written of the plague at Pakhoi in 1879: "The disease first makes its appearance in the month of May and continues until September. It is *always* preceded by a similar epidemic among the lower animals, and the general opinion of the Chinese is that it is due to some heavy earthy effluvium, which attacks animals inversely as their respiratory organs are elevated from the ground."

Deane[5] has written of the plague at Pakhoi: "The Chinese are of the opinion that the bubonic plague emanates from the ground, and is favored by a long continuance of dry weather, when the earth becomes porous and numerous fissures appear on the surface, facilitating the escape of whatever causes the disease."

Père Fenouil, missionary to Yünnan, wrote (Parliamentary paper on Plague, 1879): "The plague is really a pestilential emanation, slowly rising in an equable stratum from the ground, and as it increases in depth all animals are, as it were, drowned in its poisonous flood."

Latham[15] wrote: "The conditions which are conducive to the spread of plague are identical with those which give rise to the escape of malaria from the ground. * * * There cannot be a doubt that the conditions which ordinarily produce evaporation from water or land surfaces are identical with the conditions which produce exhalations from the ground, and that these exhalations consist largely of vapor of water, carrying matters injurious to health with them. * * * The general result showed that these earth cylinders* in the daytime, when the air was warmer than the earth, increased in weight, but at night-time, when the temperature of the air fell below that of the earth, the cylinders lost weight; showing that when the air was warmer than the earth, condensation took place, but that when the earth was warmer than the air evaporation took place. These experiments threw considerable light upon the influence of malaria, and explained some well established facts known in

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*The points submitted by Dr. King deserve more extended notice than the present paper will permit; yet they may be briefly epitomized as follows: Intermittent fever is spontaneously curable without medicine. Protection from light seems to be the only constant factor by which the spontaneous recoveries become explicable. Esculine and Fraxine comparable with quinine as antiperiodies, also possess fluorescent properties. Crescent bodies are seldom found in the peripheral circulation, where fluorescence is most active. Dr. King specifies heat as an important factor, which is confirmed by the researches of Latham. Dr. King's expressed idea is that the *plasmodia malariæ* are sickly famine stricken parasites. This agrees with my observation that they are degeneration products. Dr. King observes that iodine, which is an efficient remedy of malaria, by virtue of its possible change into blue iodine of starch, simulates the action of the Prussion and Methylene blues, which he does not attempt to explain. The phosphorescent and oxidizing action of *phosphorus* is well known to be due to its allotropic change from yellow to the red form, and the same effect of *iodine*, is its action in producing the allotropic change in contiguous phosphorus, at from 40 to 50 degrees F. lower than the normal temperature, and it likewise promotes the oxidizing activity of nucleins and lecethin. Heat, by decreasing the atomic and molecular weight of tissue constituents, has an opposite effect.

* Dr. King refers to Rhodes and Pepper as having "demonstrated over thirty years ago, long before we knew anything of the malarial parasite or mosquito, that in malarial diseases the fluorescence of the blood is diminished, and that quinine restores the fluorescence to its normal standard, and *pari passu* with this increase of fluorescence the fever disappears and the patient gets well." To students familiar with the pathology of catabolism, the above reference is extremely important, as recent advances in physics have confirmed animal "phosphorescence," as I prefer to call it, as an oxidation phenomenon.

*An earth hygrometer, consisting of cylinders filled with earth freely suspended in a perforated tube, within the earth, at depths of one foot and two feet below the surface.

reference to the influence of malaria, such as the circumstance that malarious countries can be traversed with impunity in the daytime, but are very fatal at night. The fact is that in all warm and malarious countries, especially in the day-time, when the air is warmer than the ground, no exhalations take place from the ground, but at nightfall, when the ground is often very much warmer than the air, these exhalations, accompanied with the vapor of water, escape from the ground. * * * The greatest amount of evaporation or exhalation would therefore take place when we have the maximum temperature of the ground and the minimum dew point; and at all times the exhalation takes place in proportion to the tensional difference between the ground temperature and the temperature of the dew point. * * * It is quite clear that if the temperature of the air increases beyond the temperature of the ground, so that its dew-point is above the temperature of the ground, instead of evaporation taking place, condensation takes place, and to this increased high temperature may be entirely due the sudden stoppage of plague after a certain temperature has been reached, which by raising the temperature of the dew-point, stops all exhalation from the ground and will cause condensation to take place, instead of evaporation. (If the air of a house infected with plague was warmed and saturated with the vapor of water so as to equal or exceed the vapor tension due to the temperature of the ground, it would effectually prevent emanations from the ground, thus imitating the mode nature adopts in stopping such emanations.) So also, where it has been observed that a sudden fall of temperature causes plague to arise, a fall of temperature means that the temperature of the dew-point must fall, and the tensional difference between a low dew-point and a high ground temperature would at once lead to exhalations escaping in large quantity from the ground, and so lead to the liberation of the plague bacillus from the ground, accompanied with the exhalations necessary for its development. Some years ago I made an inspection of the city of Bombay, and found that there had been a general increase of the deaths arising from diseases of the respiratory system other than phthisis, which I found was traceable to the blocking of the natural drainage outlets from the city, and the consequent stagnation in the movement of the underground waters. As these diseases follow in parallel lines the outbreak of plague, it would naturally follow plague was affected by similar conditions. * * * The conditions producing disease in India are in entire accord with the experience in other places, as it has been stated that in Dutch Brabant the people are more or less subject to intermitting fevers, in proportion to the distance of this water from the surface, so that, by looking into their wells, one may form a judgment of the comparative healthfulness of the several villages. (The latter quotation Latham made from Pringle.[29]) * * * It should also be borne in mind that the conditions which lead to emanations from the ground also control the emanations from the human body, and that these emanations are looked upon as extremely infectious. * * * With the dry atmosphere such as occurs in times when plague is most rife, the power to exhale vapors from the human body is enormously increased." Now a quotation from Sydenham on epidemic diseases in general: "There are different conditions in different years. They originate neither in their heat nor in their cold, their wet or their drought, but they depend upon certain hidden and inexplicable changes within the bowels of the earth. By effluvia from these the atmosphere becomes contaminated, and the bodies of men are predisposed and determined, as the case may be, to this or that complaint."

So much for a recitation of fact in connection with water-borne diseases. I wish now to direct attention to the following facts: Firstly, the *primary* cause of malaria and plague is atmospheric humidity or dampness, which may emanate from the ground as well as from rainfall. The humidity of inhaled air, by the production of hydræmia, causes a retardation of oxygenation, of oxidation, and hence of catabolism. The so-caused sub-catabolism furnishes the necessary susceptibility to infection, namely, the gelatiniform decadence of tissue, to which the organic effluvia, according to Latham, the water vapor, are capable of bearing the pathogenic organisms. Secondly, the *secondary* cause of malaria, plague, leprosy, and other (so-called) infectious diseases, is one or another variety of specific microorganism, which is more or less responsible for the vicious cycles of the several diseases and for the typical characters determining the differentiation one from another. Thirdly, even the most typical features of this class of disease do not differ so greatly but that all of the pathogenic anatomical changes are within the limits of the subcatabolic group, as observed in such diseases of nonparasitic origin. Fourthly, the progress of these diseases, both in individual cases and epidemics, is dependent upon the primary causes of subcatabolism, beginning and ending with the essential conditions of subcatabolic etiology. The only exception to this rule are death during the height of the disease and the progressive degeneration, the pernicious cycle of subcatabolism *per se,* which outlives the specific organism, as for example that which attends the evolution and decadence of leprosy, and the transition of tubercle and other lesions into malignant neoplasms. Fifthly, other causes of subcatabolism as chill, fatigue, narcotic habits, sexual excesses, anæmia—in general *suboxygenation, suboxidation,* and *malacidity* may and do act in the capacity of both primary and adjunct or aggravating etiological factors of all of these subcatabolic-infectious diseases. Sixthly, other diseases of the subcatabolic group may be the outcome of one or more of the primary etiological factors of the above-named class of diseases. So often has rheumatism been observed to follow the cause and common manifestations of malaria, that all books on the subject of rheumatism give a prominent place to the malarial theory of its etiology. Moreover in localities where malaria, plague, or leprosy prevails, an individual with any form of subcatabolism is recognized to possess a predisposition towards the particular disease prevalent. Any one can substantiate this from the literature of these diseases (see also Sydenham).

I have pointed out in previous monographs[28] that there are several etiological factors of subcatabolism, which I have not in the present paper connected with malaria, yet it may be said that any causative factor of catabolic stasis may play a part as a contributing factor of malaria, but malaria being a particular phase of catabolic retardation, it must be recognized that its peculiarity of syndrome is largely due to the variations dependent upon the nature of the particular etiological factors involved. Thus we observe that malaria *per se* varies accordingly as it is due to different causes, at different seasons of the year, different localities. It is varied by complications, by management, and by medicinal treatment. The hemorrhagic form of the disease is a good example of this fact. The scurvy of plague has its analogy in the hemorrhagic form of malaria.

There are many who, while viewing the above with favor, will demand more evidence, that the recent conversion of the profession to the monopoly of the mosquito (anopheles) of malarial etiology, is not all that has been claimed for it. To this end I will herewith submit some quotations from other writers that will be recognized as trustworthy, thus showing that the reaction against that theory is a healthy one: "Chenisse[3a] combats the idea that mosquitos should be regarded as the only basis for the etiology of malaria and yellow fever. First of all, the geographic distribution of the anopheles does not always correspond with the distribution of malaria. The disease has even completely disappeared in localities where the mosquitos still remain numerous. On the other hand, there are regions profoundly infected with malaria, where it is impossible to discover any anopheles. Epidemics of malaria have occurred under the influence of late and abundant rains, without the intervention of mosquitos. German army statistics show that the malarial curve is highest in the early spring, and descends abruptly in July and August, showing an utter lack of concordance with the prevalence of mosquitos. The prevalence of malaria can be more readily explained by meteorologic and telluric conditions. The author claims that the mosquito theory has been transferred to yellow fever by analogy only, since the presence and life history of the 'hæmatozoa,' causing the latter disease, have not yet been demonstrated. The condition presented by patients inoculated by infected mosquitoes is probably the inflammatory bilious fever of the Antilles. Concerning the extermination of yellow fever in Havana, the author says that the disease disappears spontaneously after a course of two to four years, and that the sanitary measures carried out on the soil have not diminished the number of mosquitos. Moreover, the war on mosquitos, carried on in certain other regions, has had no influence on the prevalence of yellow fever there."

Chenisse[3b] continues: "Celli mentions districts in which malaria is rife, anopheles abundant, but newcomers are not infected. Francesco points to districts deeply infected with malaria where no anopheles has been seen. Malaria can be propagated without the intervention of a mosquito of any sort. Epidemics after heavy rains have occurred in Algeria. In Eastern Prussia and Posen malaria is general from the onset of spring when mosquito bites must be rare. During July and August the disease suddenly decreases, although the soldiers are most discomforted then by bites. In Bessarabia, in May, 1901, malaria was twice as great as during the previous year, which was particularly rich in mosquitos. At Tomsk, Siberia, malaria commences when the thermometer registers 10° C below zero, which is hardly favorable to mosquitos. The experimental inoculations in yellow fever are suggestive, but the disease inoculated may be inflammatory bilious fever. We cannot attribute its disappearance in Havana to destruction of mosquitos."

Says the *British Medical Journal* (*Literary Digest*, March 5, 1904): "Dr. Emile Legrain, editor of the *Revue Médicale de l'Afrique du Nord*, and Dr. Alcide Treille, physician to the Civic Hospital of Constantine, and professor of the diseases of hot countries, both retired medical officers of the French army, offer themselves as the subjects of experiment. They will submit to be bitten by mosquitos fed on a patient suffering from quartan ague (the only type of fever on which one can count for an accurate and protracted observation). They undertake to use no preventive treatment beforehand, to take no bark or quinine in any form, and to use no antipyretic therapy. They will, in a word, allow the fever to pursue its course in them uncontrolled (with all the hæmatozoa it may please to develop, as long as it may please, and in any manner it may please). They consider Manson's experiments unscientific and inconclusive, and are anxious that the question may be tested on their persons before a campaign (as useless as it is likely to be costly), is entered upon in Algeria."

Many readers who are familiar with my previous writings on, and application of, the pathology of catabolism,[28] will probably demand tangible evidence of the coexistence of combining etiological factors and their pathogenic sequences, which would necessarily be manifested in different phases and stages of subcatabolic processes, of whatever nature. In view of the well recognized disposition of the new-born toward subcatabolic manifestations, varying from the simplest forms to the hemorrhagic affections, the recent report by Peters,[26] of an infant, born of a mother suffering from malaria during late pregnancy and parturition, showing no sign of the disease on blood examination after birth but developing the disease on the 51st day, without being exposed to mosquitos or a malarial environment, is interesting. In the above relation it is of interest that Radcliffe[30] has pointed out that "the initial rigor of fever, moreover, is coincident with wanting warmth, miserable pulse, sunken countenance, blueness of nails, cutis anserina, and other signs of vascular collapse, and subsultus with the most utter prostration of the powers of the circulation." Then emphasizing the suboxidation nature of the process, and elucidating that fever, a hyperoxidation is the outgrowth of suboxidation in general.

Now we are face to face with the probability, supported by negative evidence, that parasitic organisms do not pass the placenta, while conversly we have conclusive evidence that general suboxidation in the mother fosters suboxidation diseases in the offspring. Smith[34] has reported five cases of inguinal buboes, all complications of malaria and without a suspicion of syphilis or other venereal diseases. McElroy[20] has reported spontaneous gangrene, hæmoglobinuria, and other complications of malaria in Mississippi. Winfield[39] reports 25 cases of herpes zoster and cites others occurring in malaria, and expresses his disbelief in a special organism being the only causative agent. Wolf[40] has written interestingly of clinical observations of the intimate relations of malaria with appendicitis, of malaria simulating appendicitis and coexisting with it; plasmodia were found when blood examinations were made. Mays[19] has written on vertigo, with quite constant headache and backache, in cases with well defined history of intermittent fever, which were most effectively and promptly relieved with quinine.

Lerch[16] has directed attention to interstitial nephritis and peripheral neuritis as outgrowths of malaria. He also reminds his readers that "diabetes, gout, and other cachexias, arteriosclerosis and old age, and the severe anæmias may produce neuralgia or cause neuritis; gastrointestinal disturbances, especially constipation, are a common cause of neuralgia and sometimes neuritis. Cold and excessive work are the direct cause of both, though emotion frequently produces neuralgia when any of the remote causes exist, whereas it cannot cause a neuritis." Students of the pathology of catabolism will observe the significance of the related causes named.

Spiller[41] has reported a case of malaria with symptoms of multiple sclerosis. Plasmodia of the estivoautumnal type were reported found on autopsy in every capillary of the central nervous system, and the symptoms were thought due to thrombosis of the capillaries by the parasites. Moore[21] has also reported interesting observations on the frequent occurrence of nephritis with malaria. He observes that while it is not likely to occur in the single tertian type, it does in a large percentage of the double tertian, even approximately 80 per cent. "The more chronic the case becomes of any infection, the more likely to produce nephritis." "Malaria of long duration and often repeated attacks produce chronic renal disease." "Estivoautumnal malaria gives the greatest percentage of cases of nephritis, 68.7 per cent."

The remarkable report of Craig[4] of 1,267 cases in which the malarial parasites were demonstrated in the blood, 395, or 25 per cent. of them being unaccompanied by the clinical symptoms of malaria, or were masked by the clinical symptoms of other diseases, should lead us to ask whether the plasmodia are really specific parasites producing a particular syndrome, or whether these bodies are products of subcatabolic diseases in general. Craig[4] continues: "Malarial parasites have been observed in the blood undergoing segmentation, and not accompanied by marked symptoms, and in most cases by no symptoms at all."

Gros[8] reports two brothers, successively treated, both believed to have malaria. The first showed ascarides and the second malarial organisms, on examination. Both recovered on quinine. Powell[28] reports himself almost forced to the conclusion, however heretical, that the anopheles is not the sole transmitter of the malarial parasite. At Fort Hamilton, after a careful research and study, he was unable to find any of the anopheles type to account for many cases of malaria treated at the military hospital. Shoemaker,[33] confirmed previous reports on the rarity of coexisting typhoid fever and malaria, basing his conclusion on a large number of examinations made on returned soldiers of the Spanish war.

It would be impossible here to discuss the merits of the theory that plasmodia malariæ are really degeneration products of pre-existing blood cells, instead of parasitic organisms of foreign origin; yet it may be mentioned that their denomination as protozoa only signalizes them as simple animal cells or naked unicellular organisms, of which the white blood cells are quite typical. Englobation by less dengenerate cells is a property commonly observed of both parasitic organisms and cell detritus. Perhaps the most significant features of the plasmodia is their close relation to phases of cell degeneration: (1) Unpigmented hyaline bodies in the red cells, possessing amæboid movement; (2) pigmented bodies still possessing some amæboid movement, but exhibiting some expansion and increase of size; (3) segmenting bodies; (4) crescentic bodies within blood corpuscles; (5) flagellate bodies arising from the intercellular pigmented forms, ovoid bodies, or altered crescents; (6) free flagella (so called). All observers admit the great destruction of red cells and pigmentation of those leucocytes maintaining their identity. Anæmia increases parallel with the attainment of the state of malarial cachexia and the hemorrhagic forms.

I can suggest no better sources of investigation of the problems of cell inclusions and of the antiparasitic interpretation of them than to refer the reader to the writings of Pianese,[27], Dean,[5] Lack,[14] and others who have recorded such brilliant studies into the parasitology of cancer. Pianese in particular, who explains in an exhaustive manner the origin of bodies which have by others been interpreted as parasitic organisms, held as cell inclusions. He specifies among the various ways that they occur, that they arise variously from degenerations of the protoplasm or nuclei, atypical mitosis, or from phagocytosis. It will be recalled that Neisser,[22] in his theory that coccidia, a subclass of the sporozoa, is a specific parasite of cancer, described as crescentic, as a final transition form. However, Cabot's[1] findings of ring bodies as products of pernicious anæmia, lymphatic anæmia, and the anæmia of lead-poisoning is second to none in importance.

Now I wish to submit a few thoughts to bear upon the present conceptions of bacteria in their biological and pathogenic relations. There are undoubted marked variations in cell life, changes in form, structure, and physical expression, as influenced by changed environment and essential conditions of their existence, with which biologists and bacteriologists are as yet unfamiliar. Such changes have been studied by zoölogists in higher animal organizations, and much has been done by evolutionists in the development of our knowledge of variation, acquired characters, adaptation, acclimatization, etc. As far as our knowledge goes, we have reason to believe that the mutations in unicellular organisms and detached and circulating cells of higher animal life are subject to and experience much more pronounced and profound variations as they come into contact with new environments, conditions, influences, and affinities, than the higher and more established and stable forms of life. Yet owing to the difficulties of investigating microscopical forms of life, they have been so little studied that our knowledge of them is very scant.

There are many diseases about which much controversy is now prevalent, as to whether certain microscopical specks observed are the products of pathological cell changes or are parasitic organisms. Clashes are constantly occurring now between biologists and bacteriologists, over the microscopical findings in malignant neoplasms. Malaria has furnished some food for discussion regarding the true nature of the *plasmodium,* generally regarded as a parasitic organism of the simplest unicellular type, an amœba, variously described by different observers as found in divers conditions in the spherical, ring, and crescentic forms. When spherical they are described as of about one-fourth the size of a red blood cell.

Under certain vicissitudes, variously produced, it is well known that unencapsulated cells, as amœbæ and leucocytes, for example, by stimulation contract, greatly decreasing their circumference, and coincidently exuding a high percentage of fluid inclusion. If this stimulation be persisted in, they become granular, and if in a suitable environment, will become impregnated with an excess of pigments, calcareous deposits, or what not, and finally will disintegrate, fragments in ring and crescentic formations being not infrequently found. If this effect was somehow produced on the blood cells the hydræmia and the typical features of the *Plasmodium malariæ* would theoretically be in evidence. This can be taken for just what it is worth.

Any of the above-mentioned causes of malaria, while not all conducive to the transmission or inoculation of a parasitic organism, are without exception undoubtedly producers of suboxygenation (anoxæmia), and, as can be easily proved experimentally in each instance, would produce exactly the same retrogressive features as are above described. Thus from the standpoint of assigning malaria as a disease of anoxæmia, our working hypothesis accounts for all typical features, while from all other standpoints taken singly and individually, it has been necessary to exclude many incompatabilities, which, though too common a procedure in medicine, would insure its dethronement in the physical sciences. In the words of Dumas: "Theories are like crutches. To find out their value we must try to walk on them." It is evident that conceptions of a subject that are only partially compatible with it, and to some extent entirely irreconcilable with it, would prove to be poor crutches to depend upon. As may be culled from the above contribution, I predict advancement and radical changes in our conceptions of individual cell life during the next decade. The cooperation of divers recognized factors of malarial etiology, as cold, fatigue, etc., in the rôles of predisposing and exciting causes, and as related to infection, I have analyzed and treated more exhaustively than the present paper would admit of, in an unpublished article* setting forth an attempt at a biological classification of symptomatological manifestations of disease in general, in relation to subcatabolism and to the several causative factors of subcatabolism. This paper is commended to those who desire to extend the present line of investigation. The discussion of hemorrhagic, melanæmic, and cachectic features of malaria also will be elucidated by reference to these manifestations as they occur in the above-mentioned biological series, and are discussed in relation to their etiological factors. The interrelations in symptomatology are so strikingly illustrated in connection with the biological series, by the literature of temperament, diathesis, dyscrasia, etc., that I have been led to discuss the biological series in that connection, and malaria thus bears an important relation.

Accordingly as manifestations of the more advanced stages of the biological series complicate, or dominate over, the malarial type of symptoms, the custom has been to denominate them, for example, in the former instance as rheumatic or hemorrhagic stages of malaria, as the case may be, or in the latter instance of rheumatism, or a purpura of malarial origin. Thus we have the malarial theory of etiology of rheumatism. Persons, from the same etiological factors, have acquired divers diseases, as according to nineteenth century literature, was determined by one's preinherent diathesis—malarial, rheumatic, hemorrhagic, etc. Quite a group of diseases, including tonsillitis, bronchitis, asthma, chorea, endocarditis, etc., are listed by reputable authors, variously as specifically connected with malaria, rheumatism, gout, etc., or as diseases of malarial, rheumatic, or gouty diathesis. They are referred to not infrequently as constituting the malarial, the rheumatic, or the gouty series.

A fixed series of manifestations, arranged as they occur in a definite retrogressive order, which I have denominated the biological series, owing to their exhibition also, by the fundamental forms of life, the interrelation of and the manifestation types of stages of this series explains the states of different diseases, as various symptoms or manifestations predominate in, or dominate a pathological process. The biological character and the succession in definite order and stages of events appear to have been overlooked by investigators, or possibly owing to a deficiency of confirming evidence they have, to the best of my knowledge, failed to report it.

Finally, the term Malaria, which is derived from *mala aria* (malicious air), certainly indicates definitely the original use of the term, and, moreover, that the fundamental conception of the real nature of the disease was more correct than that most current to-day. As I have pointed out above, that the symptologic syndrome of the disease is essentially one of subcatabolism, and is largely due to some form of vitiated air, the newly discovered factors, the *plasmodium* and the mosquito, should be relegated to the subordinate position of contributory factors, instead of adopting the absurd and confusing custom of revising our conceptions of a disease *per se*, whenever a new factor is proved or accepted as bearing an etiologic relation, which, owing to ignorance of underlying etiologic actions, we have been unable to reconcile to our preconceptions of the resulting syndrome. Instead, let us profit by the dictum of Liebig: "Every phenomenon of nature is dependent on more than one cause."

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THE USE OF SULPHATE OF COPPER ALONE, AND IN COMBINATION WITH LIME, FOR THE DESTRUCTION OF MOSQUITO LARVÆ, AS A DEODORANT, AND AS A DISINFECTANT.[*]

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SULPHATE of copper has occupied an uncertain position in sanitation inasmuch as its value has been differently estimated in various parts of the world. This has been largely due to the absence of satisfactory scientific investigation. It was for the purpose of securing some definite and reliable information regarding this agent that a series of experiments were begun early in this year at the New York Quarantine Station. The investigation covered the following points: (1) The use of copper alone, or in combination with lime, for the destruction of mosquito larvæ; (2) as a deodorant; (3) as a disinfectant.

In the tests employed to ascertain the value of copper for the destruction of mosquito larvæ every effort was made to carry out the work in a practical and thorough manner. Superficial wooden tanks divided into two parts were constructed for this purpose. each part having a capacity of fifty gallons; to these tanks was carefully transferred water containing mosquito larvæ taken from pools in districts where this insect was actively propagated. While both sections of the tank were filled with water containing the larvæ, the experimental work, *i.e.* the addition of copper, or copper and lime was confined to one section only, the other being used simply as a control to ascertain the length of time the larvæ remained alive in the water not treated with the agents above referred to. In some of the experiments decomposed meat or fish, sewer water or some other offensive fluid was added to the original pool water in both sections of the tank. This was done to increase the amount of organic matter present in order to ascertain the action of copper and lime in various solutions and also to learn in what kind of fluids the larvæ thrived best. Three stock solutions were used in the experiments. Number 1, consisted of one pound of copper to ten gallons of water; number 2, one pound of lime to ten gallons of water; number 3, one pound of copper and one pound of lime to ten gallons of water. A gallon of one of the above solutions was added to every fifty gallons of water containing larvæ experimented with. This constituted about twelve grains of sulphate of copper for each gallon of water tested, and an equal amount of lime when this agent was used. It was shown early in the experimental work that, so far as the destruction of the larvæ was concerned, the use of copper alone was less effective than when used in combination with lime. This was also apparent in the tests made with copper to ascertain its value as a deodorant. Numerous experiments were made with weaker and stronger solutions of copper and lime than those already referred to; however, it was proven by these tests that the mixture containing one pound of copper and lime and ten gallons of water offered the best and most constant result.

The larvæ contained in the portion of the tank in which the copper and lime alone or in combination were added very soon became inactive, and by the end of twenty-four to thirty-six hours a large percentage of them were dead. It is important to know that while this change took place in the portion of the tank containing the copper and lime, the larvæ contained in the other portion of the tank remained active and passed into the pupal stage, and subsequently became the winged insects. As already stated, this portion of the tank was used only as a control.

Immediately after the introduction into the tank of the copper or lime, or both, the water became turbid, and a precipitation began, which continued for a number of hours. The result was striking even in tanks where sewer water, or decomposed meat or fish had been added. At the end of eight or ten hours in almost all of the tests, the water became beautifully clear. Chemical examination made at the end of twenty-four hours failed to detect the presence of copper in the clarified water. The precipitation and destruction of larvæ referred to followed the introduction of either copper or lime alone, but it was much more pronounced when they were used in combination. An explanation of the above may be given as follows: When water is added to calcium oxide (unslaked or rock lime), the oxide is converted into calcium hydrate. On the addition of this to a solution of copper sulphate a reaction takes place, which forms copper hydrate and calcium sulphate. The copper hydrate, being insoluble in water, forms a precipitate; the calcium sulphate present, if more than sufficient to saturate the water, will also form a deposit. When copper alone is used, the precipitate is as a rule due to the combination of the copper with the lime as a normal constituent of the water. When lime is added with the copper, the precipitate is necessarily more pronounced. This change involves a chemical and mechanical combination with the organic matter present which is carried down with the precipitate. It is in this manner that the organic matter is removed from the water which practically means the abstraction of the nourishment upon which the larvæ unquestionably live. After the addition of lime and copper to the water, the larvæ dies slowly and some succumb sooner than others. .This is essentially what will take place in starvation. As already stated, the precipitation and the destruction of larvæ followed the introduction of either copper or lime alone, but was more pronounced when they were used in combination. As proof that the larvæ were not killed by a toxic effect of the copper, the following tests are presented. Larvæ placed in distilled water, which contained no organic matter, and to which no copper or lime was added, lived but a short time. Furthermore it was shown, in the tests made in the tanks, that if a very large amount of organic matter was added to the water experimented with, so much that the copper and lime could only precipitate a portion of it, the larvæ were not materially affected. It was found that the use of lime, which causes a precipitation equal to that produced by copper, killed the larvæ as quickly as when copper was used. In connection with this part of the subject it may be said that experiments in this direction were made with sulphate of iron and alum alone, and in combination with lime. These agents, however, did not produce the satisfactory results noticed when copper and lime were employed.

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A careful study of the experiments just cited leads to the conclusion that the destruction of larvæ in water to which copper or lime, or both, have been added is due to the rapid removal of nourishment rather than from any toxic effect produced by these agents.

In the second series of experiments, *i.e.* to ascertain the value of copper as a deodorant, many tests were made with various forms of offensive matter both fluid and solid, including decomposed meat and fish, sewer water containing fecal matter, etc., etc. The same solutions were used as in the experiments made with mosquito larvæ. The experiments showed that although copper acted as a deodorant it was not so uniformly successful as when used in combination with lime. In water made very offensive by adding organic matter from sewers, or decomposed meat or fish, the valuable deodorizing qualities of copper and lime were very apparent. Less than half an hour after the addition of these agents there was but little or no odor perceptible. This result was as a rule permanent, and only in a few instances was it necessary to make a second application. The deodorizing and clarifying effect of copper and lime on offensive and turbid water is remarkable, and can only be fully appreciated by those who have witnessed the experiment. The effect of the mixture on offensive receptacles and apartments such as pails, barrels, vaults, cesspools, cellars, stables, etc., etc., is pronounced and exceedingly satisfactory. This result also follows the liberal use of the mixture of copper and lime on garbage heaps, etc., where organic matter has been in process of decay for a long time and where the odor is very obnoxious. The use of the mixture in the latter instance may be regarded as a severe test. In some few instances it was found that the decomposed organic matter present was in such large quantities that the amount of copper and lime usually employed for the purpose was not quite sufficient to produce the desired result. In these cases an additional half pound of lime was used, thus making the formula one pound of copper and one and a half pounds of lime to ten gallons of water. As a matter of fact even more copper and lime than this may be used if it is deemed necessary. However, the formula generally used (one pound of copper, one pound of lime and ten gallons of water) was as a rule found to be sufficiently strong to deodorize the offensive matter with which it was brought in contact. It must be remembered that in deodorizing solid masses the mixture is used in full strength, whereas in deodorizing offensive fluids one gallon of the mixture is added to from thirty to fifty gallons of the fluid treated.

The need of a practical and effective deodorant has long been fully appreciated by sanitarians. A true deodorant is one which destroys offensive odors by neutralizing them and not by masking them with a stronger odor. But very few good practical deodorants are at our command. The use of the preparations of lime in powder, although commonly employed, are not satisfactory; neither is any deodorant in the form of powder applicable to general use for the reason that it does not insure an intimate mixture with offensive material. The difficulty in securing good results from the use of deodorants in this form is illustrated in attempts to deodorize masses of garbage, etc., in which instances only a portion of the material can be treated, as the powder cannot be properly applied to all parts of the mass. Bromine has for the past ten or fifteen years been regarded as the best deodorant in use, and justly so; however, the employment of this agent is associated with considerable danger inasmuch as it violently irritates the respiratory tract, so much so that, in making solutions of it for deodorizing, it is necessary to break the bottles containing the bromine under water. On the other hand both copper and lime are practically harmless and their use is attended with no danger; besides, they are comparatively very cheap. Sulphate of copper can be purchased for five cents per pound, and lime for three cents per pound. A ten-gallon solution therefore can be made for eight cents. When we consider that a gallon of this mixture will deodorize and clarify thirty to fifty gallons of offensive and turbid water, or in its full strength deodorize a considerable mass of decomposed solid matter, it will be seen that very little expense is attached to its use. Again, in contrasting bromine with copper and lime, it will be found that in treating decomposed organic matter the effect of the bromine, which is very volatile, is transient, and frequent applications must be made to prevent the recurrence of offensive odors. On the other hand a single application of the mixture of copper and lime is generally sufficient; more than two applications are rarely needed. This factor alone is of great practical importance.

Sulphate of copper has a strong affinity for sulphur, forming with it insoluble sulphides. Therefore the value of this agent as a deodorant is largely due to this fact inasmuch as the offensive odor emanating from decomposed animal and vegetable matter is commonly caused by the formation of sulphur compounds.

In the use of copper and lime it must be borne in mind that when these agents are mixed together a precipitate takes place. This contains the important deodorizing elements, and it is imperative that the mixture should be well stirred when being supplied. Care must be taken in selecting the copper and lime and in preparing the mixture in order to secure a satisfactory result. Fortunately, sulphate of copper, commonly known as "blue vitriol," is so cheap that it does not invite adulteration, but it is sometimes confounded with "copperas" (sulphate of iron). Chemically the lime used in the preparation is called calcium oxide, but is commonly known as "unslaked" or "rock lime." It is purchased either in barrels or in tin cans, the latter being preferable as it better insures protection against the air, although, if properly protected in barrels or large receptacles the result is practically the same. Lime which has been exposed to the air and is known as "air-slaked" lime, is worthless for this purpose. The unslaked or rock lime used in this mixture must not be confounded with chloride of lime. In preparing the mixture which I have recommended as a deodorant, and which is composed of one pound of copper, one pound of lime and ten gallons of water, it is advisable to first dissolve the copper by placing it in a linen or muslin bag suspended by a string just below the surface of the water. In this way it is dissolved much more rapidly than when the copper is thrown to the bottom of the receptacle and stirred. For example, the copper may be dissolved in six or eight gallons of water, leaving the remainder of the ten gallons to prepare the lime which is done by placing the latter dry in a pail or other receptacle and gradually adding water and stirring until the "steaming" or "slaking" is completed. The lime is then gradually added to the water in which the copper has already been dissolved, the mixture being constantly stirred during this time—a precipitate then takes place. In a well-covered receptacle the mixture may be kept indefinitely as a stock solution.

In the treatment of offensive masses, such as decomposed organic matter, garbage heaps, offensive woodwork, vaults, etc., etc., no complicated apparatus is necessary for the application of this mixture. An ordinary garden sprinkling pot, made of tin, and of a large size, is all that is needed for this purpose. This mechanically distributes the mixture. As the latter is rather thick, it is best to enlarge the small openings in the sprinkler by inserting an awl, or some smooth and round instrument. This allows a freer exit of the mixture. In deodorizing offensive solutions the sprinkling pot is not needed, as the mixture is simply added in the proportion of one gallon to thirty to fifty gallons of the fluid to be treated. The mixture of lime and copper will more or less adhere to the various receptacles. However, if it is desired, it can, after a sufficient exposure, be easily removed by a stream of water. In cellars, etc., the mixture may be applied with a whitewash brush. However, for offensive woodwork the employment of the sprinkling pot is preferable. A severe test for the mixture may be found in stables where the ammoniacal odor is very strong and pungent, particularly where urine-soaked wooden floors exist. The good effect of the mixture in these cases is apparent within an hour after its application. The solution of copper alone or in combination with lime so far as my experiments have shown, has no effect upon or does not discolor white linen or cotton goods soaked in this mixture for six or eight hours. At the end of forty-eight hours some slight greenish discoloration in streaks was noticed. However, this discoloration was quickly removed by warm water and soap. As a matter of fact, to deodorize material of the kind just referred to, it is only necessary to let it remain in the mixture for two or three hours at the most.

Experiments to determine the germicidal value of sulphate of copper are now under way in the laboratory at this station. Thus far I am able to report the following:

In tests made with typhoid bacilli in distilled water, tap water, water from sewers and broth, it was found that in distilled and tap water a solution of 1-10,000 killed in one hour. In distilled water a 1-100,000 solution killed in two hours, while in tap water it required from six to eight hours to produce the same result. In water taken from street sewers, a 1-1,000 solution was required to kill typhoid bacilli in one hour, while in broth it required a 1-300 solution for this purpose. It is of importance to note that in these experiments a greater amount of copper was required, as the organic matter was increased in the fluid. In tests made with the cholera organisms, it was shown that they succumbed in a much higher solution and more promptly; for instance, a 1-10,000 solution in distilled water killed the cholera organism in twenty minutes, while it required one hour to effect the destruction of the typhoid organism. It was also shown that a 1-200,000 solution killed the cholera organism in two hours. I have simply cited the above experiments relative to the germicidal effect of copper to suggest what the possibilities of this agent may be as a disinfectant. This part of the investigation will be exhaustively carried out and the result when completed will be published in detail.

In summing up the value of copper alone and in combination with lime, under the three headings given at the beginning of this article, I can state as the result of my experimental work that in the destruction of mosquito larvæ, and as a deodorant, the use of copper in combination with lime is more effective than when used alone. That this mixture destroys mosquito larvæ by rapidly removing from the water in which they are contained the organic matter or nourishment upon which they depend for life, and that this result is not due to a toxic effect produced by the copper or lime. Therefore the range of usefulness of these agents, either alone or combined, in the destruction of mosquito larvæ is limited. In swamps or bodies of water covering large areas, where fresh water and organic matter are constantly being added, the use of the mixture is hardly practicable, and its value in these instances is not very apparent. However, in collections of stagnant and offensive water, where the mosquito larvæ are frequently found in enormous numbers, the mixture of copper and lime is of great value, inasmuch as it not only destroys larvæ, but deodorizes the offensive fluid. In swamps, etc., where there is usually but little sunlight, and where there is the most active propagation of the mosquito, there is no doubt as to the superiority of petroleum, not only for the destruction of the larvæ but in driving away the winged insects. I desire to be emphatic in the statement that I suggest the use of copper and lime, or petroleum only when it is impossible to carry out the scientific and radical measures for the extermination of the mosquito, *i. e.* proper drainage and the observance of the laws of modern sanitation.

In regard to the use of a mixture of copper and lime as a deodorant, I believe it to be the most valuable and practical agent we possess at present for this purpose. Its action as a deodorant is rapid and permanent, it is practically harmless, cheap and easily made, and seems to comply with the requirements of a typical deodorant. Furthermore, its range of usefulness is extensive, as it can be employed equally well for deodorizing solids or fluids.

As I have already stated, but little can be said at the present time regarding the germicidal value of copper. However, it is likely that the publication of the results of the investigation regarding this agent, which is now being carried on in different laboratories in this country, will furnish valuable information in this direction.

QUARANTINE, S. I.

Alpine Disasters.—According to the *London Globe* the present year will prove to have been the most unfortunate on record for mountaineering fatalities. In 1898 there were 37 fatal ascents, 47 in 1899, 48 in 1900, 63 in 1901, 119 in 1902, and 148 in 1903. For the present year the total is 152 for the Italo-Swiss side and 150 for the Austrian and French Alps.

THE "SUB-CONSCIOUS SELF."

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One of the most curious marks of distinction between man and his brute companion is the fact that at times the former shows his inconsistency by demanding proof for his own existence; or, what is equivalent, he realizes that he exists. While some would have us believe that mind has no reality other than as a mere epiphenomenon to the real underlying current of material reality, others again, not satisfied with their own identity, demand that we accept the tenet that each man has two selves. Still others, as if attempting to try our credulity in the elusiveness of human reason, deny the existence of mind as an entity and yet surprise us by telling us they believe in a sub-conscious self. No wonder that in the presence of such juggling with the unity of personality one at times longs inadvertently, even though inconsistently, for some criterion as an absolute proof whether "I be I."

Has Mind Any Reality?—Could mental phenomena be given length, breadth and thickness all controversy would vanish, but, nevertheless, the non-spatial character of consciousness is no excuse for denying it action and reaction, even though those terms do tend to carry with them a purely physical significance. We speak continually and without apology of the effect of mind on body, of suggestive therapeutics, of the motive force or power of an idea, et cetera. Are they mere terms to fill in an inexplicable gap, or are we to give them causal significance? Dare we impose moral obligation on man and yet hold to the universal application of a purely physical law of causation? In an explanation of mind as an interaction of atoms we forget that the essence of interaction is relation and that relation demands a unitary consciousness as a subject. Beauty, relation, harmony and similar terms demand a unitary subject to which they can be referred. To attempt to prove knowledge of self and personal identity would be to attempt to prove that which must be assumed before any truth can be stated. It is one of the axioms of psychology. The ultimate psychic fact is "I know"; or what is equivalent "I am I"; or, still more briefly, "I." For the present discussion, it is unnecessary to state or defend the ontological entity of mind. Even should we dogmatically assert its ontological entity it would only be doing exactly what materialists do who postulate the brain as the only reality to be dealt with in speaking of psychic phenomena. The brain *as an object of experience* is subject to the laws of perception; and perception is through and through a psychological process. The positing of objective realities is by no means a simple process when analyzed according to the laws of perception. However, each man knows his own identity by direct experience, and viewed thus as a psychological fact such knowledge of identity must be looked upon as the ultimate requisite for all thought. We ascribe unity to things but, when analyzed, things are anything but units, the only physical unit being found in the hypothetical atom whose unity is, after all, based upon and derived from the unity of consciousness which every man knows himself to be. Of all things none is so real as one's "self."

What Do We Mean by a Self?—Generally speaking, man considers himself to be that which can be looked upon as his own conscious experience. I am what I am to-day because of the circumstances in which I am thrown. A myriad of agencies are, in a sense, determining my self-content. As an individual my present content of consciousness, whatever its origin, is the climax of a long series of conscious experiences known to me as a continuum which was and now is. It might be somewhat tautologically expressed by the one sweeping statement "all that is not other than me is I." This, however, is equivalent to merely saying "I am I" or "I." Inexplicable? Yes. No one attempts to explain existence in any other way than by existing. Hume, that master-sceptic, acknowledged that even though at his desk he could argue himself out of existence, yet in the daily contact with fellow-men his own reality forced itself upon him with irresistible conviction. All attempts to prove one's own existence or non-existence end in a ***reductio ad absurdum.*** The unit we call self is indispensable to any statement or argument.

Whatever else this "self" may be it surely is not the physical organism as such. All, it would seem, agree to that, and all alike agree to a very intimate relation between consciousness and the so-called physical organism. In fact, indisputable proof of the dependence of conscious life upon nerve processes is to be found with little trouble, but when you reverse the statement and claim that a brain or nervous mechanism, *as an object of experience,* is equally dependent upon perception, which is a psychological process, then we hear dissent in every direction. One statement is as true as the other. Neither is false nor do they contradict each other. In perception the subject and object are of equal importance and their positions can be reversed without violence to the truth. Every object, of whatever kind, is what it is only in relation to something else, and causal relation is but a deduced law by which to explain events chronologically. It can not be said that any one person is the cause of any other and yet for the time being every individual gets his existence out of the person or thing upon which he has his attention exclusively centered. That which engrosses one literally makes him. When one says "mind what I say," he calls upon his hearer to take what he says and apperceive it, *i.e.* build it up into his own self-consciousness. In that sense the one literally becomes or, you might say, causes the other. Also, vice versa, the object, upon which his attention is centered is in the same sense dependent upon his synthetic perceptive powers for its existence *as an object of experience.* What it is other than that it is folly to ask, for science is based upon experience, and back of experience we can not go. Kant's "Ding an sich" is a worthless abstraction having no counterpart in experience.

This self of ours, then, in which we have such a warm interest, is that which is built up or builds itself up (if the term be preferred) out of the objects or stimuli which fall within its grasp at the time. It is, of course, manifest that this is no explanation of how consciousness came to exist. It is just as futile to ask how consciousness comes to exist as to ask the origin of so-called matter. All reality as an ontological entity merely is. Causality is an afterthought to explain events, and all explanation begins and ends in accepting the unexplained. The continuum or unity of experience which every man knows by direct experience is "self." That it is exceedingly complex in its relations is only too manifest. Stimuli too feeble or foreign to the nature of the physical organism to awaken a conscious counterpart nevertheless have their effect in modifying the substratum which does, so to speak, mount to the realm of full consciousness. All of us have had vague feelings of a change in surrounding conditions without being able to point out definitely the physical changes which have wrought the indefinite conscious content of the moment. Who has not found himself humming a tune and been subsequently surprised to encounter some one humming the same tune? Entirely unconscious of the fact that his humming was started by having heard the other person, he ascribes the mystery to a peculiar coincidence, not realizing that the impression, now lost entirely from the content of consciousness, was at one time a flash of consciousness of sufficient strength to set in motion that train of experiences which is now recognized in its full significance but without apparent cause or precedent. Because the original impression is lost from memory he classifies the whole as unconscious physical activity. On the contrary he has gathered up the indistinct and incorporated it as part and parcel of his conscious life, even though it has been lost from memory as an individual state of consciousness and has been engulfed in that continuum we call "self." To gather up the sum-total of such subliminal impressions as these and designate it a "sub-conscious self" can only be figurative. Even should they attain unitary reality it would be more nearly the truth to look upon it as a second self rather than as a "sub-conscious self."

Is There Any Distinction Between Consciousness and Self-Consciousness?—The dividing line between the conscious and the unconscious is exceedingly difficult to draw. That all microorganisms are endowed with "wills of their own" is a conception not devoid of truth, for existence itself is evidence of the presence of spontaneous activity. However, there is danger in carrying our own conscious experience over into things which simulate externally what we experience. Too often perceptible motion is held to be the sole criterion of life. Recent investigations would indicate that spontaneous motion is to be found even in crystals. The hair from the horse's tail soaked in water comes to move in a most mysterious way and it takes but little imagination to give it a volitional existence equivalent to that of the angle worm disturbed in its earthy home. Observe the man who is absorbed in some idea which envelops his whole being. Motionless, with eyes staring into space, even the reflex of winking absorbed in the higher nervous mechanism involved in mental exertion, he appears a lifeless statue, and yet here is the highest intensification of conscious existence, though self-consciousness as such is perhaps reduced to a minimum. Who has not lost himself in the harmony of some symphony, in the intricacies of an absorbing plot or in the solution of some problem? Here is the epitome of consciousness and yet self-consciousness only emerges in the recovery of ourself from the stream which is carrying us along. This is the proof of our existence in that we can wrest ourselves from the whirl of events and posit our own existence as a real unitary being capable of being affected as well as taking part in and affecting the course of events about us. To ask how or why we do it is to ask the origin of existence, which is absurd. We must accept existence as an axiom with which to start. The fact that the mind can appear to itself at all is the most valid proof of its own reality. We may add data in an attempt at proof, we may argue this and deny that, but after all we continually return to the point from which we started, viz., our own unitary self-conscious existence, *i.e.* "self." It is a reality, which will not down. To argue its nonentity is the strongest proof of its existence, for argument, relation, thought and kindred activities demand a unitary substratum for their basis. This substratum, whatever its origin, is for each man all he is or has in the world. The conscious pervades all reality, but the self-conscious is the trademark of personality.

What Is the Relation of This "Self" to the Physical Organism?—All physiological and physical explanation is based upon the atomic theory, and if all reality is to be referred to atoms then all that is must in some way be composed of atoms. Consciousness would thus lose its unity and identity in a complex of atoms in which there is no real unity. To presuppose a unit as either the origin of or result of this complexity of atoms is to surrender the original postulate of the atom as the ultimate unit of reality. Grove tells us that particles of water are estimated to be, relatively to their size, as far apart as a hundred men would be if equally distributed over the surface of England; yet, if we are to believe our materialistic brethren, out of the friction of these remotely separated units, arises that unique unit of experience which we designate self or personality. To be consistent, if this personality in turn is granted any sort of reality, it too must be made up of atoms, but this destroys the real unity which we know ourselves to be and also contradicts the original postulate. In consistency with the atomic theory no unit can be reached other than the original atom with which we started. However, if we stop to consider that the atom is but a hypothetical unit based by analogy on the self-conscious unit we know ourselves to be, the inconsistency becomes all the more flagrant. Either the mind must be looked upon as quantitative or the atomic theory does not apply to consciousness as such. If mind is quantitative then in consistency with the atomic theory it must be granted that it is a real entity. If the atomic theory does not apply then there must be sought other grounds of explanation than those based upon causation and the atomic theory when the relation of mind and body is under consideration.

The atomic theory does not apply to consciousness. It is but a method of dealing with physical phenomena, and so long as kept within these bounds it works. Outside of that realm it is utterly inconsistent, contradictory and inapplicable. It is a cosmological and not an ontological theory. Ontologically there is no antithesis between mind and body. Men have ever struggled to understand or explain how molecular changes are transformed into consciousness, whereas from the standpoint of reality there is no transformation at all. You may say, if you choose, that mind is a "result" of the interaction of atoms, but if so, you must grant the "result" some sort of entity, else, in consistency with the hypothesis, it is not a result. To merely state, as Huxley does, that mind is an interaction of atoms, is but to say that mind is an abstraction, for interaction is but an abstraction. In this we find ourselves in another contradiction, viz., unity is necessary to abstraction instead of being the result of an abstraction. It is just as consistent to explain the lightning by the clouds as to explain mind by matter. The one is indispensable to the other so far as our understanding of them both is concerned, but one reality can never be explained by another when both are but the outgrowth of a unitary substratum, the comprehension of which is necessary to an understanding of either. Huxley may say: "Thought is as much a function of matter as motion is," and yet it is unnecessary to point out the contradiction in such a statement, for he himself contradicts it by adding elsewhere: "I am utterly incapable of conceiving the existence of matter if there is no mind in which to picture that existence"—a complete confession to the action and reaction of mind. Each statement is but the result of consideration of the same reality from two standpoints irreconcilable on the grounds of perception as now held. The same double-sided reasoning led Kant into his celebrated antinomies which were the result of arguing a while from the physical side of reality and then a while from the psychical, with an attempt to harmonize the two when in fact there is no antithesis between the two and ontologically both blend with an intimacy which defies analysis.

Can "Self" Be "Subconscious?"—That which makes me is the fact that I know myself to have been in the past and that I am now. Of what is that continuum made up which asserts its own identity as the content of my present experience? The term "made up" seems to imply a spatial compound and is therefore in a sense objectionable, and yet that stream of conscious experience carried along in memory constitutes the self in which men manifest such varying degrees of pride. That the content of self may and does change from time to time is a matter of every-day observance, and, speaking in a loose popular sense, we have as many selves as we have diversities of interest. The intimate application of mind and body leads us at times to look upon the body as a self, but in their thoughtful moments but few men will assent that they are either their bodies or their clothes. However, as to their mental make-up, but few men are unaffected by them. The girl who delights in donning her mother's clothes or the boy who struts about in his father's boots experiences an expansion of personality which it is difficult to keep from designating as a spatial enlargement of self, though we well know that space is in no sense objective. Every one finds himself enlarging to include, as it were, his personal belongings. On the other hand, how we shrink within ourselves like a snail in his shell when (if you will pardon the slangy but significant expression) "we give ourselves away" in some ridiculous blunder, of which we are ashamed? It belittles us. There is less of us in our own estimation and in the estimation of others. We feel our circle of influence contract and, after all, the magnitude of a man is the extent of his influence. Gradually every man builds up a sort of psychic reserve which he, as well as others, recognize as his "self." Through strife one obtains his existence and through strife the same is maintained. No action or reaction is so insignificant that it is lost sight of in the great maelstrom of reality.

Such distinctions as "above" or "below" the threshold of consciousness seem uncalled for, because whatever comes into consciousness must of necessity be above the threshold for the time being. To speak of a subconscious or unconscious self would be about the same as speaking of black light, dry water, or, as Schopenhauer puts it, "wooden iron." In order to be a self at all one must at least be conscious. That one may sink to a lower or rise to a higher realization of self is a matter of every-day experience, and the voluntary is at times exceedingly difficult to separate from the mere reflex. Changes in one changes the other, but the two are ever separate.

Can a Man Have Two or More Selves?—The answer to this question depends entirely upon what meaning is given to "man." Psychologically man does not have a mind or self, but he *is* mind, and hence the query whether man can have two selves resolves itself into the question whether one can be two. To speak of man psychologically as anything but a unitary being would be to destroy the very principle of identity which serves as the basis of personality.

If by "man" is meant the zoological animal, then facts force upon us the admission that there are cases in which two separate, distinct streams of consciousness are to be found correlated with one body, at least alternately, if not simultaneously. The physiological processes underlying such a condition of affairs is as yet almost entirely unknown, but not more unknown than the physiological processes which underlie the unitary psychological manifestations commonly assigned to every normal individual. Both are unknown, but because one is common we are not so insistent in our demands for an explanation. A division of the cerebrum into hemispheres does not help us out of the difficulty, for there are cases in which at least four distinct personalities are manifested in the same physical organism. Each, no doubt, has its physiological counterpart, if not entirely distinct, at least sufficiently so to allow of distinct, full developed self-consciousness. In the consideration of a "sub-conscious self" we are dealing with a psychological problem, and to designate it as a conscious self reduced to minimum or in any way related to the true self is to beg the question and admit that the true self is other than it is assumed to be. In cases where the so-called subconscious self comes into question it is not at all a case of "sub-conscious" self, for a self *must* be conscious, but it is a second self as truly separate as any two persons manifested in different bodies. Elements of one may be in the other, but *as a self-conscious continuum each is distinct from the other* where two or more personalities manifest themselves. Any group of phenomena which may appear related to a conscious life and yet which does not rise to the dignity of a distinct self must be looked upon as unconscious rather than as "sub"-conscious if by the latter term is implied anything which would indicate the possibility of self being anything but conscious.

I repeat—man psychologically *is* mind, he does not *have* mind. To state that any man or every man *has* two selves either neglects the psychological nature of man or else forces us into the contradiction of stating that every man *is* two selves.

SOME PAINFUL AFFECTIONS OF THE FEET. DIAGNOSIS AND TREATMENT.*

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It would be difficult to overestimate the value of the human foot, though I fear we too often forget its importance and neglect its care. Just as soon as the child begins to walk, possessing then what we may call the perfect foot, beautifully correct in outline and anatomical form, just so soon is this foot often enveloped in a tight-footed stocking and oftener in a tightly fitting shoe.

In a growing child the question of most importance in relation to the shoes seems too frequently to be the length of time that they may last, irrespective of the facts that they may have become too small, cramping the foot and so interfering with proper development; that they may have worn down unevenly; that the ankle no longer is supported by the upper, and that the general condition of the shoes may be producing marked deformity of the feet. In adult life, the style of footwear we purchase usually depends upon whatever fashion may then be in vogue. Fortunately, the fashion during the past few years has become somewhat better educated.

This is but one phase of the subject. Think of all the uses and abuses our feet are called upon to endure. Bearing the weight of the body, which may be between two and three hundred pounds, not only in walking and running alike on rough roads or smooth, up and down stairs many times a day, but also (which is a much greater strain) standing for hours at a time; subject, too, to all degrees of heat and cold, with little consideration of whether wet or dry, and often bathed in excess of perspiration. Little wonder, then, that so many are suffering from such painful affections, as we will here discuss.

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*Read before the City Hospital Alumni Society.

When we stop to consider how dependent we are upon the foot—how absolutely essential for our very existence—its proper care and treatment becomes a subject of very serious consideration. Many evils can be averted and many conditions cured.

The Question of Rheumatism.—I wish we could eliminate the diagnosis of "Rheumatism of the Feet," so often made when the patient presents himself to the practitioner, complaining of indefinite pains referred to the foot and ankle, and sometimes radiating up to the muscles of the calf. Patients have come to me with this diagnosis having been made without the shoe even having been removed for the proper examination of the foot.

It was just last week that the case of a young man, 24 years of age, was called to my attention who had been treated by several physicians for rheumatism, so called—had taken a course of bath treatments, and finally had drifted into the hands of an osteopath, who informed him that one of his vertebræ was dislocated, and that this was the cause of all the trouble in his feet. The man had been suffering from flat foot which had become markedly deformed, the arch having completely broken down and the foot everted. Walking is difficult and causes him severe pain. Surely the time has come when such cases should be diagnosed at the earliest possible moment, and our patients protected from running the gauntlet of shoemakers, chiropodists, masseurs, and osteopaths, with such unfavorable results.

The natural foot is broadest across the toes, gradually tapering toward the heel; the outer border is straight, the inner border curved outwards, this outward curve of the internal border being obliterated when the foot is bearing the body weight. The longitudinal arch is composed of the bones of the tarsus and metatarsus, which may be divided into two—the outer formed by the oscalcis, cuboid, fourth and fifth metatarsal bones—the inner, in which there is a much higher arch formed by the astragalus, scaphoid, the two cuneiform, and the first, second, and third metatarsal bones; the arch is distinctly seen when the foot is in repose, but broadening or flattening out under pressure.

When the foot is supporting the body weight the strain should pass along a line drawn through the center of the knee-joint, along the anterior crest of the tibia, through the center of the ankle-joint, and continued forward on the dorsum of the foot and over the second toe. This relation which the foot bears to the leg must always be very carefully noted; any change in this relation means deformity—and such deformity as is most frequently accompanied by pain.

Eversion.—Of these deformities, the most common is the eversion of the foot, pronation, or what is usually termed weak ankle. The foot is everted, the internal maleolus projects very prominently, the toes point outwards, and the line of strain no longer falls through the center of the foot, but to its inner side, throwing excessive weight upon the inner half of the longitudinal arch. And what is the result?

The arch is supported by muscles, ligaments and fascia. Should the superincumbent weight not be very great, these girders are able to withstand the strain. This is often seen in the case of children. But if this deformity is allowed to remain uncorrected, the child grows older; the body weight increases, and the overtaxed foot gradually weakens; muscles no longer exert sufficient power to act as supporters; the ligaments and fascia gradually give away; the astralgus scaphoid and internal cuneiform bones become depressed, pushing in front of them the inner metatarsal bones; the head of the astralgus and the tubercle of the scaphoid appear prominently on the inner side.

The foot having lost its elasticity breaks down, and we have as a result the flat foot.

Flat Foot.—The earlier symptoms are those of a tired, vague feeling of discomfort, without any definitely located pain; at first noticeable only after standing for a long time, and relieved by resting or by walking; then gradually a slight aching is complained of, often relieved by walking on the outer side of the foot. Later follow definite and continued pain and tenderness referred to the sole and radiating up the calf, due to the fascia stretching and the arch beginning to give way. There is also pain on the outer dorsum of the foot, due to the impinging of the external maleolus upon the os calcis. The foot after a time becomes rigidly fixed in this deformed position of hypereversion.

An early diagnosis is of the greatest importance, for it is a very difficult task to transform an everted painful foot with a broken-down arch into one which is capable of performing all its functions without pain or discomfort.

Flat foot in its first stages is not diagnosed correctly in 50 per cent. of the cases. I am speaking now from both clinical experience and private practice work. Usually the diagnosis of rheumatism is made; and although rheumatism and gout are among the predisposing causes, yet these invariably present symptoms elsewhere and should not be confounded with the weakness and deformity of flat foot.

The diagnosis should be made before the muscles, ligaments and fasciæ have stretched sufficiently to allow the arch to break down. Thus we should diagnose the flattening rather than the flat foot; and if we would bear in mind that the everted or pronated foot is a weak foot, and one which bears the strain of the body weight at its weakest point, we should often be saved from errors in diagnosis.

The treatment of flat foot is the treatment of deformity. For simple eversion or pronation, with a well-formed arch, the Thomas heel should be worn. This heel is extended about three-quarters of an inch farther forward than the ordinary heel, and has an elevation on its inner side of from one-eighth to one-half inch, gradually sloping to the outer side, so that the under surface is smooth and even. This not only corrects the deformity of pronation, but also increases the inner longitudinal arch by bringing the ball of the toe to a lower plane. This heel I have used with the most satisfactory results.

When the case is more marked, and the arch needs a firmer support, then a plate should be worn. The plate being one which not only supports the longitudinal arch, but also prevents the foot from spreading laterally. Such we have in the Whitman Plate.[1] This should extend from the center of the heel to just behind the point of pressure of the ball.

The cast of the plate should be made from the impression of the foot in soft plaster of Paris, the patient sitting upon a chair and placing his foot firmly and evenly into the unset plaster. From these molds casts are made, over which casts the plates are then modeled. Before modeling the plates over these casts the arches should be slightly raised, for plates to give sufficient support must be a little higher than the arch of the flattened foot.

A plate should never be applied to the acutely inflamed foot. By so doing, additional irritation is set up, and the pain and inflammation is increased rather than relieved. Such a condition should have complete rest.

A plaster of Paris bandage usually relieves inflammation within two or three weeks. In but slightly inflamed cases the flat foot pad and adhesive plaster strapping may be used with very beneficial results. The pad is cut to fit comfortably in the arch, carefully beveled on its edges, extending from a point which is anterior to the point of pressure on the heel to a similar point just posterior to the ball of the toe; laterally from the center of the sole to the inner side of the foot, covering the head of the astragalus so as to support the astragalo-scaphoid articulation at this point. This pad is held securely in this position by adhesive plaster. Three or four strips of plaster about 1½ to 2 inches in width are applied. This should begin at the outer dorsal surface and be brought inwards across the sole, and then carried spirally up the leg, winding from within outwards; the foot inverted and adducted as much as possible at the same time. Cross strips an inch in width then applied to secure these more firmly, and a bandage over all, completes the dressing. When the inflammation is relieved then the flat-foot plate may be worn.

Another class of cases in which the plates should not be used are those in which there is marked eversion and rigidity; for it can be easily understood that no steel arch could ever be made that would support the foot in this deformed position. This condition has been termed flat foot of the third degree, and demands operative treatment.

The operation is the correction, or rather I should say overcorrection of the deformity to that of varus. This may be accomplished by simple stretching. Tenotomies may be necessary—usually tenotomy of the peronei tendons are sufficient;—in more severe cases the removal of the scaphoid. After operation the foot remains in the overcorrected position, in a plaster dressing for about two or three weeks. Plates should then be made and a light brace running up the inner side of the leg and fastened to the plate should be worn for several months. The patient may be allowed to walk about four weeks after operation.

Exercise and massage should be carried out systematically and conscientiously—in the earlier cases to strengthen, in the more advanced cases to correct deformity and at the same time to enable the foot to retain its correct position. The following are the exercises:

1. Tiptoeing, rising and falling rhythmically with the foot, a little inverted and heels slightly apart.
2. Raising the body, rushing upon the outer edge of the foot.
3. Forcible inversion and adduction.

These should be performed by the patient three to four times a day from five to ten minutes each time.

4. Postoperative manipulation which always should be performed by the surgeon.

Metatarsophalangeal Pain.—This painful affection to which Morton[2] first called attention, is that of an acute pain of sudden onset referred to the region of the four metatarsophalangeal joint. It is sometimes of a burning character and may be accompanied by the sensation of something slipping, or dislocating, and is often described as such by the patient. This pain may be induced by stumbling or by walking upon a pebble or sharp elevation. Sometimes, too, by a sudden wrench of the foot, nor is it always referred to the fourth, but also the third and second metatarsophalangeal joints radiating to the toes and to the dorsum of the foot, the pain is severe. The first and almost irrepressible impulse is to draw off the shoe, and massage and exercise the foot. This relieves the acute symptoms.

The cause of this pain is due to weakness to the anterior arch which may not present any deformity, or show any external sign of inflammation.

The treatment of this condition is the support of the transverse arch with a felt pad and adhesive plaster. The adhesive plaster is drawn snugly around the arch slightly exaggerated by lateral pressure, thus giving additional lateral support. In chronic cases, the shoe should have an elevation on the inside of the sole to support the weakened anterior arch.

Painful Heel.—Less frequently met with is an acute tenderness on the under surface of the heel due to a bursitis. The pain is slight at first, but as inflammation increases, it gradually grows more severe and becomes so tender that the patient walks with an uneasy gait, throwing the weight of the pad as much as possible upon the toes, thus protecting the heel. It generally occurs with flat foot or a weakened longitudinal arch.

Our aim in treatment is to relieve the pressure upon the inflamed bursa, and this may be done by hollowing out the heel under the side of the bursa. When it is accompanied by flat foot, I have extended the flat foot plate backwards over the heel, making a slight depression in this extension. A plate thus made will be worn with comfort in many cases in which a short plate causes considerable pain. Should operation be necessary, it is better to remove the bursa.

Shoes.—The subject of proper footwear is a most important one, in considering the treatment of all painful affections of the feet. But time will not permit to enter on this subject in detail; suffice it for me to emphasize the essential points of a properly fitting shoe, so well enumerated by Sampson.[3] "The angle of lateral deflection of the shoe should be the same as that of the foot in its adducted position. A straight inner edge, or, if hallux valgus exists, an inner edge a little higher than the inner edge of the foot. The front of the shoe of the same depth along the inner edge as the thickness of the foot. At that place the shoe, convex, not concave, along the outer border of the shank at the mediotarsal articulation. The forward part of the shoe should be wide as the thickness of the foot at that place, thus giving room for the individual toes to rest on the sole. The posterior portion of the shoe should grasp the heel of the foot firmly and be well supported. There should be no dorsal flexion of the shoe. The distance from points in the shoe corresponding to the heel and distal end of the first metatarsal bone must be the same as in the foot. The shank of sole must be convex along the outer border and also up higher on the inner side. The sole of the front of the shoe should be flat from side to side. The lower and broader the heel, the better. A little lateral extension of the sole makes our base of support wider. The bottom of the last or the inner sole pattern must include the area covered by the weight-bearing portion of the foot."

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125 West Fifty-eighth Street.

AN INFLAMED APPENDIX IN AN INGUINAL HERNIA, SIMULATING STRANGULATION.

By JOSEPH E. GOLDING, M.D.,
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THE case here reported occurred in the service of Dr. J. C. Kennedy at St. Catharine's Hospital, Brooklyn, and was operated on by the writer. It shows the similarity in symptoms presented by an acutely inflamed appendix, occupying a hernial sac, and those of strangulation, and the difficulties in diagnosis of such conditions.

The patient, a Hebrew, age 68 years, was brought to the hospital on July 21, 1904, complaining of pain in the right inguinal and scrotal regions, vomiting and constipation. Examination revealed a firm, tender tumor in the right side of the scrotum, over which the skin was red and glazed, and which, the patient informed me, had been there twenty years. Two days before his admission to the hospital it became painful, and he suffered from vomiting and constipation. On admission the tumor was irreducible, dull on percussion, not translucent nor fluctuating, and gave no impulse on coughing. Temperature, 99.2° F., pulse 88. The diagnosis of strangulated hernia was made, and the patient was operated on the same day.

On opening the sac about eight ounces of clear, straw-colored fluid escaped, and the sac was then seen to contain an elongated body, about ten inches long and one inch in diameter, which was intimately adherent to it, and which on palpation gave one the impression of a very thick wall surrounding a rather narrow lumen. This body was separated from the sac and an incision was made into it, when it was found that the appendix occupied its center and was surrounded by a thick mass of inflammatory connective tissue. The finger passed through the inguinal canal without difficulty and without encountering any point of constriction.

The appendix was freed of its connective tissue covering, tied off near the cæcum with catgut, and removed, its stump being touched with the Paquelin cautery. The sac was tied off with catgut and removed, and Bassini's operation was done for the cure of the hernia. With the exception of a single suture abscess, the wound ran an aseptic course; the patient being discharged on the twenty-fifth day, with his wound entirely healed, and with no return of the hernia.

Upon examination the removed appendix proved to be 9¾ inches long, and showed at its distal extremity congestion and spots of ecchymosis.

Two points are worthy of note in this case: 1. The unusual length of the appendix. 2. The similarity in the symptomatology of strangulation and an acutely inflamed appendix occupying a hernial sac.

430A HART STREET.

Military-Medical Statistics of the United States Army for the Year 1903.—A supplement to the annual report of the Surgeon General of the United States Army, for the year 1904, has been issued, giving tables as agreed upon at the meeting of the International Commission for the Unification of the Medical Statistics of Armies, held at Budapest in 1894, and modified at the last meeting held at Madrid in 1903. They are calculated for the entire army, American and native, and, except Tables 9 and 10, include officers as well as enlisted men. All the tables except 1, 2, and 8 give both absolute and proportional numbers. Dispositions include cases remaining from last year, but do not include case remaining at the close of the current year; death include suicides and accidents; days lost includ those lost this year by cases remaining from las year. Table 1 shows in absolute numbers, by departments, the mean strength of the command, th admissions to quarters, to hospital, and total admissions; the disposition of the sick, total, and the number returned to duty, died and otherwise dispose of, and the total number of days of sickness. Tabl 2 gives the same data in ratios per 1,000, and als shows the days lost per soldier, and per admission Table 3 shows by arms of service the mean strength the total admissions, and those to hospital only, th total disposition, and the number of those returne to duty, and the number that died. Table 4 give the same data as Table 3, by months. Table shows for each of twenty-two of the larger garrisons the mean strength, admissions to hospital, and total admissions, and the deaths. Table 6 shows for each of the thirty-five diseases or disease groups agreed upon by the International Commission, the number remaining under treatment at the commencement and close of the current year, the admissions and dispositions for the year, the total sick days and the average number of days per case. Table 7 shows the admissions by arms of service for the diseases and disease groups referred to in Table 6 Table 8 gives the same data as Table 7, by months. Table 9 shows death by rank, by length of service, and by age. Table 10 gives the same data as Table 9 for discharges for physical disability.

Quackery in Germany.—The peculiarity of German law, which makes the practice of the healing art free to all, although there is a penalty for the unauthorized use of the title doctor, causes quackery to flourish to an amazing degree in what in other respects is justly considered the holy land of science. In 1902, according to official statistics, there were in the whole of Prussia 15,400 doctors, and 4,104 quacks. The evil has become so serious that a society was some time ago formed in Berlin for the express purpose of exposing quackery. Under the auspices of this body an exhibition of quackery was recently held in Breslau, where everything pertaining to medical quackery was exposed. Its advertisements, panaceas, various methods of treatment, anti-epidemic masks, universal gastric juices, bogus electrical apparatus, etc., were all on view. In the case of one cult the announcement was made that during the past fifteen years its members had collected from the public over $3,500,000. One section of the exhibition was devoted to methods for suppressing irregular practitioners.—*The Globe.*

Gorillas as Experiment Animals.—The usual laboratory animals have been found inadequate in studying some of the newer features in connection with tuberculosis, syphilis, and the tropical diseases owing their origin to blood parasites. Many medical institutions are anxious to secure gorillas and chimpanzees for this purpose, and the demand is said to have stimulated the collectors of these animals to unusual activity.

A Costly Illness.—It is estimated that the expenses of Lady Curzon's illness have already amounted to something like $50,000, or about one-half her husband's salary as Governor-General of India. Sir Thomas Barlow and one or two other equally famous specialists lived for days together at Walmer Castle, with fees of $500 apiece a day, while each time additional medical attendance or even medicaments were needed from London special trains were employed.—*The Tribune.*

MEDICAL RECORD.

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THE CARDIAC AND VASCULAR COMPLICATIONS AND SEQUELS OF TYPHOID FEVER.

Dr. W. S. Thayer (*Bulletin of the Johns Hopkins Hospital,* October, 1904) has made an analysis from the clinical standpoint of the cases of typhoid fever observed at the Johns Hopkins Hospital during a period of fourteen and a half years, together with a study of the gross pathological lesions, having especial reference to the cardiac and vascular symptoms and complications. As a result he states that typhoid fever is a disease that is often associated with symptoms suggestive of a grave weakening of the heart-muscle. These changes, whether due primarily to the direct action of the typhoid poison on the heart or to impaired nourishment as a result of vasomotor paralysis, result in a considerable proportion of cases in a temporary insufficiency of the mitral valve, as indicated by the appearance of apical systolic murmurs, which not infrequently are transmitted to the axilla. These murmurs develop especially at the height of the disease, during the latter part of the first and in the second, third, and fourth weeks, and disappear usually with convalescence. Sometimes, however, they persist. The average systolic blood-pressure was found higher in every decade among old cases of typhoid fever than in healthy individuals who had never had typhoid fever. So, too, the radial arteries were palpable with strikingly greater frequency in the former than in the latter.

Endocarditis, while not a common complication of typhoid fever, is more frequent than is commonly supposed, while pericarditis is an unusual and unimportant complication. Phlebitis and venous thrombosis constitute a frequent complication. The onset occurs usually in the third week or later, and is in most cases attended with fever, leucocytosis, and local pain. Not infrequently the fever and leucocytosis precede the localizing symptoms. The complication was ushered in or associated with chills in more than one-quarter of the cases. The phlebitis occurs, in the great majority of cases, in vessels of the lower extremity, especially on the left side, and it is particularly common in the femoral veins. The complication is always a serious one, for while the immediate dangers—gangrene, extension of the thrombus, pulmonary embolism—are not great, the after-results are often grave. The affected extremity is always considerably and permanently enlarged, and there is usually persisting disability—extensive varicosities, often resulting in ulceration; marked weakness of the limb; frequent cramps in the muscles, especially at night and after over-exertion. Arteritis and arterial thrombosis constitute a more frequent complication of typhoid fever than is generally recognized. The complication appears to be especially common in the cerebral vessels, although it may occur also in the extremities. It may set in at the height of the disease, but it is commoner in the third week or later. The onset often is attended with fever and leucocytosis. In the extremities arterial thrombosis is commonly followed by gangrene, in the cerebral vessels by hemiplegia. Arteritis in the extremities may be associated with partial parietal thrombosis from which complete recovery may take place. A survey of the pathological material suggests that typhoid fever may be a not uncommon cause of focal arteriosclerotic changes. This idea is further supported by the remarkable frequency with which sclerosis of the peripheral vessels was found in old cases of typhoid fever.

While the deleterious influence of typhoid fever upon the cardiovascular system is not as great as that of acute rheumatism, yet as a result of the unfortunate frequency of the disease in the United States it is probable that post-typhoid cardiovascular defects are not uncommon. It would therefore be wise for the practising physician to bear this fact in mind, and whenever possible to keep his typhoid patients under observation for several years following the attack.

VALUE OF THE STUDY OF MEDICINE AND OF THE HISTORY OF MEDICINE.

Conan Doyle, speaking at Norwich, England, a short time ago, laid great stress on the splendid training that the study of medicine gave to a man. As a school for building up character, for strengthening and accentuating the powers of observation, and for fitting an individual generally for the battle of life, he compared the study of medicine to that of the other professions, greatly to the advantage of the former. He even went so far as to declare that if the officers of the British army were to be so well trained in the profession of arms, as doctors are in their calling, the British army would be the terror of Europe. However, it being an after-dinner speech, a certain amount of latitude in terms must be allowed the speaker. The main argument that the study of medicine is a magnificent training, no matter what may be undertaken later, admits of no doubt.

Dr. Eugene F. Cordell, President of the Medical and Chirurgical Faculty of the State of Maryland, delivered an address on its one hundred and fifth anniversary, the subject matter of which resembled in some degree the speech of Conan Doyle. In the first part of his address he criticised somewhat severely the apathy of university and college authorities with regard to the teaching of medical history to medical students. In support of his contention he quotes the saying of Lord Macaulay that "no man, who is correctly informed as to the past, will be disposed to take a morose or desponding view of the present." The speaker especially deprecated the rage for novelty and the haste, characteristic of Americans, and argued that a knowledge of the past cannot fail to stimulate the young, and work in every way for good. Dr. Cordell thus summed up some of the advantages of the study of medical history: (1) It teaches what and how to investigate; (2) it is the best antidote we have against egotism, error, and despondency; (3) it increases knowledge, gratifies natural and laudable curiosity, broadens the view, and strengthens the judgment; (4) it is a rich mine from which may be brought to light many neglected or overlooked discoveries of value; (5) it furnishes the stimulus of high ideals which we poor, weak mortals need to have ever before us; it teaches our students to venerate what is good, to cherish our best traditions, and strengthens the common bond of the profession; (6) it is the fulfillment of a duty—that of cherishing the memories, the virtues, the achievements of a class which has benefited the world as no other has, and of which we may feel proud that we are members.

Both of these speakers are to be congratulated upon the manner in which they presented their subject. The training for the medical profession, when properly carried out, is undoubtedly more arduous than that of any other profession. In these days, when competition is keen and the struggle for existence hard, the victory goes to the best equipped for the fray. The individual who has undergone the ordeal of training for the medical profession starts in the race with every advantage, and if he be determined to succeed should not fail to reach the goal. Dr. Cordell's remarks on the good wrought by the study of the history of medicine were illuminative and to the point. There is assuredly too great hurry in these days to be in a position to make money. Everything that does not directly tend to this end is put on one side as useless. The fact is not considered that a knowledge of medical history acts as a spur to endeavor, and assists in forming character which is, after all, of greater importance in the making of a good medical man and citizen, than is an accurate acquaintance with up-to-date medicine.

ANOTHER CANCER SERUM.

The newspapers last week reported, with scare heads, photographs, photomicrographs, and editorial comments, a new cancer discovery from the Gratwick Pathological Laboratory at Buffalo. It is asserted that a number of cures of cancer in mice have been affected by means of a serum prepared at the laboratory, and the hope is suggested that the treatment will be equally efficacious in man. According to the New York *Herald* the cancerous mice used for the experiments were obtained from Professor Jensen of Copenhagen. They survived the Atlantic voyage, but expired between here and Buffalo. The cadavera were preserved and inoculations from one of them "took" on several live mice, and by repeated transplantation a large number of the animals with cancer became available for further experimentation. Many of these mice recovered spontaneously, and the experimenters conceived the idea that this fortunate result was brought about by the elaboration of an antitoxin. Having in mind the possibility of a successful serum treatment of cancer, they conducted a series of experiments which they think have proved beyond question that the blood of mice which have recovered from cancer possesses an antitoxic quality. This blood, when injected into mice suffering with cancer, arrested the growth, and when the tumors were not too large caused their disappearance.

We have no reason to doubt the accuracy of the observation of the workers at the Buffalo laboratory as regards the fact of the disappearance of the tumors in mice treated with serum, and we earnestly hope they may be able to develop their discovery so that it may become applicable to man. But the plans of mice and men are proverbially uncertain in their outcome, and it is deplorable that the secular press should have prematurely reported these incomplete results. Even if the highest hopes of the experimenters are eventually realized, the announcement of their discovery at this time can but do much harm by inducing many present sufferers to cast away the plank of surgical excision to grasp at what is yet but the straw of serum therapy. Schmidt, Doyen, Adamkiewicz, and others whose names we have forgotten have elaborated antitoxic cancer sera, and they have failed to cure. This, of course, is no argument against the possibility of the Buffalo serum being efficacious, but in a matter of such momentous importance to mankind it behoves one to proceed with extreme caution and not to ignore the lessons of the past and the present even while dreaming of a glorious future. Many mountains have been in labor at various times, but, alas, many little white mice have been born.

CIRRHOSIS OF THE LIVER.

At the recent Congress of German Naturalists and Physicians a discussion was held on the subject of cirrhosis of the liver, the principal speakers being Dr. Kretz, of Vienna, and Dr. Naunyn, of Strassburg (*Münchener medizinische Wochenschrift*, Oct. 25, 1904). The former maintained that granular cirrhosis of the liver is not due to interstitial hepatitis, the parenchyma of the organ being altered by regenerative processes in the sequence of numerous degenerative lesions. The presence of elastic fibers in the connective tissue of the cirrhotic liver is essentially dependent upon the breaking down of transformed highly vascular portions of parenchyma. The primary anatomical alteration at the beginning of the cirrhotic process takes place not in the connective tissue, but in the areas of parenchymatous degeneration and subsequent replacement of regenerated tissue in the most highly vascular portions of parenchyma. Cirrhosis of the liver is not a disease-entity, but the alteration in the liver is the anatomical result of various forms of degeneration of the liver-cells in conjunction with new formation of parenchyma. From the etiological standpoint the morbid process may be superinduced by all pathological influences that cause parenchymatous degeneration; by abnormal metabolic products, by poisons, by bacterial injury. The noxious substance may gain access to the liver-cells by way either of the circulation or of the bile-capillaries.

Naunyn contended that various forms of cirrhosis of the liver are to be differentiated, namely, incipient cirrhosis, ordinary ascitic (atrophic) cirrhosis, biliary (hypertrophic) cirrhosis, and hypersplenic cirrhosis. The distinction between these several forms depends not upon original differences in the morbid process, but upon the complicating cirrhotic cholangitis, which manifests itself in the different varieties in different degree and in different manner. This cholangitis is enterogenous and ascending. It is not the cause of the cirrhosis, but a complication occurring in a liver already the seat of cirrhosis. The rejection of enterogenous and splenogenous forms of cirrhosis is not justifiable. On the other hand, the hematogenous origin of cirrhosis is generally probable. Hemolytic processes may be operative in this connection, and if there is a cirrhogenous cholangitis this may be descending and of hemolytic origin.

COMPLICATIONS OF DIABETES.

DIABETES is either becoming more common in this country, or it is more accurately diagnosed than was formerly the case. As, however, it is preëminently a disease of advanced civilization, that is to say, largely consequent upon overeating and drinking and too luxurious living, the fact is more or less obvious that it should naturally become more and more prevalent in these days.

Dr. John E. Clarke writes in the *Detroit Medical Journal* of the complications of the disease. These are legion. The writer refers to the ocular changes produced by the condition, which are more rare than the visual disturbances accompanying renal affections. However, the eyes are affected sufficiently often in diabetes to render a careful consideration of eye symptoms necessary. According to N. L. Pyle the retinal changes in glycosuria differ so distinctly as to be readily determined by the ophthalmoscope, inasmuch as the inflammation of the optic nerve is never present in glycosuria, a condition so prominent in albuminuria, syphilis, and other blood dyscrasias.

Diminution of memory, a growing indifference, loss of aptitude for intellectual work, and a tendency to anger, melancholy, and hypochondria, are classed by Bouchardat, with whom Clark agrees, among the noteworthy complications of glycosuria. Pneumaturia is a rare complication, while gangrene is one of the most alarming complications of glycosuria. Diabetic neuritis is an accompaniment of diabetes which occurs infrequently. Dr. Pavey is of the opinion that the numerous nervous symptoms are exaggerated in proportion to the amount of sugar contained in the urine. This view is not confirmed by Clark.

THE MEDICAL SERVICE OF THE JAPANESE ARMY.

THE Japanese in many ways have opened the eyes of the Western nations. Their extraordinary aptitude for organization and grasp of detail in the present war have made a deep impression. No part of the military machine has worked with greater smoothness than the medical service of the Japanese army. Major Louis Seaman's book, just published, dealing with the Japanese army in Manchuria, and devoted chiefly to its medical service, affords striking evidence of this fact. A comparison between the deaths from disease, occurring among American soldiers in the Spanish-American war, in the Philippines, and in China, and the mortality from the same cause among Japanese troops, is greatly in favor of the latter. In the Spanish-American war this country lost fourteen men by disease to every one who was killed in battle. In Manchuria Dr. Seaman found that although fighting in a country notoriously unhealthy the fatalities from disease in the Japanese army were extremely small. The treatment of the wounded at the large hospitals was so skillful that the deaths were hardly one in a hundred. The results at the naval hospital were equally satisfactory, although the wounds, as a rule, were of a far more dreadful nature.

Dr. Seaman has also the very highest praise for the arrangements of the hospitals, and especially for the excellent work done by the Japanese nurses. These nurses are very strong physically. The writer declares one of these tiny women will take up a man and carry him upon her back to and from the operating room with apparently the greatest ease.

The Japanese medical officer comes in for unstinted praise at the hands of Dr. Seaman, who is of the opinion that he has no superior, if, indeed, an equal, among his brethren in the armies of Europe. The sanitary methods pursued in the Japanese medical service are exact and careful in every minute particular, and it is undoubtedly largely due to this strict attention to detail that disease has been so successfully warded from the Japanese army. A perusal of Dr. Seaman's book will tend to show that not only has the Japanese medical service successfully imitated the best European models, but has even improved upon them.

News of the Week.

The Manuel Garcia Centenary Jubilee Fund.—At a meeting of the allied committees representing the Section on Laryngology of the New York Academy of Medicine, The American Laryngological, Rhinological, and Otological Society, and the American Laryngological Association it was voted to appeal to the laryngologists throughout the country for contributions not to exceed five dollars each to the Garcia Fund in celebration of the one hundredth birthday of the inventor of the laryngoscope. Payment should be made before February 15 to either of the following: Dr. D. Bryson Delavan, 1 East 33rd St., Dr. M. D. Lederman, 58 East 75th St., or Dr. Harmon Smith, 44 West 49th St., representing the Laryngological Section of the Academy of Medicine; Dr. R. C. Myles, 48 West 36th St., representing the American Laryngological, Rhinological, and Otological Society, or Dr. J. E. Newcomb, 118 West 69th St., representing the American Laryngological Association.

American Public Health Association.—At the meeting of this association in Havana, last week, the following officers were elected: *President*, Dr. Westbrook of Minneapolis; *First Vice-President*, Dr. Juán Guiteras of Havana; *Second Vice-President*, Dr. Lopez of Mexico; *Third Vice-President*, Dr. Macdonald of Brandon, Manitoba.

The Vermont Board of Medical Examiners.—The newly-appointed Board of Medical Registration for Vermont met at Montpelier, January 10, 1905, for organization. The following are its officers and members: *President*, Dr. Henry Janes, Waterbury; *Secretary*, Dr. W. Scott Nay, Underhill; *Treasurer*, Dr. E. B. Whitaker, Barre; Drs. F. H. Godfrey, Chelsea, J. Sutcliffe Hill, Bellows Falls, Sam Sparhawk, Burlington, and A. E. Parlin, Barton Landing. The next meeting of the Board will be held at Burlington for examinations on February 7, 8, and 9, 1905. Application blanks and circulars of information can be obtained from the secretary.

Ohio State Board of Medical Examiners. — This Board organized January 3 by electing the following officers: *President*, S. B. McGarvan, Cadiz; *Vice-President*, H. H. Baxter, Cleveland; *Secretary*, Frank Winder, Columbus; *Treasurer*, S. M. Sherman, Columbus. The number of successful applicants for certificates at the recent State examination was thirty-nine.

Suicide of the Kaiser's Dentist.—Dr. Alonzo H. Sylvester, a well-known dentist of Berlin, one of whose patients and patrons was the German Emperor, committed suicide on January 10. He was born in Maine sixty years ago and was graduated from the Boston Dental College in 1871. Soon after graduation he went to Berlin, where he met with instant and signal success. His practice was very large, but he had recently had financial reverses, and for a few days before his death had suffered from a sharp attack of influenza and had shown great mental depression.

Fewer Street Accidents in New York City.—Police returns on street accidents for last December show a large decrease when compared with December, 1903. The entire number of accidents reported was 221 for December, 1904, as compared with 300 for the same month in 1903, a decrease of 23 per cent. The number of people struck by cars was 32 in 1904 and 55 in 1903; by wagons, 22 and 41. The number of collisions between cars and trucks or wagons was 40 in 1903 and 31 in 1904.

Increase in Railway Accidents.—According to the report of the New York State Railroad Commission, there were 94,522,477 passengers carried within the State during 1904, an increase of more than 5,000,000 over the preceding year. The total number of persons killed was 952, and injured, 2,399. In 1903, 884 were killed and 1,726 injured. The report attributes the increase in casualties during the decade to the greater number of trains operated, for they say improvements in roadbeds and equipment, which should have diminished the number of accidents, have been many. Only 12 of those killed and 446 of those injured in 1904 were passengers. The average for the last five years is 18 passengers killed and 349 injured. During the year 193 persons were killed on street surface roads and 878 injured.

Second Councilor District of the Ohio State Medical Society.—The first annual meeting of this branch of the Ohio State Medical Association was held at Dayton, O., Nov. 17, 1904. Dr. D. R. Silver of Sidney was elected *President,* Dr. F. P. Anzinger of Springfield, *Secretary* and *Treasurer.* Papers were read by Drs. R. H. Grube of Xenia, F. C. Gray of Dayton, A. Boone, B. F. Beebe, B. R. McClellan, D. G. Reilly and H. F. Lorimer. Dr. C. A. L. Reed of Cincinnati delivered an address on "National Medical Legislation." A banquet with toasts followed.

Smith County, Texas, Medical Society.—At the annual meeting of this society, the following officers were elected: *President,* Dr. J. Charles Smith of Starrville; *Vice-President,* Dr. R. H. Urquhart of Tyler; *Secretary* and *Treasurer,* Dr. Albert Woldert of Tyler.

Alpha Kappa Kappa. — The tenth annual convention of the Alpha Kappa Kappa Fraternity, in session December 30 and 31, at Cincinnati, came to a close with a banquet. The election of officers to serve the coming year resulted as follows: *Grand President,* Dr. George Cook, Concord, N. H.; *Grand Vice-President,* Dr. John I. French, Boston, Mass.; *Grand Secretary,* Dr. Edward L. Heintz, Chicago; *Grand Treasurer,* Dr. Edward R. Pfarre, New York City.

The New York State Eclectic Medical Society was in session in this city last week. The annual election resulted in the choice of the following officers: *President,* Dr. W. J. Krausi, New York; *Vice-President,* Drs. R. W. Padgham, Geneva; F. D. Gridley, Binghamton, and M. B. Pearlstein, Brooklyn; *Treasurer,* Dr. D. N. Bulson, Rockville Centre; *Recording Secretary,* Dr. Earl H. King, Saratoga Springs; *Corresponding Secretary,* Dr. G. W. Boskowitz, New York. The next annual meeting will be held in Albany.

Chicago Charity Ball. — The net receipts of the Charity Ball recently held in Chicago aggregated about $25,000, of which the following will receive their pro rata share: Chicago Bureau of Charities, Visiting Nurses' Association, Children's Memorial Hospital, Provident Hospital and Training School, Old People's Home, Chicago Orphan Asylum, Allendale Association, Chicago Home for Convalescent Women and Children, Milk Commission of the Children's Hospital Society of Chicago, Illinois Children's Home and Aid Society, Bureau of Justice, and Home for Destitute and Crippled Children.

Cincinnati Health Report.—The Board of Health report gives the number of deaths in 1904 as 6,975. This is an increase over 1903, when the number was 6,201. The largest number of deaths in any one month was in March, when there were 805. January came second with 763, and February was a close third with 760. During the year the City District Physicians attended 6,250 patients and made 12,468 calls. They reported 60 deaths and sent 367 of the patients to the hospital. The number of school children vaccinated was 1,059.

Cab Drivers Hold Mortality Record.—In the annual report of the Business Agent of the Cab and Carriage Drivers' Union, of Chicago, it is stated that out of a total average membership of 1,200, 70 men have died during the last twelve months. These figures represent more than five times the normal mortality of Chicago. Six men have died in the last two weeks, and 35 are so ill that they are being paid benefits by the union.

Wood Alcohol Legislation.—A bill is being prepared for introduction into the New York State Legislature which, if it becomes a law, will, it is believed, prevent the adulteration of whiskey with wood alcohol. The bill provides that all manufacturers who make wood alcohol shall submit annual reports of sales to the State Department of Health. Proper inspection and sale restrictions are also to be provided for in the bill.

Care of Consumptives.—The Board of Health of Paterson, N. J., has determined to take up the question of declaring tuberculosis a notifiable disease and of providing for the isolation and care of persons suffering from this affection. A special meeting will be called for the consideration of this matter.

Dr. Samuel Iglaur has been elected Secretary of the Cincinnati Academy of Medicine, to fill the unexpired term of Dr. Stephen E. Cone, who resigned a few weeks ago.

Dr. Francis D. Patterson has been elected surgeon to Howard Hospital, Philadelphia, in succession to Dr. Charles H. Frazier, resigned.

A Village Without a Doctor.—A Village Health Board has been organized in Kennedy Heights, Ohio, with A. O. Stanley, President, and Louis Niedermeyer, Clerk. As there is no physician residing in the village, the board has asked the State Board of Health if a physician living outside the village can be appointed Health Officer.

Cincinnati Water Works.—Up to date Cincinnati has spent $5,113,296.83 on her new Water Works plant and it is estimated that two more years will be required for its completion.

Hospital News.—*A New Red Cross Hospital.*—William T. Wardwell, ex-Treasurer of the Standard Oil Company, has given $100,000 for the building of a new Red Cross Hospital. The hospital will be situated on the heights of Fort George, near the upper end of Manhattan Island. The entire cost of the new building and its equipment will be between $350,000 and $400,000. The names of other donors besides Mr. Wardwell have not been made public yet, but there have been several large gifts, and the Trustees anticipate no difficulty in raising the necessary amount of money. The present hospital of the Red Cross is on Eighty-second Street just west of Columbus Avenue. It is small and not equal to the needs of the organization. One of the features of the new hospital will be a large training school for nurses with a constant attendance of between one and two hundred. Every nurse who joins the Red Cross promises to hold herself in readiness for any war, riot, or insurrection, even if she has left active hospital work. The plans of the new building are already in the architects' hands, and it is expected that ground will be broken very soon.

Fire in a Montreal Hospital.—The administration building of the Royal Victoria Hospital, on the brow of Mount Royal, Montreal, was injured by fire on January 14, and damage to the amount of $150,000 was done. The fire was confined to the central building, and the pavilions on either side were at no time in danger. The Royal Victoria Hospital was built about twelve years ago at a cost of more than a million dollars, and was the joint gift of Lord Mount Stephen and Lord Strathcona. It is the largest and finest in Canada.

The Cincinnati Hospital.—The number of patients treated in this hospital during the year 1904 was 9,224, as compared with 7,294 treated in 1903. The daily average of patients in the institution was 573 in 1904 and 493 in 1903, and the total number of days of treatment was 209,988 in 1904, and 179,945 in 1903.

The New York State Hospital for the Care of Crippled and Deformed Children will ask the State Legislature for an appropriation of $200,000 for the erection of a modern hospital building on the farm of fifty acres which has been purchased at West Haverstraw, Rockland County, and where the hospital will be installed in an old Colonial farmhouse in April next.

Bellevue Hospital Training School.—Sixteen young women received diplomas at the graduation exercises of this school on the evening of January 9. An address was delivered by Prof. William M. Sloane of Columbia University.

Cook County Hospital Staff.—The following is the new staff at Cook County Hospital, which has just been appointed by President Brundage: *Regular Staff.* Medicine—R. H. Babcock, W. S. Harpole, Charles L. Mix, R. B. Preble, S. R. Slaymaker, Camillo Volini, M. L. Goodkind, J. B. Herrick, J. F. Miller, B. W. Sippy, Frederick Tice, E. F. Wells. Obstetrics—R. W. Holmes, Charles B. Reed, H. F. Lewis, Rachelle Yarros. Children's and Contagious Diseases—W. L. Baum, Isaac A. Abt, Frank X. Walls, F. B. Earle, F. S. Churchill, George H. Weaver. Nervous and Mental Diseases—Sidney Kuh, Julius Grinker, L. H. Mettler, H. N. Moyer. Surgery—E. Wyllys Andrews, A. I. Bouffleur, Charles Davison, D. N. Eisendrath, Wiliam Hessert, F. A. Besley, T. A. Davis, B. B. Eads, A. E. Halstead, F. S. Hartman, C. E. Humiston, Charles W. Heywood, O. W. MacKellar, M. L. Harris, A. P. Heineck, W. E. Schroeder. Eye, Ear, Nose and Throat—William E. Gamble, Frank Allport, Brown Pusey, G. P. Marquis. Skin and Venereal—L. Lake Baldwin, William A. Pusey. *Homeopathic Staff.* Surgery—Charles E. Kahlke, B. A. McBurney, F. E. Titzell, G. M. Cushing, E. E. Vaughan. Obstetrics—G. Fitzpatrick. Eye, Ear, Nose and Throat—B. Haseltine. Children's and Contagious Diseases—A. M. Cameron. Medicine—H. V. Halbert, F. Wieland, A. R. McDonald, F. W. Wood. *Eclectic Staff.* Surgery—Hugo E. Betz, A. C. Kubicek, W. R. Schussler, W. H. Hipp, J. D. Robertson. Medicine—N. A. Graves, A. H. Reading, M. C. Korb, F. E. Thornton. Children's and Contagious Diseases—J. A. Jennings. Obstetrics—C. H. Bushnell. Eye, Ear, Nose and Throat—Charles H. Francis.—*General Science.* Pathology—Wiliam A. Evans, E. R. Le Count. Dentistry—M. J. Conley. Pathological Chemistry—R. W. Webster. Orthopedic Surgery—J. L. Porter. X-Ray—E. A. Fischkin. The following officers were elected by the new staff: *Chairman,* Dr. W. L. Baum; *Vice-Chairmen:* Drs. L. Blake Baldwin, H. V. Halbert, and Hugo E. Betz; *Secretary,* Dr. Chas. E. Kahlke.

New Manhattan Eye, Ear, and Throat Hospital.—Plans have been filed at the Building Department for a new nine-story building to be erected at 208 to 216 East Sixty-fourth Street, for the Manhattan Eye, Ear, and Throat Hospital, now at Park Avenue and Forty-first Street. The new structure will stand on a plot 118 by 100. Two wings on the main structure will provide sun parlors on each of the nine stories. The façade will be of ornamental brick with trimmings of stone and terra cotta.

Hospital Endowment.—Mr. Samuel M. Fridenberg has donated $5,000 to the Jewish Hospital of Philadelphia for the endowment of a room in memory of the late Mrs. Fridenberg.

Free Beds.—By the will of the late William S. Bunting the sum of $500 is bequeathed to the Episcopal Hospital of Philadelphia to go toward the establishment of a free bed. A like sum is left to the Home for Incurables for a similar purpose.

Obituary Notes.—Dr. THOMAS H. MANLEY of this city died on January 12 of pneumonia after a brief illness. He was born in New England about fifty-five years ago and was graduated from the New York University Medical School in the class of 1875. Dr. Manley was an indefatigable student, a conscientious and careful surgeon, and a voluminous writer; and few medical men had a wider acquaintance throughout the country, for he was a member of many societies, a frequent attendant at the meetings, and a ready debater. He was visiting surgeon to the Harlem and Metropolitan Hospitals.

Dr. HENRY MARTIN WELLS, Medical Director, U. S. N., retired, died in this city on January 12 at the age of seventy years. He was born in Massachusetts, and entered the service in 1861, being first attached to the Naval Rendezvous and Hospital at Boston. He served in the West Gulf blockading squadron during the first two and a half years of the war. He was in the actions against Forts Jackson and Saint Philip, under Farragut. In June, 1864, he was promoted to be Passed Assistant Surgeon. While serving in the Brazil squadron from 1865 to 1868 he was commissioned a surgeon. After serving on a number of ships up to 1880, Dr. Wells engaged in the service at the Naval Observatory and Hospital in this city. In 1884, at the conclusion of this service, he was made Medical Inspector, and for a time was in charge of the Museum of Hygiene in Washington. In 1891 he was commissioned Medical Director, and in January, 1897, he retired.

Dr. WILLIAM HARPER DAVIS died at his home in Brooklyn on January 8, of Bright's disease, at the age of thirty-two years. He was born in this city and was graduated from the Eclectic Medical School in 1896.

Dr. HENRY E. WOODBURY of Washington, D. C., died in that city on January 15, at the age of seventy-nine years. He was born in New Hampshire and was graduated from Dartmouth College. He studied medicine in Washington, receiving his degree of M.D. from the Medical Department of the University of Georgetown in 1863. He at once entered the army as assistant surgeon and served until the close of the civil war when he settled in Washington and practised there for many years until disabled by an accident.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SUDDEN DEATH IN CHILDREN—EFFECTS OF GRAFTING OF THE THYMUS—COLCHICINE—ENGORGEMENT OF LUNG FROM ALTERATIONS OF THE SYSTEMIC CIRCULATION—NOTES—OBITUARY.

LONDON, December 30, 1904.

Sudden or unexpected death in children is every now and then an inexplicable circumstance and causes as much surprise as the equally unaccountable recoveries that sometimes occur, or the escapes from what seems inevitable death in accidents and which have given rise to the proverb, that a special Providence is over them. The equally appropriate saying that children are apt to slip through the doctor's fingers seems also derived from observations of cases of sudden death in these fragile patients.

A discussion on these cases was held on the 16th inst. It was opened by Dr. C. J. Macalister of Liverpool, who dealt mainly with such as appeared to him to be due to some toxic influence. He referred to the fact that such cases are met with in institutions for the care of children and quoted cases in which, after only a few hours of headache, vomiting, or diarrhea, the little patients sank rapidly in a cyanosed condition. At the autopsy there might be a mere patch of lung consolidation, but he had met with no nerve lesions and thought some toxin attacked the respiratory center. In a school where collective bathing was in use, some five years ago, several deaths of the kind occurred, but ceased on discontinuance of that practice, and he remarked how saturated with organic matter the water became after a number of children had been washed in it. Dr. Macalister mentioned another type of death, instancing a case of a healthy child dying with appalling suddenness, which he felt disposed to ascribe to infantile paralysis attacking the center of the vagus, and he seemed inclined to attribute this to some flaw in the nursery hygiene. Hemorrhages he also referred to as the cause of the toxemia. Some cases may have been typhoid, others diphtheria, or cardiac disease, masked by different conditions.

Dr. Porter Parkinson referred to cardiac failure, convulsions to the extent of asphyxia, laryngismus, glottic spasm, and other causes. "Overlaid babies," no doubt, often died from asphyxia. Emotion he regarded as a rare cause, though it may be objected that terror has terminated fatally many times.

Dr. Thomson Walker dwelt on the clinical picture of the status lymphaticus as showing: (1) No evidence of previous illness, but (2) previous restlessness, etc.; (3) thymic asthma. Rickets is often present. Some still-births and deaths from anesthesia or shock might be thus accounted for. Hyperplasia of the heart, coarctation of the aorta, enlarged thyroid, etc., have been found.

Mr. Tubby spoke of hemorrhages and hemophilia, scurvy, ulcer of the stomach, or duodenum, thrombosis, and so on. Also of shock from operations, especially irrigation of the pleural cavity, which he attributed more to the nature of the fluid used than to the actual washing, provided there was free exit for the fluid. Other causes were connected with the larynx and trachea. Tying the hands of a restless child was hazardous.

Dr. Blumfield referred to the deaths during or after anesthesia, and urged the importance of securing the services of a skilled anesthetist. Death in the pre-anesthetic stage was almost always absolutely sudden and was due to a too strong vapor of chloroform.

Dr. Page said sudden death in the course of a chronic disease, such as phthisis, might sometimes occur from autointoxication, the patient having been living for a time on the brink of a precipice, so to say.

Dr. Young thought lymphatism more frequent than commonly supposed, both in adults and children. Sudden death was rather frequent in exophthalmic goitre, especially after operation; also in myasthenia gravis with persistent thymus. He had found the thymus persistent in several cases of sudden death.

Dr. Cantley remarked on the importance of the subject to general practitioners. Such cases came under their notice, and they had to make the autopsy and give evidence before the coroner. He mentioned two cases ascribed to mesenteric disease and typhoid, in neither of which did he think the history or post-mortem examination justified the diagnosis. In marasmus some died from syncope, others from a slight convulsion; in many no cause could be stated.

Drs. Guthrie, Pernet, and Edmunds spoke of congenital syphilis, the rapid cure of extensive eruptions, of skin-grafting, etc., each of them contributing some salient point to an interesting discussion on a subject deserving further investigation.

At the Pathological Society, on the 20th inst., Drs. Dudgeon and Russell gave an account of the effects observed of intraperitoneal grafting of the thymus of young animals into other animals of the same species and the same litter. One kitten, one rabbit, and four puppies were grafted. They concluded that the grafting (1) did not affect the health of the animal; (2) did not produce marked blood changes; nor (3) overgrowth of lymphoid tissue in the body; nor (4) changes in bone marrow, liver, or spleen. But (5) the grafted thymus became attached to the peritoneum of intestine, omentum, or abdominal wall, speedily degenerated, and eventually was represented by a small mass of fibrous and adipose tissue. In two of the dogs severe rickets developed, with marked changes, but this was attributed to other circumstances, as the control animal was not affected.

Another communication was by Dr. W. S. Dixon, on the effects of colchicine on the leucocytes. It was very marked degeneration, many becoming swollen, the nucleus indistinct, and the granules were excluded from the cell. Eventually these degenerated leucocytes passed to the lung and bone marrow. An increased mitosis was observed in the marrow. Some observations on the effects of colchicine in man had been made, but were not complete.

A further communication was by Drs. Brodie and Dixon, on alterations in the systemic circulation, which tend to produce engorgement of the lung capillaries. They found the volume of the blood in the lungs diminished by cardiac inhibition and increased by cardiac acceleration. These cardiac changes had more effect on the volume in the lungs than any other interference with the vascular system. The circulation of the lung was passive. It behaved according to the amount of blood sent to it by the right, or taken from it by the left, side of the heart. But there was no evidence that the lung acted as a reservoir. No evidence was forthcoming that adrenalin constricted the lung vessels, although the idea had led to its trial in hemoptysis. Its action is to constrict the peripheral circulation and secondarily stimulate the heart. The volume of blood in the lung is in this way increased. Therefore, the drug should not be given in hemoptysis. Ergot produces a rise in the pressure and increases the volume of blood in the lungs, and digitalis also causes a rise in the pulmonary blood pressure and an increase in the volume, which constricts the systemic vessels.

Dr. A. Morison commented on the decrease of blood pressure by venesection, comparing it with the increase of volume recorded in one experiment by injecting a small quantity of blood into the portal circulation.

Sir Wm. Taylor is succeeded as director-general of the Army Medical Service by the deputy director-general, Lieut.-Col. (temporary surgeon-general) A. Keogh, M.D., C.B.

Dublin University has conferred its honorary M.D., M.Ch., on Sir F. Treves, and its honorary D.Sc. on Major Ronald Ross.

The King has granted the title of Royal to the Victoria Hospital for Consumption, Edinburgh.

Col. W. F. Stevenson, M.B., C.B., R.A.M.C., has been appointed honorary surgeon to the King, *vice* the late Surgeon-General Jameson.

Mr. T. Crisp English, F.R.C.S., B.S., Lond., has been elected assistant surgeon to St. George's Hospital.

Mr. A. Quarry Silcock, surgeon to St. Mary's Hospital, and to the Ophthalmic Hospital, died on the 19th inst., after an operation for appendicitis. He had a very brilliant career, of which he was beginning to enjoy the full fruits, but has passed away at the age of 49. He was a University College student, whence he graduated in medicine and surgery at the London University. Having served the house appointments at his hospital, and there being no probability of a vacancy on the staff, he went to St. Mary's as pathologist in 1884, and speedily made his mark as a skillful surgeon, apt teacher, and a highly equipped observer. The first vacancy on the staff was his, and he had served hospital and school so well that both feel his is a most serious loss. So do his colleagues at the Ophthalmic, where his operative skill and surgical judgment were most highly esteemed.

Fleet-Surgeon (retired) Dr. F. H. Blaxall died on the 23d inst., aged 79. He entered the navy in 1848, served in the Baltic, in the Russian war, receiving the medal; became fleet-surgeon in 1869. His M.D. was of St. Andrew's, 1861. After leaving the navy he was for many years an inspector for the local government board.

Brilliant Surgeons Not Wanted.—Writing in the *Young Man,* Sir Frederick Treves says: "Genius is some sort of neurosis, an uncalculated nervous disease. The few men of genius I have met were exceedingly impossible persons. They are certainly entirely out of place in the medical profession, where even cleverness is not to be encouraged. Indeed, of all desperately dangerous persons the brilliant surgeon is the most lamentable. Cleverness finds its proper field not in the operating theatre, but at the Egyptian Hall."

OUR VIENNA LETTER.

(From Our Special Correspondent.)

NATURE OF ROENTGEN-RAY ACTION—BACTERIOLOGICAL DIAGNOSIS OF TUBERCULOSIS—GASEOUS TENSION OF THE BLOOD—HYPERTROPHY OF THE SEXUAL ORGANS OF THE FETUS DURING THE LATTER STAGES OF PREGNANCY.

VIENNA, December 24, 1904.

DR. ALFRED EXNER has reported a series of animal experiments undertaken to investigate the nature of *x*-ray action. Some time ago Schwarz put forward the view that radium rays decompose lecithin, and Werner has recently shown that this substance after exposure to radium produces the manifestations of radium dermatitis when injected intracutaneously. This suggested the question of whether the phenomenon would hold good for the *x*-ray also, and it was found that lecithin in water exposed to the action of *x*-rays for considerable periods of time gave evidence of decomposition products by the development of color changes and an acrid odor. Ten per cent. solutions of lecithin which had been subjected to this preliminary treatment when injected intracutaneously into rats gave rise, at the expiration of six days, to falling of the hair followed by ulceration of greater or less intensity according to the amount of material used. The same result followed when the *x*-rayed lecithin solution was sterilized by boiling before use, while control experiments with untreated lecithin showed that this was entirely harmless. Dr. Exner expects to be able to make this decomposed lecithin of therapeutic value.

Dr. Honl in discussing the bacteriological diagnosis of tuberculosis, said that simple or combined bacteriological methods enable the diagnosis to be made in stages in which the physical signs are still inconclusive. Demonstration of the tubercle bacillus affords proof positive of the tuberculous nature of the disease but fallacies must be guarded against, and the author described three cases in which other organisms simulated the tubercle bacillus. These were instances of gangrenous pulmonary lesions and gangrenous sinus phlebitis in which tubercle bacilli-like, acid-fast organisms were found which, injected into animals, produced only suppuration and not tuberculosis. Honl, in 1892, proved the existence of thread-like bacilli which are acid-fast like the tubercle bacillus and of which some elements appear more resistant than others. These properties belong to actinomyces, cladothrix acteroides, and cladothrix facinica, whereas the nonpathogenic varieties of cladothrix do not possess this peculiarity. In staining saccharomycetes from cultures it is also possible to prove that some long threads are also acid-fast. In cases with doubtful symptoms and in those in which it is not possible to find tubercle bacilli the old tuberculin may be employed, and if neither of these methods should prove feasible the bacteriological diagnosis may be made by means of the Arloing-Courmont serum reaction.

In the Society for Internal Medicine, Dr. Schrötter reported on the results of some observations on the gaseous tension of the blood and on cardiac work, made in conjunction with Professor Löwy of Berlin. By the introduction of catheters into the deeper air passages, the isolation of certain portions of the lung, and the removal of portions of the pulmonary gases, it was found possible to determine the tension of the blood gases. The following results were obtained:

(1) The elasticity of the lung is so great that the removal of even considerable quantities of air from isolated portions does not at all alter the pressure in them. (2) The occlusion of even large lung areas does not necessarily change the oxygen content of the arterial and venous blood. (3) In the interchange of gases between pulmonary air in isolated portions of the lung and venous blood, the composition of the air approaches the gaseous tension of the venous blood. (4) The oxygen tension of the venous blood averages 5.3 per cent., or 37.5 mm. Hg. (5) The carbon dioxide tension of the venous blood averages 6 per cent. or 42.2 mm. Hg. (6) The nitrogen tension is about 89 per cent. (7) The venous blood is saturated to about 60-65 per cent. in relation to the atmospheric air. (8) The consumption of oxygen by the tissues in absolute terms is 19 per cent. for the arterial blood and 12.5 per cent. for the venous blood, equal to 6.5. c.c. from 100 of blood, and corresponding to 34 per cent. of the arterial oxygen. (9) In an individual weighing 60 kilograms, in a state of rest 38 liters of blood circulate per minute, that is, 64.2 c.c. per kilogram. The amount per second and kilogram of body weight is 1.4 c.c. (10) In man the period of circulation is about 72 seconds. (11) The systolic volume of the human heart may be estimated as equal to 55 c.c., that is, 1-1,200 of the body weight, or 1-84 of the blood volume. (12) The circulating activity of the heart is 2.3 per cent of the total cardiac work. (13) The total cardiac work of an individual of 60 kilograms at a blood pressure of 100 mm. averages 7.11 mkg. per minute; or per systole, at a pulse rate of 70, .102 mkg. or 102 grams. The cardiac work per kilogram of body weight equals 118 grams per minute. (14) In order to propel 1 c.c. of blood 1.8 grams of work is necessary. (15) The heart work for twenty-four hours is equivalent to 10,000 mkg., which is equal to 3.6 per cent. of the total energy output. The ratio of the heart work to respiratory work is as 1 to 2.4. Both together therefore, amount to 10 per cent. of the daily consumption of energy. The heart requires 9.24 c.c. of oxygen per minute and 13 c.c. of oxygen per systole when the pulse rate is 70. The coronary arteries receive per minute at least 139 c.c. of blood, i. e., the blood supply of the heart is at least seven times larger than that of the rest of the body when at rest. The following additional facts are of importance from a practical standpoint. Pulmonary hemorrhage is not to be feared even when well marked negative pressure is present in isolated portions of the lung. In the resting condition large portions of the lung may be thrown out of function or the main bronchus be occluded without the production of any change in the blood pressure or volume of ventilation. There is no danger of atelectasis of the lung even after protracted isolation, extending to forty minutes, of portions of the organ. The pressure of a metal catheter for this length of time in the deep air passages is unattended by danger.

Dr. Halban presented before the Society of Physicians of Vienna a communication on the hypertrophy of the fetal organs during pregnancy, and their puerperal involution. The observations showed that just as the organism of the mother undergoes peculiar changes during pregnancy, the organs of the female fetus present almost analogous alterations. The breasts of the fetus from the eighth month on, show histological changes very similar to those present in the mother, and the fetal uterus begins to hypertrophy at this time. A well marked state of congestion is present and the mucosa manifests phenomena comparable to those seen in menstruation. According to the intensity of the reaction all stages are observed from the premenstrual hyperemia to the subepithelial hemorrhages, and the discharge of blood into the cavity of the uterus where blood may always be found on microscopic investigation. In the most severe grades of reaction the well known genital hemorrhages of the new-born are produced. Numerous control studies proved that the phenomona in question represent a physiological reaction and are not due to morbid processes such as asphyxiation, infection, etc. The changes are due to a reaction to active pregnancy substances, and while the maternal uterus responds by the formation of a decidua, the less susceptible fetal organ undergoes only the changes of menstruation. Various considerations seem to indicate that these active substances originate in the placenta, which appears to be the source of a species of internal secretion which is given off both to the mother and child, and produces organic changes. After the birth the influence of the placenta is removed from both organisms so that they no longer receive these substances and puerperal involution takes place in both mother and child. The involution of the breasts and uterus of the child is complete about three weeks after birth. These placental bodies affect not only the feminine sexual system but also that of the male. The breasts and prostate of boys show similar pregnancy reactions, manifested by histological changes and hypertrophy, and a puerperal involution. The active pregnancy substances in addition to their protective action on the sexual organs, also, as is well known, possess toxic side effects which produce renal changes, leucocytosis, and fibrin increase in the blood. These occur in the fetal organism just as in that of the mother and disappear from both when the toxic action of the placenta has ceased after birth. Since eclampsia represents only the severest grade of an intoxication present in greater or less degree in normal pregnancy it is logical to look for the source of this intoxication in the placenta.

Glasgow's Isle of Drunkards.—The Glasgow corporation is considering a scheme under which Glasgow's chronic inebriates shall be banished to the Islet of Shuna, one of the Hebrides group. This islet is leased to a farmer and has been practically forgotten by the corporation of Glasgow, who have owned it for a century. It is sandwiched between the coast of Argyllshire and the Island of Luing, and is only three miles in length and about half that extent in breadth. The climate is described in the corporation reports as similar to that of Jersey, and those who are urging that the islet should be used as an inebriates' settlement point out that the islanders would be practically self-supporting.—*St. James Gazette.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, January 12, 1905.

The Systematic Use of Work as a Remedy in Neurasthenia and Allied Conditions.—Herbert J. Hall, in speaking of the etiology of neurasthenia, remarks that in very many, if not in all cases, it will be found that unusual worry or a tendency to overestimate the importance of small things, or some equivalent mental perversion, existed long before the well-known symptoms of neurasthenia appeared. Worry is a real thing, and it will, if long continued, breed in the sanest mind a dangerous unrest and happiness. Worry is often not distinguished from the mental or muscular fatigue which follows long and arduous labors. The idea is gaining ground that neurasthenia may be largely or wholly psychic. When neurasthenia is established, a feeling of fatigue is often brought on by the mere thought of exertion or by the anticipation of any task. With these ideas in mind, the writer has founded a School of Handicraft, where neurasthenics are taught to work. Pottery, weaving, and basket-making are all taught there. All evident sources of fatigue, such as eyestrain, are eliminated as far as possible. When the patient first presents himself, he is put to bed for a few days, perhaps a week. He is soon asked to do something—without any warning—it may be to sit up in bed. A very gradually progressive program is written out each day, and intrusted to the nurse, who carries it out exactly. Anticipatory fatigue and worry are thus almost entirely eliminated. The hours of rest are gradually made shorter, and the hours of work longer, until the day is full of interesting work; the patient forgets himself, and there is no longer need of prolonged rest. Pride and satisfaction in work, and in life, and self-forgetfulness are the great ends to be attained. The products of the shop are worthy of attention, and when they have reached commercial value, they are sold and the proceeds credited to the maker. Although the work is still in the experimental stage, the writer has seen enough of its happy results to feel reasonably sure that this method of treatment will give fairly quick results. He hopes by it to reorganize the life of the individual on better lines, and lead him up to a life of usefulness to himself and others.

Observations on Experimental Drainage of the Peritoneal Cavity of Cats.—Fred T. Murphy has conducted a series of experiments to determine the time which elapses between the introduction of the drain and the formation of walling off sufficiently strong to prevent the drainage of the peritoneal surfaces not in direct approximation to the drain. The experiments were made on cats, and different materials were used to determine their relative value. The gauze and cigarette drains failed to drain the general cavity after about 18 hours, and the rubber dam and glass tubes after about the third 24 hours. The difference in time represents the difference in stimulating effect of the various materials on the peritoneum. The omentum was in all instances the active agent in the process of walling off. There was a single example of general purulent peritonitis, which illustrates a condition of the peritoneum comparable to a sloughing infected wound, elsewhere in which the power of normal reaction of the tissues on the surface has been destroyed, and in which the drainage was useless. The writer concludes from the results of these experiments that it is difficult to see how the presence of normal salt solution can materially effect the formation of adhesions. Disregarding the effect on hemorrhage, and the pain of removal, and considering only the effectiveness of the drain as such, it would seem that the usual drainage materials might be separated into two groups, each having special advantages when used in its proper field. When it is desired to make a given septic area extraperitoneal as quickly as possible, the materials which are walled off within the first 24 hours, would be indicated. In cases in which it is necessary to drain the general septic cavity for as long a time as possible, the group of materials which is walled off only after about the third 24 hours, would be preferable. Theoretically, drainage would be of great value in cases in which it is desirable to make a limited septic area extraperitoneal. The value of a drain as a drain of the general septic cavity after about 72 hours, could not be demonstrated.

New York Medical Journal, January 14, 1905.

A Clinical Study of Myoidema with Especial Reference to Its Occurrence in Pulmonary Tuberculosis.—H. L. Shively refers to a peculiar muscular contraction which may occur in the shape of a ridge at right angles to the muscular fibers about the point of impact, and which is very usually present in cases of tuberculosis of the lungs. It continues for a few seconds and then subsides. This is the nodular form. A fascicular form appears on tapping, in the shape of a longitudinal form which follows the course of the muscular fibers. The first form is a contraction, but the second is, according to the writer, a relaxation. In his experience the nodular form is best noticed in the bicep and the fascicular form and the pectoralis major. No constant or characteristic variations have been noted in the electrical inability of the muscles affected, and in no case has the reaction of degeneration been obtained. As regard its diagnostic value, Shively notes that in a series of 750 cases of pulmonary tuberculosis, it was present in the great majority, and is usually obtained in the incipient stage. It is, therefore, of some importance as an addition to the syndrome of signs and symptoms, making the early diagnosis less difficult.

Differentiation in the Diagnosis of Non-deforming Club Foot.—J. J. Nutt notes that this condition is often mistaken for articular rheumatism, lumbago, gout and sciatica. It may exist for years without structural change, but usually one of two results follow: With a considerable shortening of the gastrocnemius, the plantar fascia likewise is shortened, and an equinus with slight cavus exists; or, if the gastrocnemius is shortened but slightly, the plantar tissue yields to the undue strain, lengthens, and the mediotarsal joint, thus deprived of this bowstring protection, gives way, and flat foot is present. Pain may be of value in the diagnosis. In non-deforming club foot, it is usual for the pain to increase by continued use, and it may be felt in the calf, back of knee, or thigh, and even as high as the buttock. In flat foot the pain is usually worse after rest, and is generally lessened after use. Another cause of a shortened gastrocnemius is anterior metatarsalgia or Morton's neuralgia. This, with a shortened plantar fascia would tend to dislocate the metatarsal bones, and this tendency would be increased by the strain placed on the extensor longus digitorium. Inflammatory disease of the ankle and mediotarsal joint, muscular spasm or ankylosis may be present, those muscles being affected which act on the articulations, but there is no spasm in soleus or gastrocnemius. This history is of value both in this and disease of the mediotarsal joint, and in inflammations of the tarsal bones. In non-deforming club foot the history dates back to an uncertain period and pain with callosities are the chief, usually the only symptoms. In these inflammatory conditions of the joints and bones, the beginning of the trouble is most frequently asserted to be due to some injury, and the pain is often of less moment to the patient than the lameness. Many mistakes result from slipshod methods of examination, but among possible causes to be considered in obscure and unexplained pains in the lower extremity, buttock or small of the back, non-deforming club foot must not be forgotten.

Tic Douloureux and Other Neuralgias from Intranasal and Accessory Sinus Pressures.—S. F. Snow has treated twenty chronic cases of this affection. He has seen none requiring nerve excision for relief, but every one had well marked intranasal pressure or some sinus accumulation, more often the latter. From his personal experience, he is inclined to believe that a pain shooting from the bridge of the nose outward and upward indicates an involvement of the anterior ethmoids. A deeper and more intense pain under or behind the eye, and sometimes apparently in the ear or temple, points to the middle and posterior ethmoids; while a still deeper, splitting pain, radiating outward from the center, sometimes reflected around the anterior third of the lower jaw, is relieved by opening the sphenoid. Accumulations within the maxillary antrum are diagnosticated by the localized pain, with sometimes intense muscular tremor and successions of spasms, shaking the head from side to side. Snow is inclined to believe that 80 per cent. is a modest estimate of the cases of tic douloureux due to the causes named in the title of his paper.

Medical News, January 14, 1905.

Care of Puerperæ.—James D. Voorhees believes that the physician cannot be too conservative in his management of the puerperal woman. A continued asepsis after delivery, is of the greatest importance. The nurse to whose lot this falls, should regard the vulva and the nipples in the light of clean laparotomy wounds, and use corresponding precautions. For the first two or three days, the writer advocates the use of a piece of gauze, wet with a 1-10,000 bichloride solution, placed over the vulva beneath the sterile vulva pad. These dressings should be changed and the parts cleansed at any rate every 4 hours, for the first two or three days. The patient demands a refreshing sleep directly after delivery. If this does not come naturally, chloral, by rectum, seems to act most effectively. After-pains can be limited as a rule by proper massage of the uterus, by expression of clots, and by the administration of ergot directly after the expression of the placenta. Fluid diet should be given for 48 hours after labor, or until the bowels move. A cathartic should be given on the morning of the third day, followed by an enema, if necessary. As to abdominal binders, if patients are troubled by them, they may be discarded after the third, fourth or fifth day, especially if there is little reason to fear a relaxation of the abdominal walls. The nipples should receive the most careful attention. They should be cleansed before and after nursing with boric acid solution, and then anointed with albolene. They should then be covered by sterile lint dressings, kept in place by the breast binder. The patient should be cautioned not to touch the nipples. Thus, germs can be excluded, and the greatest predisposing cause to mastitis avoided. Massage will relieve distention of the breasts. Cathartics are invaluable to carry off fluids. Codeine may be necessary to produce sleep. The patient should be kept in bed at least two weeks, and she should be slow in walking. If involution is delayed, hot vaginal douches, boroglyceride tampons, ergot, quinine, and strychnine are valuable. A routine vaginal examination should always be made before a case is discharged.

Trauma and Chronic Compression of the Epigastrium as Etiological Factors of Gastric Ulcers.—William Ackermann cites a number of cases in order to indicate the importance of epigastric compression in gastric ulcers. In 125 consecutive cases of ulcer treated, 28 occurred in males, and 97 in females. The majority of the latter occurred between the ages of 20 and 35 years. The greater number of these females were employed as seamstresses. On account of their occupation, they lead an indoor life, predisposing them to chlorosis or anemia, and this, combined with the pressure of corsets in bending over their work, the writer points out as being the cause of their disease. He states that the frequency of ulcers in the male in the later years of life, can be attributed to the compression of the epigastrium caused by occupation. There are, among the cases reported, several kinds of "occupation compression." There are those cases in which the continual pressure is exerted, such as exists among shoemakers, basket-makers, and so on, caused by the "last" and "willows" respectively. Again, there is the temporary pressure caused by heavy weights resting on the epigastrium, such as teamsters are exposed to; and finally, there is the compression to which such workmen as tailors and bookkeepers are subjected to from their habitual stooped position while at their work. This question is a most interesting one, and worthy of careful consideration, although clinical experience in relation to gastric ulcers, caused by trauma or by long-continued pressure of the gastric region, without injury to the external abdominal walls, is still very limited.

The Nervous Symptoms Accompanying Pernicious Anemia.—Roy M. Van Wart calls attention to Addison's description of pernicious anemia. He mentions nervous symptoms, which at the present time would be called neurasthenia. Later, cases were published, reporting organic changes. Still later, degenerative changes were noted in the brain in pernicious anemia. The symptom-complex presented by the degenerations in the spinal cord in these cases, has been described as a separate disease under the name combined sclerosis. In cases complicating pernicious anemia, the posterior tracts are involved earliest, and the disease may not extend beyond this. There is great difficulty in clinically classifying the forms met with. Cases of spinal cord lesions, accompanying pernicious anemia, may or may not, present symptoms. Again, spinal cord symptoms may antedate the presence of anemia. The etiology of these lesions, as well as that of pernicious anemia, is still doubtful. Hemolysins have been demonstrated to occur intermittently in the urine in pernicious anemia. The writer reports a case which showed occasional irritability, but, apart from the apathy, there was no more marked mental disturbance till a few hours before death. There occurred ten epileptiform attacks during the last of the illness, but on account of the high temperature shortly before death, the mental disturbance could not be called a pernicious anemia psychosis. Another case observed by the writer, complicated, however, by an organic brain lesion, committed suicide by cutting his throat and throwing himself from a window.

American Medicine, January 14, 1905.

The Foundations and Aims of Modern Pediatrics.—Theodore von Escherich (Vienna) traces the various steps which have developed pediatrics into a science. He divides child-life into (1) infantia, including, *a*, newborn period (first week of life), *b*, nursing period first year of life), *c*, milk teeth period (second to fifth year); (2) childhood (sixth year to puberty); (3) age of puberty. Under these heads he discusses the physiological principles involved in the growth of the child and the diseases incident to each period. He emphasizes the fact that the successful pediatrist must make himself familiar by special study with the therapy suitable to each period. He must bear in mind that a really curative effect can be obtained only from those measures which stimulate further or replace the naturally powerful healing processes of the childish organism. The greatest difference between the therapeutic problems of the pediatrist and those of the internist lies in the overwhelming importance and development of prophylaxis, which includes the constant and careful watching over the child's life (especially during the first period of growth). In closing his address the author calls attention to the value of children's hospitals and dispensaries which form the natural centers for practical education and scientific work.

Comparison of Roentgen Ray and Surgical Treatment of Tuberculosis.—James B. Bullitt concludes that surgery cannot make brilliant promises in the treatment of tuberculous affections. If successful, it is practically always dangerous, or tedious, one or both; and in the great majority of cases the patient fails of cure because of the exhaustion of his own or the surgeon's patience. On the other hand, reports of cases which have been made at length, seem to indicate that in some cases, at least, the tuberculous process can be cut short by exposure to the *x*-ray, and a cure effected in a much shorter time, and in the case of disease of joints and bones, with much better functional results than is to be expected from usual surgical methods. It remains to show that the treatment is capable of causing arrest of the tuberculous process, and restoration to the normal condition. This must be done by careful observation and record of cases.

The Early Recognition of Hypertension.—Henry W. Cook directs attention to the importance of an early recognition of abnormal cardiovascular strain which is so frequently the precursor and direct causal agent in organic cardiovascular disease. Overexertion, either physical or mental, anxiety, overeating, especially of meats, and certain toxins produce a rise in blood pressure and therefore added strains on the cardiovascular system, upon the integrity of which health and life so directly depend. The routine use of accurate methods for estimating pulse tension in apparently trivial affections, will often be the means of detecting the existence of abnormal cardiovascular strain and of forestalling its later developments. When general hygienic and dietic methods fail to correct this condition specific treatment is possible by the vasodilators, the most generally useful being sodium nitrite in discs of .032 to .13 gms. (½ to 2 grains).

Lithemia: Its Diagnosis and Local Treatment.—F. M. Johnson emphasizes the satisfactory results obtainable from local treatment of lithemia in the shape of lavage of the kidneys and irrigation of the bladder. Many cases have responded much more quickly when this local treatment was used in conjunction with internal medication. For injection into the kidney, warm mild solutions of silver salts, or boracic acid are indicated. For washing out the bladder, mild formalin or silver nitrate, 1 to 5,000 in a half saturated solution of boracic acid appear to give the best results.

Journal of the American Medical Association, January 14, 1905.

Dairy Hygiene.—R. C. Newton considers this subject with special reference to the limitation of bovine tuberculosis. He notes that wild cattle are free from the disease and that the latter is curable and preventable in domesticated cattle as in man. Experienced dairymen estimate that 30 per cent. of all eastern cows are tuberculous, but these figures are uncertain. To eradicate the disease it is necessary not only to kill all diseased animals, but to institute proper sanitary measures among dairies. Not over fifty cows should live in one stable, and they should have regular exercise even in the coldest weather. The sun should shine in the stable all day long and the air space should be 1,200 cubic feet per cow. As to the value of the tuberculin test, the writer says that cows with advanced disease may fail to react, though the lesion is easily detected by physical examination. Even careful testing may fail to detect the disease or prevent its spread. On the whole, however, the test is reliable. The present laws against bovine tuberculosis are faulty. They reach merely the environment of the cause and not the cause itself. An owner may have his herd tested by a more or less competent veterinarian if he chooses, and may receive about one-half the value for the cattle that are condemned to be slaughtered, or he may, if he elects, remain in blissful ignorance of the real state of health prevalent in his herd and may maintain a hotbed of infection and disseminate tubercle bacilli among the unsuspecting populace indefinitely. We need also stricter laws against the sale of the carcasses of diseased cattle. Much of this meat is now sold to the bologna-sausage makers.

Paraurethritis.—J. W. Churchman reports two cases which illustrate the following points: (1) Gonorrheal infection of paraurethral ducts occurs in the male, and that it may manifect itself either during the course of an ordinary urethritis or before urethral symptoms have appeared. (2) Paraurethritis may, in its very early stages, simulate inflammatory lesions of the surface of the glands, notably beginning chancre, chancroid, or herpes. (3) Paraurethral infection, once it has become established, can be destroyed only with great difficulty, the organisms reappearing in abundance even after cauterization of the duct. (4) The infection can be overcome without surgical intervention, and the continual existence of a neighboring focus of infection does not necessarily mean a bad urethral invasion if careful prophylactic measures are taken.

Berliner klinische Wochenschrift, December 26, 1904.

Syphilis as an Occupation Disease of Physicians.—Blaschko has had as patients no less than twelve physicians who have acquired syphilis in the course of their work, ten of the number coming from Berlin alone. In nearly all cases the primary lesion developed on the fingers, and three conditions must be differentiated from a chancre in this situation. These are herpes, anatomical tubercle, and chancroid, but they usually do not present diagnostic difficulties. In some cases, however, the chancre is extremely small, not painful, and heals without forming a scar, and in one case, not included in the above list, no site of external infection could be detected, which leads the author to believe that syphilis without a preliminary primary lesion is possible, and that the infection may perhaps occur through the bites of insects. The two chief sources of infection, are punctures with instruments during operations, especially on enlarged glands, and through unnoticed slight wounds, hangnails, etc., in major or minor gynecological practice. One case was directly traceable to infection in the course of an autopsy on a syphilitic cadaver. The author recommends that some moderation be used in the employment of the scrubbing brush in the process of sterilizing the hands, so as to avoid producing the many slight traumata usually found about the hands of those who operate frequently, and further that rubber gloves be used more extensively in operating and making examinations. If any wounds or fissures are discovered, they should be touched with a 2-3 per cent. solution of silver nitrate, covered with a piece of adhesive plaster; and the whole coated with collodion or covered with a finger cot. If infection is suspected, silver nitrate and bichloride are unsatisfactory, owing to their lack of penetrating power, and the author advises thorough washing with water, followed by the application of iodine and peroxide of hydrogen. The electrolytic needle and the actual cautery may also be employed. An infected physician need not give up his profession, but by observing stringent precautions, may continue to practise without any danger to his patients.

Munchener medizinische Wochenschrift, December 27, 1904.

The Treatment of Sciatica.—Lange describes a plan which he has found prompt in giving relief in intractable cases of sciatica. The method consists in injecting a considerable quantity of fluid into the nerve itself, and is carried out as follows: The solution used contains one part to 1,000 of eucain-β in 8 per cent. salt solution, and is sterilized by heat. The point of exit of the nerve from the sciatic foramen is located, and the superficial parts are anesthetized with the solution in a syringe provided with a long needle. The needle is then carried deeper into the tissues down to the nerve, which is situated at a depth of about 7 cm., and is not difficult to strike, as it is over a centimeter in width. The course of the needle through the skin and muscle is not painful, but as the nerve sheath is entered the patient gives a convulsive jerk. This indicates that the nerve has been reached, but the pain lasts only a moment, as the fluid is at once injected, 70-100 c.c. being forced in quite rapidly. The patient is told not to lie on the affected side for some time after the injection, and the feeling of tension produced usually disappears after a few hours. In some cases the injection must be repeated after several days. A rise in temperature was observed in some of the cases, but this promptly subsided. The author's cases are eleven in number, and in five the treatment was effectual, twice after a single injection, and three times after two injections. Another case was doubtful, four were improved, and one was not influenced. Although the number of cases is small, the dramatic nature of the prompt and complete cures obtained in bed-ridden patients whose sufferings had not yielded to any of the ordinary anodynes, leads the author to publish his results in the hope that others will make use of it in order to determine the type of cases amenable to the method, and the permanency of the cures thus effected.

Accidental Vaccination.—Lublinski considers it of importance to warn the persons in charge of the newly vaccinated, of the danger of accidental infection from the pustules. The greatest care and cleanliness must be observed, and precautions are necessary to prevent contact with other children. Patients with eczema or prurigo, are especially susceptible to generalized vaccina, and should never be vaccinated until cured, in spite of Unna's advice to vaccinate such children in the hope of effecting improvement in the eczema. Seven fatal cases in twenty-one of accidental infection, have been reported and show the predisposition to dangerous complications caused by eczema. The author recently observed a nasal infection in a woman who used her handkerchief in cleansing the vaccination pustule of her child, and then wiped her nose with it. The lesions produced were not severe and subsided spontaneously in the course of fourteen days.

Deutsche medizinische Wochenschrift, December 29, 1904.

The Radical Cure of Ventral and Umbilical Hernia.—Karewski has found that the following procedure gives good results even in extensive ventral and umbilical hernias. The scar is circumscribed by an incision sufficiently distant from its edges to be situated in healthy skin, and the mass of cicatricial tissue is dissected out, avoiding injury to the peritoneum if possible. If it is inadvertently nicked, the cut is at once sutured with fine cat-gut. The skin and subcutaneous tissues are stripped back on either side and the aponeurosis of the muscles surrounding the hernial ring is then incised completely around the circumference of the opening, and from 1-2 to 1 c.c. from its edge. This strip of tissue is inverted over the hernia, which is pushed back into the abdomen and the edges of the fascia sutured, thus forming a layer of tendon over the peritoneum. Deep sutures are then so placed as also to draw the muscles together over the gap, which can usually be done without difficulty. The author has treated thirteen cases by this method, with excellent results in all but one.

The Value of Oxygen Inhalation.—Aron does not attribute a great deal of value to the inhalation of oxygen in cases of carbonic acid intoxication, arising from any cause. Three methods of administration are in general use, direct inhalation from the cylinder of compressed gas, inhalation through a face piece or other reservoir provided with valves, and inhalation through a soft rubber mouthpiece. None of these can effect saturation of the blood with oxygen, though the latter method comes nearer to this end than any of the others, but it is inapplicable to very weak or dyspneic patients, owing to the degree of strength and attention needed to keep the lips tightly closed about the mouthpiece. The good results apparently due to the effects of oxygen inhalation depend on the increased depth and regularity of respiration accompanying its administration, and this is illustrated by a case coming under the author's observation. A little girl with deep cyanosis, due to a congenital heart lesion, showed prompt improvement in color on being allowed to inhale oxygen from a spirometer, but exactly the same result followed when air was substituted for the oxygen in the reservoir, and inhaled in a similar manner.

The American Journal of Medical Sciences, January, 1905.

Osteogenesis Imperfecta (So-called Fragilitas Ossium).—P. William Nathan declares that although this condition has been fairly well known to pathologists for some time, the cases reported have been practically all confined to stillborn or premature infants, and thus they have not been recognized or studied by the clinician up to the present time. He has not been able to find any case in the living subject, that has ever been reported under the name of osteogenesis imperfecta. He describes two cases that have come under his personal observation. In this disease the extremities are often much bent and deformed, and are always so brittle that the slightest violence results in fracture. The fragility of the bones is not confined to the extremities, but extends to all of the bones of the body. Ossification of the cranial vault is always defective. Sometimes this vault consists simply of a soft membranous sac. The bones are extremely porous. Calcification of the ostoid tissue is defective, and in some places absent entirely. Osteogenesis imperfecta is a systemic bone disease, which attacks the very young fetus. The first case mentioned by the writer is a male child and was 16 months of age when first seen by him. Although all of the fractures which this child has suffered are not remembered, at least twelve have been verified. The second case is a boy of 17 years. He has sustained no less than 35 fractures. All of his bones present a remarkable series of deformities. He has a circumscribed spinal lordosis in the lower dorsal region. His general health is good, and he is intelligent. So is the other patient whose case is reported. The cause and pathogenesis of this disease are as yet complete mysteries. The treatment consists in placing the patient in a position to avoid fracture. If the disease is mild, proper braces will be of benefit, by protecting the limbs.

Erythema Infectiosum.—Henry Larned Keith Shaw reports a separate exanthem, which has been recognized and classified by Escherich. It may be defined as a feebly contagious disease, occurring chiefly in children, with very slight subjective symptoms, and characterized by a maculopapular rose-red rash, more pronounced on the cheeks, legs, and outer surface of the arms. The specific agent is unknown. The disease occurs in epidemics, and often follows an outbreak of measles or rötheln. It is doubtless contagious. The age most subject to it is between four and twelve years. Both sexes are equally affected. It occurs most often in the spring and summer months. Generally, the first symptom noticed is the eruption. A diagnostic feature of the disease is the character of the rash on the face. The cheeks are chiefly affected, and present a symmetrical rose-red efflorescence. The whole appearance is suggestive of erysipelas. On about the second day, the rash appears on the body. The appearance is often suggestive of lacework, especially when the rash begins to fade. It is not followed by desquamation. The lymphatic glands are not enlarged. There is no coryza or cough. The urine is normal. The prognosis is favorable. There is no involvement of the mucous membranes, and there are no constitutional symptoms. The disease has clinical features enough to justify its classification with the acute exanthemata.

Primary Sarcoma of the Bladder.—J. A. Wilder concludes that sarcoma of the bladder is most common after middle life, and during childhood, but it may occur at any age. It is more common in males than in females. The most constant symptom is hematuria. This cannot be considered an early sign, in many cases. Next to hematuria the most constant symptoms are those of cystitis and vesical irritation. Emaciation consecutive to the growth is present in advanced cases only. A calculus may or may not be present. In females the growth may invade the urethra, and appear at the vaginal opening. The disease is more rapidly fatal in children than in adults. In cases in which the diagnosis has been made early, the neoplasm has been small, single and apparently localized. The growth may spring from the submucosa of any part of the bladder, but the most common location is at the base, in the vicinity of the ureteral orifices. The growth is usually sessile with a broad base; soft and friable, more or less lobulated and in some cases it has a cauliflower appearance. Although usually single, it may be multiple in the later stages. Metastases, as compared with sarcoma of other parts of the body, seem rare except in quite advanced cases. Several varieties of sarcoma have been reported as occurring in the bladder. The only hope at present for the cure of sarcoma of the bladder seems to lie in the early detection of the neoplasm by means of the cystoscope or by exploratory incision, and its complete removal at this stage of the disease.

A Case of Spontaneous Arrest of Growth in an Endothelioma, with Subsequent Inflammatory Absorption.—B. M. Randolph reports this case. The patient was a Hebrew, 43 years of age. He has always been healthy. Three years ago there appeared on the posterior surface of the left forearm at about the junction of the upper and middle thirds, a small movable and painless nodule. The mass grew steadily for six months. From that time till two weeks before operation it remained stationary. It then began to be painful and to show signs of inflammatory reaction. The mass was excised, and the wound healed by primary union. There was no evidence of recurrence six months after operation. The writer then gives a detailed description of the microscopical appearance of the growth. He considers it an endotheliomatous growth which started in the subcutaneous connective tissue; it grew steadily for six months, and then for some unknown reason became arrested. A necrosis of the tumor cells then took place, and later this inactive tissue began to act as an irritant, and the response was a productive inflammatory process which endeavored to remove a foreign mass.

The Mental States Associated with Chorea.—A. W. Hoisholt after reviewing the classification of this disease, gives a description of two cases of dementia choreica. When walking, these patients show a striking resemblance in posture to the propulsion seen in cases of paralysis agitans. The large and small spasms are mixed in kaleidoscopic fashion, and there is a marked difference in their velocity. There is no rhythm about the spasms. The movements remind one of a jumping-jack. One of these cases here reported would appear to be of traumatic origin. In each case there is irritability, seclusiveness, history of persecutory ideas, characteristic speech defects, and progressively increasing dementia. As to the pathogenesis of chorea, the opinion has been recently expressed that the forms of chorea which are more or less of a chronic nature, such as Huntington's chorea, have many points in common with hysteria and epilepsy, and probably have a kindred pathology in the cortex.

The Effect of Suprarenal Preparations on Living Protoplasm.—Beaman Douglass has performed a series of experiments in order to determine the effect of suprarenal preparations on living protoplasm. The results of this work go to show that suprarenal preparations have a marked effect on cell division of healing tissue and upon the proliferation of cells constituting granulation tissue. It may be assumed that these solutions will have an effect depending upon the strength of the solution as well as the duration of the exposure, and that it is possible to kill cells or to prevent their activity, or retard cell division. The writer believes that the vitality of protoplasm is weakened by suprarenal solutions. As to the effect of these preparations on cilia, in solutions of 0.000003, there was an increase in the activity of the ciliate movement over the normal, in the eggs of the sea-urchins, while in other strength solutions there was a decrease. The turtle heart was used to determine the effect on contractile tissue. The experiments all showed that suprarenal solutions were powerful muscle stimulants. The writer believes that we are warranted in asserting that suprarenal preparation, at least in the lower animals studied, have a tremendous influence on the power of cell division, on the development of protoplasm, on the movement of cilia, and on contractile tissue.

The Influence of Suprarenal Extract Upon Absorption and Transudation.—S. J. Meltzer and John Auer give the following brief résumé of their results: (1) Intravenous injections of suprarenal extract retard invariably the processes of absorption and transudation. (2) Subcutaneous injections also often show a retardation of these processes; the effect, however, is neither strong nor constant. (3) In frogs the retardation of absorption of some substances was recognizable only when suprarenal extract was previously mixed with that substance, or when both substances were injected into one and the same lymph sac. (4) It is assumed that the suprarenal extract increases the tonicity of the protoplasm surrounding the pores of the endothelia of the capillaries, thereby reducing the facility for the interchange between the blood and the tissue fluid.

Some Practical Observations on Suppurative Hepatitis.—William W. Ashhurst says that the diagnosis of this condition is sometimes extremely easy, while at other times it must be made rather by exclusion. It probably often happens that suppuration in a small focus follows primary hepatitis. The great difficulty is to localize the focus. Sensitiveness to deep pressure is doubtless the most useful sign. Localized edema of the surface is also a sign of great importance, but it is rare except in very large or very superficially situated abscesses. Aspiration is best performed directly over where the focus is believed to exist. If a slender trocar is used there is no danger, but with the use of a thick trocar, which is sometimes necessary for the evacuation of thick pus, there is danger. After the diagnosis is made, the question of operation must be decided. The writer discusses this question with considerable detail, weighing the different methods and their indications. When it is necessary to resect ribs, he believes that it is better to use general anesthesia with ether or chloroform.

French and Italian Journals.

Popliteal Aneurysm; Extirpation; Recovery.—Arrou reports this case. The patient was a young man, an old syphilitic. The aneurysmal tumor was voluminous, extending upward the breadth of four fingers above the articular space; below, its limits were not clearly defined, as the ramifications penetrated the deep tissues and were lost under the muscles of the calf. Specific treatment met with no success, and as the patient suffered extreme pain, Arrou decided to extirpate the aneurysm. The operation was extremely difficult on account of the thinness of the walls, and because of the adhesion to the neighboring organs, especially the nerves. The lower ligature had to be placed two centimeters below the point of emergence of the anterior tibial. Recovery was uninterrupted. There was at no time any cause to fear that gangrene might develop.—*La Presse Médicale*, December 3, 1904.

"Angular" Pregnancy.—P. Puech describes a peculiar distortion of the uterus which sometimes occurs in the beginning of pregnancy, and which is of practical interest since it may give rise to errors in diagnosis, the consequences of which are sometimes grave. This abnormality consists in the enlargement of one of the cornua, and one border of the organ only. In this condition, the uterus has been compared to a face swollen from an inflamed tooth. On palpation it would seem that a tumor is annexed to the uterus. The enlarged portion of the uterus gives a different sensation to the hand than the part that is not hypertrophied. While the body of the organ preserves its habitual firmness, the cornu which is the seat of the hypertrophy, offers a great contrast by its flabbiness. Besides, this distended cornu enjoys a relative mobility, as if there existed between it and the rest of the uterus a zone in which the softening was especially marked. In such cases there is a groove of separation more or less distinct, between the hypertrophied horn and the rest of the uterus. Among 15 observations, four of them personal, this condition developed eight times on the left, and seven times on the right. The cause of this distortion has been variously interpreted. As a rule, angular pregnancy does not give rise to any special phenomenon, but goes on to terminate in a normal labor. The irregularity in the form of the uterus constitutes only a temporary phase which disappears with the progress of gestation. It appears in the beginning of pregnancy, and is most clearly apparent in the second month. It is rare that it persists beyond the fourth month. Finally, the uterus develops as in a normal pregnancy, presenting a uniform distention and consistence. Sometimes this condition is accompanied by pain and bloody discharge. The possible errors in diagnosis are numerous. The condition is sometimes mistaken for uterine fibroma, tumors of the ovaries and tubes, inflammatory lesions of the adnexa, and extrauterine pregnancy. Although the diagnosis between this last condition and angular pregnancy is difficult in certain cases, it is, nevertheless, not always impossible. Differential diagnosis will depend especially upon the signs furnished by exploration of the tumor. Treatment of angular pregnancy does not call for any special consideration. If there is pain or bloody discharge, rest in bed and uterine sedatives are indicated. Absolute rest is also recommended when there is doubt concerning the diagnosis. The physician should, in these cases, beware of the danger of abortion. The writer is inclined to think that this condition is the cause of abortion in a certain number of cases which occur in the third and fourth months, which cannot otherwise be explained.—*Gazette des Hôpitaux Civils et Militaires,* December 1, 1904.

Bacteriology of Acute Vaginalitis.—Henri Hartmann, Ch. Esmonet, and P. Lecène in their recent studies of cases of this nature, have made examinations in 15 instances, with the following results: In seven cases of blennorhagic vaginalitis, they have in two cases found nothing; in one case, direct examination and cultures showed the presence of the gonococcus in pure state; once the secretion extracted from the infected parts, contained the streptococcus in short chains, once the staphylococcus albus, twice the streptococcus in short chains associated in one case with the staphylococcus albus, and in the other case with the staphylococcus aureus. In seven cases of vaginalitis of urethral origin, following catheterization, these investigators have found in the secretion from the vaginalis, once the colon bacillus, once the white staphylococcus, once the streptococcus in short chains, once the streptococcus in short chains, associated with the staphylococcus, once the streptococcus in long chains associated with the golden staphylococcus. With the exception of the last case, which suppurated, and had to be incised, all recovered spontaneously. Finally, in one case of vaginalitis in an old man, in whom the gland was extremely filthy, but who had not had gonorrhea, and who had not been catheterized, the white staphylococcus was found. The writers conclude that the secretion of vaginalitis is not only the result of an inflammatory reaction of the neighboring parts by extension from a lesion of the epididymus, but that it contains infectious agents whose pathogenic rôle is not to be questioned. They think that these facts are in favor of the lymphatic origin of epididymitis, and of treatment by puncture of vaginal effusions. The secretion from these cases was obtained by puncture, and under the most careful antiseptic precautions.—*Revue Française de Médecine et de Chirurgie,* December 5, 1904.

Carcinoma of the Breast Relieved by Radiotherapy.—Bergonié and Cassaët report this case. The patient was seen in May, 1902. She presented a cachectic aspect clearly due to carcinoma of the breast. As the patient was 72 years of age, and her general condition so bad, all surgical intervention was avoided. The administration of quinine and arsenic alternately met with no improvement, and the patient was subjected to the *x*-ray treatment for a year. This treatment had to be interrupted, but was later renewed. It was followed by improvement to a considerable extent in the condition of the ganglia, in the collateral circulation, and in the general condition.—*Journal de Médecine de Bordeaux,* December 4, 1904.

The Reaction of Human Blood Serum.—E. Tedeschi advances, as the best method of testing the reaction of blood serum, a method based on the osmotic theory of electromotive force, which in experiments on animals has given results on which confidence may be placed. As a result of the author's experiments, he recognizes two reactions of blood serum; an actual reaction, not alkaline, but neutral, and a potential reaction that is alkaline; for the vital processes a neutral medium is necessary, and nature maintains such a reaction normally, in health. In disease, the reactions may be altered, and especially so in diabetes mellitus, and in uremic coma, in which the reaction of the blood becomes nearly acid. In these conditions the blood becomes much reduced in strength, and hence the lack of resistance of the organism.—*Rivista Critica di Clinica Medica,* November 19, 1904.

The Laterovaginal Incision in Vaginal Hysterectomy.—Paolo Fiori advocates the method of Ruggi, who uses a laterovaginal incision, in hysterectomy for cancer of the cervix and body of the uterus, or in any condition where a large opening is necessary for extraction. The laterovaginal incision enlarges the vaginal opening, so as to permit of the easiest operation in cases of adhesions and of inflammatory and neoplastic enlargements of the uterus, as well as when the surrounding tissues are infiltrated, or there are extensive cervicovaginal cicatrices. The operation is done as follows: The operator grasps between the thumb and forefinger of the left hand, near the posterior angle of the vulva, the labia majora, and minora of the left side, and the corresponding portion of the vagina; the assistant does the same in front; the pressure renders the procedure bloodless. A deep incision is made, beginning at the point of union of the left lateral fornix, and includes all the lateral walls of the vagina, and the vulva, extends down into the ischiorectal space, and divides all the tissues of the anoperineal region up to the anal orifice. The author has used this method in a case of very large ulcerated epithelioma of the cervix with encouraging success.—*Il Policlinico,* November, 1904.

Experiments on the Negri Bodies as the Cause of Rabies.—A. Cardarelli has experimented by inoculation of rabbits, with material from rabid animals, making the inoculations into the nervous system. The inoculations were made by depositing on the cerebral cortex the virus from a rabid animal. He formulates the following conclusions: 1. If nerve matter from a rabid animal be deposited on the cerebral cortex, the virus remains localized on that spot for a great part of the period of incubation, and never leaves this location even when the infection becomes virulent in other parts of the nervous system. During the first few days the virus becomes attenuated. 2. If we deposit on the cerebral cortex of a rabbit, the cornu ammonis of an animal which is rich in the Negri bodies, these remain recognizable up to the fourth or fifth day, but take on no changes that indicate biological activity. On the other hand they appear necrotic, as do all the nerve tissues inoculated. Soon it becomes impossible to find the Negri bodies. In the leptomeningitis caused by the inoculated tissues, no Negri bodies can be found, even during the period of undoubted virulence. 3. Negri bodies in a pendant drop on a warm slide show no movement. After being in a collodion sac for some days in the abdomen of a rabbit, they still show no movement. 4. When used in the last-mentioned manner, after some days, they show no alterations that indicate life, but those that denote necrosis.—*La Riforma Medica,* November 9, 1904.

Varicose Veins in the Bladder in Reference to the Diagnosis and Treatment of Vesical Calculus.—N. Leotta details a rare case of varicose veins in the bladder, in which the varicosities were not limited to the most usual location, the neck and base, but were uniformly spread over the surface of the organ. There also existed a calculus, for the removal of which litholapaxy was done. The operation was followed after some hours by inability to micturate, and increase in the size of the bladder. On introduction of a large catheter, many coagula were removed, showing that serious hemorrhage had taken place into the bladder. The hemorrhage continued to be severe and necessitated suprapubic cystotomy. The patient died of a purulent pleurisy with uremic toxemia. The author's conclusions are as follows. (1) Varicose veins, generally limited to the neck and base of the bladder, may be spread over the entire surface. (2) In every operation on the bladder the possibility of fatal hemorrhage from varicose veins must be thought of. (3) Especially in cases of calculus must this lesion be considered in deciding on the kind of operation. (4) Cystoscopy should always be one of the preliminaries. (5) Varicose veins constitute a contraindication to litholapaxy, an artificial opening into the bladder becoming necessary. When hemorrhage has occurred, a cystotomy with tampon offers the best method of control.—*Il Policlinico.*

The Method of Partsch in Cysts of the Maxilla.—S. Ottaviano calls attention to the value of the method of Partsch in the treatment of cysts of the maxilla, when occupying a large portion of the maxilla, so that removal of the diseased bone would produce great disfigurement and loss of function. The method consists in opening the cyst freely, attaching the mucous membrane of the mouth to the edge of the cyst lining, and allowing the cyst to become a cavity opening freely into the mouth. Cysts of the maxilla may be of three kinds: (1) Radicular cysts, or periosteal cysts, attached to the root of a tooth; (2) Follicular cysts, formed by a dilatation of a tooth sac; (3) Multilocular cystoma. The author details a case in which there were two cysts, one of the maxillary arch of the lower jaw, the other in the ramus of the same side. The anterior cyst had occasioned the gradual loosening and removal of nearly all the teeth of that side, and had been opened freely and allowed to become part of the mouth cavity. The second cyst was treated in the same manner, with the best of results, the operation being quite simple, and the patient finding no bad effects from the enlargement of the mouth cavity.—*La Riforma Medica.*

Book Reviews.

Travaux de Chirurgie Anatomo-Clinique. Par Henri Hartmann, Professeur Agrégé à la Faculté, avec la Collaboration de B. Cunéo, Lecène, Lebreton Esmonet, Lavenant et Prat. Deuxieme Série, Voies Urinaires, Testicule. Avec 105 figures. Paris: G. Steinheil, 1904.

Last year we were pleased to review the first series of these hospital statistics and laboratory investigations, so carefully worked out and worked up for presentation, embellished with noteworthy pathological drawings. The study of experimental tuberculosis of the testicle, the histology of blennorrhagic epididymitis, primary epithelioma of the male urethra, and many other subjects are presented in an interesting manner.

First Report of the Welcome Research Laboratories of the Gordon Memorial College, Khartoum. By the Director, Andrew Balfour, M.D., B.Sc., M.R.C.P., Edinb., D.P.H., Cambr., etc. Khartoum: Department of Education, Sudan Government, 1904.

After some pages, given to a description and illustration of the laboratories, the bulk of this publication is devoted to the mosquito work in Khartoum and the Anglo-Egyptian Sudan generally. The work reported seems to have been thorough. Besides the mosquito work, this report contains articles on biting insects other than mosquitos, and one describing and illustrating the species of mosquitos of Egypt, the Sudan, and Abyssinia. Throughout the work is well illustrated, colored plates being numerous.

Syphilis and Gonorrhea. By C. F. Marshall, M.D., Ch.B., B.Sc., Vict. F.R.C.S., Eng. Senior Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars, London. London and New York: Rebman Company, 1904.

The author gives in this 260-page book his criticisms and conclusions upon the chief points in syphilis and gonorrhea which he has found in consulting the authorities of England and France.

The print is large, the headings larger, the paper light, so that all has been done by the printer to make the book readable. The author, too, has left out wordy padding and what is retained has reason for so being. The pages abound in quotations and an appendix contains "further references," but none later than 1900.

Multiple Personality: An Experimental Investigation into the Nature of Human Individuality. By Boris Sidis, A.M., Ph.D. (Harvard), and Simon P. Goodhart, Ph.B. (Yale), M.D. New York: D. Appleton & Co., 1905.

This work is an examination into the biologico-psychological problems connected with the conception of personality. The first part deals with the biological question, "what is an individual?", the biopsychology of animal colonies, and the progressive integration of personality during the long evolution of the human race. The second part (pp. 83-202) is devoted to a thorough detailing of the Hanna case, which is the first case of complete amnesia and double consciousness which has been under direct personal observation as well as under experimental control. The case is that of a clergyman, who, following an accident, lost all recollection of his past life and had to learn again everything from the beginning; and who was later on enabled to merge the two personalities (the natural and later recollected one, and the later one developed through re-education after the accident) into one. The third part is devoted to a discussion of the problems of consciousness and multiple personality. The second part is by both authors; the first and third by the senior author alone. Altogether, the work offers an interesting presentation of fact and theory in this obscure department of psychology.

Beiträge zur wissenschaftlichen Medicin und Chemie. Festschrift zu Ehren des sechszigsten Geburtstages von Ernst Salkowski. Berlin: August Hirschwald, 1904.

This Festschrift, in honor of the sixtieth birthday of Ernst Salkowski, is one of the richest in material among the recent publications of its kind. Beginning with an article on the Charcot-Leyden Crystals by v. Leyden himself, the volume presents an array of papers on a variety of subjects which vividly illustrates the convergence of nearly all branches of medicine in physiological chemistry—the science of which Salkowski is probably the foremost exponent today.

The American contributions include three articles: One by A. E. Austin, of Tufts College, Boston, on the Union of Indol and Phenol with Sulphuric and Glycuronic Acids in the Urine; one by Max Einhorn and Robert Huebner, of New York, on a Colorimetric Method of Estimating Indol in the Fæces and the Urine by Means of Ehrlich's Dimethylamidobenzol Reaction, and one by W. R. Orndorff and J. E. Teeple, of Cornell University, Ithaca, N. Y., on Bilirubin, the Red Coloring Matter of the Bile. The only contribution from England is that of E. P. Cathcart, of the Lister Institute, London, on Urotryptic Digestion.

Out of the total of forty-six articles which constitute this volume, there are, in addition to the four from England and America just mentioned, one from Vienna, one from Warsaw, one from St. Petersburg, one from Rio de Janeiro, two from Tokio, and one from Padua. The contributions from Berlin alone number twenty-three, and the remaining articles come from the various smaller cities of Germany. In addition to two lithographic plates and other pictures, illustrating the text of the several contributions, there is a portrait of Salkowski.

Physiological Economy in Nutrition, with Special Reference to the Minimal Proteid Requirements of the Healthy Man. An Experimental Study. By Russell H. Chittenden, PhD., LL.D., ScD., Director of the Sheffield Scientific School of Yale University and Professor of Physiological Chemistry; Member of the National Academy of Sciences, etc. New York: Frederick A. Stokes & Company, 1904.

The four hundred and seventy-eight pages of this book contain the record of what is undoubtedly one of the most important contributions to the physiology of nutrition that has been made in many years. Actuated by a desire to throw light on the broad question of a possible physiological economy of nutrition, Dr. Chittenden planned and carried out a series of metabolism experiments on a large scale to determine the effects of a diminished proteid dietary when persisted in for months. Three classes of subjects were used. 1. A group of five professional men of varying ages connected with Yale University as professors and instructors. 2. A detail of thirteen men, volunteers from the Hospital Corps of the United States Army. 3. A group of eight young men, students in the university in constant training as athletes. The nitrogen intake and output of these subjects was determined and they were kept on a diet greatly restricted in its nitrogenous constituents, though by no means a vegetarian regimen. For details of the experiments, which were continued over many months, the voluminous tables of the original must be consulted, but in general it may be said that all three of these classes of men were able to subsist with comfort, and without any corresponding increase of carbohydrates or fats, on a diet containing less than one-half of the 118 grams of albuminous food which Voit considers a daily necessity for an adult man of average body weight. The bodily and mental faculties appeared to improve during the period of observation and the author says that once the habit of this restricted diet has been acquired one is slow to return to the former more liberal regimen. The economic as well as the scientific bearings of these results are most far reaching and the value of work done with such painstaking attention to detail cannot be overestimated.

A. L. A. Catalog. Eight Thousand Volumes for a Popular Library, with Notes. 1904. Prepared by the New York State Library and the Library of Congress Under the Auspices of the American Library Association Publishing Board. Editor, Melvil Dewey, Director, New York State Library and Library School. Associate Editors, May Seymour, Education Librarian, New York State Library; Mrs. H. L. Elmendorf, Special Bibliographer, Buffalo Public Library. Part 1, Classed. Part 2, Dictionary. Washington: Government Printing Office, October, 1904.

This is a volume the value of which can hardly be overestimated, while it represents an amount of work that beggars calculation. Its ostensible purpose is to furnish for the use of public and private libraries a catalogue of the 8,000 volumes deemed most suitable for the general reader, but it has a much wider range of usefulness than this. The first lists were made out by a committee of two hundred and fifty collaborators, authorities in their various departments, and from these the editors selected the books that appeared to them to be most suitable. The list is arranged in two forms, one based on the Dewey decimal system, which is no doubt the most important of the many contributions its deviser has made to the subject of library lore, and the other an alphabetical dictionary catalogue. A more or less critical résumé of each volume is given, together with its price, publisher, etc. Therefore, in addition to its value for its more technical use in libraries, the volume affords a most satisfactory universal bibliography for any reader, and although, as is natural, the lion's share of the total number of volumes is devoted to literature and history, the other branches of knowledge are well represented and contain lists of great service. Libraries may receive one copy of the work free of charge, and copies may also be obtained by addressing the Superintendent of Documents, Washington, D. C., at the nominal charge of fifty cents, in cloth binding, and twenty-five cents, in paper.

Therapeutic Hints.

Tinea Tonsurans in Children.—Cut the hair as close as possible once a week. Every two days wash the head with soap and warm water. Morning and evening massage the scalp, triturating the diseased spots energetically. After the massage, prolonged friction by means of a tooth-brush with the following liniment:—

℞ Spirit of camphor	℥iv
Castor oil	ʒj
Tincture of cantharides	ʒj

—Medical Press.

Pharyngitis.—

℞ Potassii chloratis	gr. xij
Glycerini	ʒj
Aquam ad	℥j

M.

℞ Acidi carbolici liquefacti	m iij
Glycerini	ʒj
Aquam ad	℥j

M. *—Medical Times and Hospital Gazette.*

Pruritus.—

℞ Acid. salicyl.	
Acid. carbol.	
Naphthol.	āā 0.5
Lanolin	
Petrolati	āā 30.0
Acid. acetici	
Aquæ	āā 15.0

M. et ft. ungt.

—Wiener Klinische-Therapeutische Wochenschrift.

Impacted Cerumen.—

℞ Sodii bicarb.	gr. xx
Glycerin	ʒi
Aquæ dest.	℥i

M. *—Medical Digest.*

Insect Bites.—First apply aromatic spirit of ammonia to neutralize the poison, and then apply:

℞ Liq. plumbi subacetat.	℥ss
Tint. opii	℥ss
Aquæ destillat. q. s. ad	℥viii

M. Sig. Apply soft gauze saturated with solution to inflamed area. *—Medical Digest.*

Hemoptysis.—The best treatment of hemoptysis requires: (1) absolute physical rest; (2) mental quiet and relief from fear and anxiety; (3) morphine and atropine in sufficient dosage to insure both the preceding; (4) control of cough, fever, and pleuritic pain and careful attention to diet; (5) suggestive measures as ice caps over the heart, salt and cracked ice by mouth, etc.; (6) free use of bromides and nerve sedatives in the nervous; (7) nitrites or veratrum when high blood-pressure persists; (8) care in not overdrugging or in placing reliance on specifics as ergot or adrenalin; (9) hypodermoclysis with normal saline when indicated.—Fitzgerald in *Cleveland Medical Journal.*

Chronic Eczema.—

℞ Sulphur. præcip.	10.0
Spir. vini	30.0
Glyc.	5.0

M. Sig. Shake well and paint on the affected parts.

℞ Sulphur. præcip	20.0
Sap. virid	5.0
Ol. cad	10.0
Ungt. zinci	65.0

M. et ft. ungt.

℞ Chrysarobini	
Acid salicyl	āā 15.0
Sulph. præcip.	
Sap. virid.	
Ol. cad	āā 20.0
Lanolini	10.0

M. et ft. ungt.—*Wiener klinisch-therapeutische Wochenschrift.*

Chancre.—

℞ Vaselin	15.0
Lanolin	5.0
Resorcin	0.5
White precipitate	1.0

—La Presse Médicale.

Pruritus Vulvæ.—

℞ Acid. borici	ʒii
Acid. carbol. liq	ʒi
Morphin. muriat	gr. i
Vaselin	℥ii

M. et ft. unguent. Sig. Apply several times daily. *—Buffalo Medical Journal.*

Pneumonia.—The most useful *single agent* in treatment as preventive and curative is creosote, used preferably in inhalations, properly given and continued for a sufficient length of time.—Beverley Robinson in *American Journal of the Medical Sciences.*

Inflammations of Mucous Membranes.—Formaldehyde when mixed with four per cent. of glycerin makes an admirable local application in diphtheria, tonsillitis, rhinitis, stomatitis, vaginal and vulvar ulcers, tuberculous ulcers, etc., and causes only slight irritation and pain when thus employed.—*The Southern Clinic.*

Diarrhea.—Dr. J. J. Taylor's formula.

℞ Subnitrate of bismuth	ʒss
Pulverized nutmegs	
Prepared chalk	āā ʒii
Sulphocarbolate of zinc	gr. xii
Syrup of ginger	℥iii

M. Sig. Shake well. One teaspoonful after each passage. *—Texas Courier Record.*

Chronic Rheumatism.—

℞ Potass. iodidi	ʒi
Sodii salicylatis	ʒii
Colchicin.	
Strych. sulphatis	āā gr. ss.

M. ft. caps. No. 30. Sig. One capsule to i. d.

In connection with the above a teaspoonful of the following powder should be administered in warm water every morning before breakfast:

℞ Sodii benzoatis.	
Sodii phosph.	āā ℥i

M. *—Clinical Review.*

Alcohol Habit.—C. Carter has employed with success hypodermic injections three or four times a day of small doses (less than 1-100 gr.) of atropine. It produces, he says, a great distaste for alcoholic liquors in from one to five days.—*Denver Medical Times.*

Bronchopneumonia.—

℞ Vin. ipecac.	♏—v-x
Spirit ammon. aromat.	♏—v
Syr. tolu.	♏—v
Aq. ad.	℥ii

To be given every four hours.—Stanley in *Birmingham Medical Review.*

Intestinal Fermentation.—Dr. Friedrich Grosse gives the following as his favorite prescription for this condition:

℞ Bismuthi salicylatis.	
Benzonaphthol.	
Sodii benzoatis	āā gr. xlv—lx
Syrupi simplici	ʒv
Aquæ q. s. ad.	℥iv

M. Sig. One teaspoonful every three to four hours.—*Medical Review of Reviews.*

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 5, 1905.

The President, Dr. Andrew H. Smith, in the Chair.

Presentation of Annual Reports.—The treasurer reported that for the year ending December 15, 1904, the total receipts were $19,904.83; the total expenditures, $18,964.42; balance, $940.41. Dues outstanding, $1,358.

The Treasurer for the Board of Trustees reported that the total receipts for the year ending December 15, 1904, were $12,885.41; total expenditures, $8,788.81; balance, $4,096.60.

The Corresponding Secretary reported that the number of Resident Fellows elected during the year was 146; of Associate Fellows, 23; of Honorary Fellows, 33.

The Edward N. Gibbs Memorial Prize for the best original essay on the etiology, pathology, and treatment of diseases of the kidney was not awarded.

Address of the Retiring President. President Garfield at Elberon.—Dr. Andrew H. Smith, the Retiring President, made this the subject of his address. After a graphic description of the fatal illness of President James A. Garfield, who was wounded at Washington on July 2, 1881, and died at Elberon, N. J., during the following September, Dr. Smith gave an interesting account of the findings at the autopsy, at which he was present. He stated it was the opinion of all who had been in attendance on the case that the bullet had coursed downward on the right side of the body, and would be found in the right inguinal region. So confident were they of this theory, that it was agreed to remove the hollow viscera at once, as preliminary to a study of the track of the ball. This was done, and the organs so removed were received in a large receptacle and placed in another part of the room. It was then found that the supposed fistulous track that was to have led to the bullet had no existence, for the flexible catheter which had been introduced into the wound in the usual manner as the first step in the examination was found curled upon itself and lying a pocket of considerable size which had formed beneath the iliac fascia. Deprived of the guide which this catheter was expected to furnish, the examination was continued in an aimless way through the neighboring muscles, the perplexity increasing every moment as to where the bullet could possibly be hidden. Attention was now directed to the point where the missile had entered the body, and it was then noticed that the bodies of several of the vertebræ were overlaid by a dense mass of partly organized exudate of almost cartilaginous consistency. When this was cut away, a hole was revealed in the right side of the body of the first lumbar vertebræ; into this a probe was passed in an oblique direction through the bone, emerging on the left side of the spinal column. Seeing this, Dr. Smith divined that the bullet must be in the left side of the body instead of the right, and crossing the room to where the detached viscera were, he began to pass them through his fingers and in a few moments came upon the bullet. Further examination showed that after passing through the vertebræ, in a direction slightly downward and backward, and keeping behind the peritoneum, it had lodged at a point just below the level of the left extremity of the pancreas (about ten inches from the location it was supposed to occupy), where it had become encysted. In its passage it had grazed the splenic artery, giving rise to a traumatic aneurism, the rupture of which was the immediate cause of death. The bullet, encysted as it was, was practically harmless, but in traversing the cancellous structure of the body of the vertebræ it had carried numerous fragments of bone before it, and these were strewn through the soft parts along the entire track, a distance of several inches. Each of these fragments became a center of suppuration and septic infection, a condition from which recovery was obviously impossible. From this, Dr. Smith said, it would be seen that the wound from the first was necessarily fatal. Another condition, equally hopeless, was that the thoracic duct was included in and compressed by the hard mass that enveloped the front of the vertebral column at the point of injury. The result of the autopsy showed clearly that no treatment whatever could possibly have saved the President's life. The track of the bullet was so devious that no instrument could be made to follow it, and at the point where it finally lodged there was no evidence during life of the presence of a foreign body. To open the abdomen, therefore, in search of the bullet would have been an unthinkable procedure. Furthermore, no practicable operation could have sealed up the wound through the vertebræ and rendered it aseptic, nor would it have revealed the injury to the vessel that later caused it to give way. Finally, the compression and obliteration of the lower portion of the thoracic duct could not have been prevented. This doomed the victim to gradual death by starvation. Antisepsis was carried out as perfectly as circumstances and the knowledge of the period admitted of, but in no case could it have been applied effectively through the whole course of the wound.

Address of the Incoming President.—By Dr. CHARLES L. DANA. In this address, the speaker said it was his aim to show that the medical profession, in view of an increasing prolificness of its work in the matter of articles written and read, and in view of the increased number of medical societies, and the demands put upon busy men, must take some measures for its self-protection, and these consisted in abolishing some of the modes of procedure which had been utilized in the past, and had descended to us by tradition. Next, that the medical profession must learn that unless it wished to be swamped by the exuberance of its own fertility, it should master the art of presenting what it desired to record with accuracy, clearness, and dispatch. In order to ascertain, if possible, the proportionate interest which medical men in general felt towards the different branches of medicine, Dr. Dana said he took three of the prominent medical weeklies in New York City, and the *British Medical Journal* of London, and went over all the original articles published in them during the year, 1903. There were about one thousand original articles in all. Out of 663 published in this city, a quarter of them were devoted to subjects of internal medicine, and a little less than one-quarter to general surgical subjects, including orthopedic and rectal surgery. Neurology and psychiatry came next, with 8 per cent.; genito-urinary surgery, 6 per cent.; obstetrics and gynecology, 6 per cent.; pathology and bacteriology, 5 per cent.; physiology and physiological chemistry, 3 per cent.; laryngology. 5 per cent; ophthalmology, 5 per cent.; hygiene, climate, tropical diseases, and preventive medicine, about 6 per cent.; radiotherapy, 6 per cent.; otology, 2 per cent.; government, railway, and insurance service, 1 per cent. In Great Britain the results were nearly the same, with two or three important exceptions. General surgery ranked in Great Britain considerably higher than internal medicine, in the proportion of 100 to 80. Pathology, bacteriology, and general laboratory research seemed to excite almost twice as much interest there as they did in New York, 10 per cent. of the articles in the *British Medical Journal* for 1903 being devoted to those subjects. Physiology and physiological chemistry were also very much more in evidence in Great Britain than here, in the proportion of about 4 per cent. for us to 7 per cent. for Great Britain. Naturally, the subjects of hygiene, climate, and tropical diseases also took a very much higher rank with the English.

Dr. Dana said it might be well for the Academy of Medicine to consider the wisdom of having the Council empowered to appoint a permanent committee on Public Health and Medical Economics. This committee should be a large one, and contain the best experts in sanitation, chemistry, pathology, and bacteriology, as well as men practically familiar with sanitary and educational administration. The policy of having special sections of the Academy had been justified by the splendid and successful work of those organizations, and by the increase in medical activity they had brought about. It seemed wise to have just as many sections as the Fellows would support without too much urging. If it was considered unwise to expand numerically in that direction, there was a possibility of combining some of the sections already established, provided this seemed entirely welcome to the members. Neurology and psychiatry had recently attracted increased attention, and these branches would be of larger importance still, if to them were added what used to be called forensic medicine. More interest, the speaker thought, might also be taken in the problems of pathology, physiology, and physiological chemistry, or the laboratory sciences as they were sometimes called. There were probably at present no problems in medicine so intricate, so fascinating, and so fundamentally important as these. To a certain extent it might be said that purely clinical medicine was worked out, for what more could be observed of the common phenomena of the every-day diseases? They appeared, it was true, in ever-varying phases and combinations, and each particular case had features of its own, but to make radical progress we had to go deeper and deeper into the biology of disease. The problems of metabolism, of immunity, of toxins, bacteria, ferments, and internal secretions, and the finer chemical changes were those which promised to enlighten and help us most richly in the future. Internal medicine, with the laboratory sciences as its handmaid, was rising to its former dignity and to the great prominence it deserved.

The Canada Medical Record, published monthly in Montreal, ceased publication with the number for April, 1904, just issued. The journal was established in 1872 and has been under the continuous editorial management of Dr. F. Wayland Campbell, a veteran medical journalist of the Dominion.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held December 20, 1904.

Dr. CHARLES H. LEWIS IN THE CHAIR.

A Case of Pneumothorax.—Dr. GEORGE MANNHEIMER presented a man, 37 years old, with a right-sided pneumothorax of four months' duration. At no time had there been any fluid within the pleural cavity. He had sudden pain, severe dyspnea, followed by all the classical signs of pneumothorax, probably of tuberculous origin. The *x*-ray picture showed the presence of air in the pleural cavity, with a displacement of the diaphragm downwards. No needle at any time had been introduced into the chest, and the doctor was not certain as to the variety of pneumothorax he had to deal with. There was also gastroptosis, and the typical chicken breast. Pneumothorax without some effusion was a very rare condition, and Dr. Mannheimer asked the members of the section what should be done for the patient in the way of treatment. No tubercle bacilli had been found in the sputum.

Dr. CHARLES H. LEWIS referred to a case that he had seen in the hospital where the dyspnea was more marked than in the case presented. It was in all probability caused by the bursting of a tuberculous focus into the pleural cavity during a severe attack of coughing.

Dr. NATHANIEL BOWDITCH POTTER advised non-interference.

Dr. CHARLES H. LEWIS believed that the patient's best interest would be in letting it alone, and recalled a case seen a short time ago in which there was very severe dyspnea; aspiration was performed without any apparent benefit. This was in a case of acute phthisis, and the patient died three weeks later.

A Case of Acromegaly.—Dr. MANNHEIMER presented this patient, the wife of the man with pneumothorax, whom he had seen this morning for the first time. During the past three years she had required larger gloves and larger shoes. She presented all the characteristic symptoms and signs of acromegaly, not only of the bones, but also of the soft parts. Her eyes had not yet been examined. The abdomen was quite pendulous. She menstruated every three weeks, and the discharge was quite profuse. The increase in thickness of the parts was more marked than the increase in length. Her mental condition was fairly good.

The Employment of the Blind in Massage.—Dr. NATHANIEL BOWDITCH POTTER presented this communication, which was, in brief, a plea for the education of the blind in massage, and their employment in public places, such as hospitals, clinics, etc., and he hoped that some scheme could be organized by which they could obtain steady employment and be made self-supporting. Dr. Potter, three years ago, applied to the institutions for the blind, hoping to find material to teach massage, but he had not been able to find one who was willing to learn. A very careful selection should be made of candidates, and only by their teachers in the blind asylums. It was very essential that they should have a thorough fundamental training.

The Continuous Current in Relation to Inflammatory Exudates.—Dr. MARGARET A. CLEAVES read this paper. She referred to the present tendency to ignore the continuous current, a knowledge of which was fundamental to the study of the physical phenomena of electricity, as well as its therapeutical uses. The intimate pathology of inflammation and inflammatory exudate was the same, no matter what organ or tissue was implicated; it varied only with the anatomical site and structure and the physiological function. The inflammatory process might occur during the progress of a typhoid fever, more rarely these days of a puerperal fever, it might follow an operation for appendidicitis, or a uterine curettage, and in each and every instance it was the venous circulation which suffered. When the process went on to the formation of connective-tissue bands the case was still further complicated. The inflammatory action might have been of a septic or rheumatic nature involving a joint. The acute lesion might have been recovered from, but diminished mobility resulted and the patient suffered discomfort and disability. Through the pressure and interference with the circulation congestive and low-grade inflammatory conditions were perpetuated, and the patient became the victim of chronic aches and pains, variously diagnosed as neuralgia, lumbago, rheumatism, etc. Every means should be exhausted as nearly as possible to restore every organ or part to its normal condition. If possible, inflammatory processes should not be permitted to go to the extent of organized exudate, when absorption became a much more difficult thing, while gland, neurons, and muscle-fiber had suffered beyond repair. The writer believed that classical medicine could secure to itself better results in this class of cases if it not only appreciated what could be done in the earlier stages of the pathological change, but knew what form of electricity to use, and how to use it.

It did not matter what organ or tissue was affected, so long as it was possible to apply electrode contacts so as to expend the chemicophysical energy of the continuous current directly within the mass of organized exudate. The less fully organization had taken place, the quicker and better the result. If it had gone on to the formation of connective tissue bands, little could be done beyond the improvement of circulatory conditions, softening the morbid tissues, and putting them in better condition for manipulation by the skilled masseur, or for the action of an alternating current. The different results obtained in the treatment of urethral stricture by electrolysis could, without question, be accounted for by imperfect differential diagnosis. Just so surely as the urethral, cervical, lacrymal, or Eustachian canal was narrowed by pressure of more or less well-organized inflammatory exudate, just so surely might it be relieved by the use of the continuous current. But if there were fibrous bands limiting the urethral canal, electrolysis must be accompanied by divulsion or cutting. Dr. Cleaves cited a series of cases of phlebitis from different causes, but presenting the classical picture, in which all other treatment had failed, and all of which yielded, save one, to the application of the continuous current. Treatment was continued in the entire series of cases from a few weeks to three and one-half months, and the improvement in every case, save the one referred to, was maintained, being characterized by a normal circulation, elasticity of the walls of the veins, disappearance of the inflammatory exudates, and diminution in size of the affected member. The continuous current was used in all of the cases, the greatest care being taken not to break the contact at any time during the treatment, in order to avoid sudden contraction of the muscles. It was not only necessary to select a current capable of producing chemical changes, electrolytic and cataphoric, stimulating the circulation and increasing the activity of absorbents, but at the same time a current that could be used so as not to cause any sudden muscular contractions, as such contractions might cause thrombi which were present to be released and get adrift into the circulation. At the end of three months these patients reported that they had 90 per cent. better use of their legs than when treatment was insituted, and they were able to indulge in outdoor sports. The writer cited other cases illustrative of the conditions which were benefited by the use of this form of electrical energy. She said that ordinary traumatic and rheumatic cases yielded much more promptly and completely than those in which sepsis had been a factor. The latter, if taken before there was any organization of the exudate, seemed to do well under the chemical energy of light.

Dr. A. D. ROCKWELL said that the whole question resolved itself into one of nutrition, for whatever influenced nutrition influenced all organic processes, because they were all connected with the nutritive power of the organism. It was demonstrable that the passage of electricity was of a four-fold nature, mechanical, physical, physiological, and chemical, and nutritive effects were the result of their combined activity. With the use of the galvanic (continuous) current, he said, one got the chemical effect, and this influenced absorption, giving the body the power to absorb exudations, deposits, or morbid growths, and much more powerfully than could all the other forms of electricity combined. For many years he had been connected with a woman's hospital, and had been given the opportunity of seeing what could be done by the form of treatment described, especially in exudative conditions. Dr. Rockwell said he believed he was one of the first to call attention to the influence of the galvanic current in causing absorption of exudates in the pelvic region.

A Case of Chylous Ascites.—Drs. J. Finley Bell and S. P. Beebe presented this communication. Dr. Bell read the paper, and reported the case of a man whom he had seen on October 1, 1904. The patient was a German, 57 years old, a cabinet maker, who complained of dyspnea and certain swellings, especially of the pendant portions of the body. For several months previous he had attacks which were supposed to be malarial, characterized by chilliness and fever, for which he was given Warburg's tincture. Three years ago he was passed by an insurance company. The interesting features in the history were the sudden distention of the abdomen, the marked dyspnea, and cardiac failure. The blood examination, on October 1, showed 2,895,750 erythrocytes and 12,960 leucocytes, and a tentative diagnosis of hepatic cirrhosis was made. Paracentensis abdominis was done fourteen times, between October 1 and December 17, withdrawing a total quantity of 106,370 c.c. of chylous fluid; the lowest amount withdrawn was on October 1 (4,000 c.c.) and the highest on December 7 (10,250 c.c.). A specimen of the fluid was shown. Its specific gravity was 1.011; it contained 2.5 per cent. solids; 275 per cent. proteids by the gravimetric method; of albumin, fibrin, and indican a trace. Microscopically, many fat globules, small and mononuclear leucocytes, and a large amount of granular material were found. One of the remarkable features regarding the case was so much loss of chyle with loss of only five pounds in weight. He had failed to find filariæ after many attempts.

Dr. S. P. Beebe said that few analyses of human chyle had been made. In some instances small quantities had been obtained from the thoracic duct, but could not be considered normal, because of the diseased condition of the patients. The milky character of the fluid, he said, might be due to other substances than fat, such as cholesterin. He could not state positively that the fluid obtained from this patient was pure chyle. It certainly had not the character of inflammatory exudates. He considered it chyle modified with an admixture of other material. The emulsion formed by it was a permanent one. Fat formed 61 per cent. of the fluid, and had a melting point of 34°. Its acid number was 9.4, showing more fatty acid was present than normally. The fat that resulted from fatty degeneration had a higher acid number than normal fat. He said this patient presented a great opportunity for determining the extent of absorption. For instance, the patient was given the glycerophosphate of iron, and none was obtained from the chylous fluid; the same patient was then given the tincture of the chloride of iron, and 100 per cent. of it was obtained.

Dr. Lewis A. Conner thought that the amount of fat was low, comparing it with what was found in true chylous ascites. He referred to Senator's statement that the absence of sugar was a pretty certain indication that the fluid was not chylous.

Dr. Robert T. Morris said that one might make a diagnosis of the character of the lesion by the character of the fluid. If the fluid was nearly all chyle, then one might assume that there was a ruptured chylous cyst or even a rupture of a larger vessel. He referred to a boy about 14 years old, who was tapped for an ascites of unknown origin. Examination of the fluid made him believe it was chyle, and the abdomen was opened to find the seat of obstruction; but none was found. The peritoneum was quite succulent. Because of a tuberculous history, he thought that possibly the obstruction was due to a tuberculous process in the peritoneum. After the operation there was some further accumulation of fluid, but not much; there was not sufficient distention to demand tapping again. The amount of fluid removed at the first operation was about 10 or 12 pounds. The good results were probably brought about by inducing a hyperleucocytosis, and a destruction of the tubercle bacilli. In these cases the patients might remain in the best physical condition because chyle was still in circulation, the peritoneum being a lymph chamber. Dr. Morris offered one theoretical therapeutic point; why could not something be introduced into the circulation which would cause an endosmosis towards the blood-vessels? If glucose could be given in large enough quantities it would attract the fluids toward the vascular system. In cases of sudden onset of symptoms pointing to a rupture of a chylous cyst or large vessel, Dr. Morris did not think it would be a bad idea to open the abdomen and look for the rupture.

Dr. Bell said that it was true an absolute diagnosis had not been made. It might be a tumor involving the thoracic duct. But it did not explain why the patient refused to waste, when he was not getting the full amount of chyle; he was getting about one-third or one-fourth of all that he was manufacturing. Attempts to map out some neoplasm in the abdomen had failed. His personal belief was that he had a chylous cyst which ruptured, discharging its contents into the abdominal cavity at the time the patient had the sudden abdominal distention, the dyspnea, and the heart failure. He believed the case was a medical one and not susceptible to surgical aid.

NEW YORK ACADEMY OF MEDICINE.

Section on Obstetrics and Gynecology.

Stated Meeting, held December 22, 1904.

Dr. Charles F. Adams, Chairman pro tem.

Specimen of Fibroid Tumor of the Uterus.—Dr. George H. Balleray presented a large fibroid, with a small supernumerary one, which he removed from a patient 33 years old. She had never borne children. She complained of no pain, tenderness, or flowing, and the tumor was removed because of its increasing size. He believed that in patients under the age of 35 years these growths would continue to increase in size, and that they should be removed, but he did not advocate removing every fibroid, He had watched about 60 cases of fibroids, in women over 35 years of age; when the menopause was reached the tumors were found to be as large as cocoanuts, and then they began to decrease in size and were finally absorbed. If he had operated upon these patients, he believed he would have lost a certain proportion of them.

Dr. S. Marx insisted that all fibroids of the uterus, whether in a single or a married woman or after the menopause, that gave sufficient trouble to warrant an examination, should be operated upon and removed. The possibility of malignant degeneration should always be borne in mind.

Dr. Ernest Gallant spoke of the peculiar color, or cachexia, which was seen in cases of uterine fibromata, which were of considerable size and growing, with only slight bleeding, whether subperitoneal or intramural. This peculiar color was difficult of description. The anemia was different from that of malignant disease. He gave it the name of "fibroid toxemia." If these patients were allowed to go on, they became much worse.

Dr. Arnold Sturmdorf said that watching for degenerations or complications was not sufficient. These tumors gave rise to a toxemia of which we know nothing. It had been found in enucleating these fibroids, on splitting the capsule, an exudation of some kind would get into the abdominal cavity, and produce a sepsis of peculiar type.

Ten per cent. of the women with fibroids died as the result of the tumors, directly or indirectly. Forty per cent. of all women with fibroids had some disease of the adnexa. Malignant degeneration occurred and no one could tell when or why. He believed that simply watching and doing nothing was bad.

Dr. Balleray said he agreed with what was said of the liability of malignant degeneration occurring in these growths and that one could never tell just when malignant degeneration was going to occur. If the woman had passed the menopause and the tumor continued to grow, he would operate.

Specimen of Ovarian Cyst.—Dr. George H. Balleray presented this specimen which was of particular interest because of the doubt in diagnosis. The tumor reached to the hypochondriac region, and occurred in a patient 42 years old. The mass was situated on the left side, and extended to, but not beyond, the middle line of the abdomen. It fluctuated. There were no renal symptoms. Nothing was felt in the pelvis. The finger could just reach the lower margin of the tumor. Upon operation a multilocular cyst of the ovary was found, and there were a large number of adhesions. On the left side the tumor was adherent to the descending colon as far as its junction with the transverse portion. The patient made an uneventful recovery.

The After Treatment of Abdominal Section.—This was the title of the paper to be read by Dr. Charles H. Craig, of Boston, but, owing to his absence, a general discussion took place instead.

Dr. Egbert H. Grandin said success in the after-treatment depended largely upon the attention paid to treatment beforehand, and upon the action of the operator at the time the patient was to be subjected to the knife. In his remarks he wished to be understood as ruling out entirely emergency cases. In the average case, the man who looked out for the condition of the kidneys and who got the heart in good condition and who attended to the body's sewer, would be the one who would have less to do as regards the after-treatment. Furthermore, that man who operated expeditiously and who subjected the patient to as little anesthetic as possible, would be the man who would have least trouble in the after-treatment. Given a subject who came to the operating-room with the kidneys properly functionating, with the liver normal, the intestinal canal empty, with the heart properly supported, with an expert anesthetizer, with an operator who secured hemostasis, and who operated quickly, the after-treatment would be a very simple matter. It was in the desperate type of cases that one was called upon to see in a hurry, for instance at midnight, that the after-treatment called for considerable judgment, and there might be differences of opinion as to what constituted proper medication or treatment. Dr. Grandin then spoke more specifically upon the various points.

The average man, he believed, was too much in a hurry to give food, and did not sufficiently respect the condition of the stomach. The less one put into the stomach, the better; we should give the stomach a rest, and a chance to overcome the effects of the anesthetic. He could not emphasize too strongly this point of leaving the stomach alone. In the average abdominal section case, it was not at all necessary to give anything but possibly water for twenty-four, forty-eight, or seventy-two hours. It was his custom to give nothing but plenty of water. If there was intractable vomiting, he wasted no time in the administration of drugs, but washed out the stomach repeatedly in order to thoroughly cleanse it of the mucus and to allow the mucous membrane to regain its tone; then he gave peptonized milk or other easily digested foods.

If the stomach became the seat of intractable vomiting, then the rectum should be utilized for feeding the patient. He advised that the lower bowel be washed out with cold water before the administration of nutrient enemata; then the rectum would absorb the food if given hot and salty. There was no hurry about giving food by the mouth in these cases.

He could recall the time when the opium treatment was very much in vogue, and he had seen many patients die. He remembered when Tait rebelled against the opium treatment and suggested the saline treatment, and then the profession went to the other extreme. Nowadays, they had struck the golden mean. Dr. Grandin's custom now was to wash out the bowels thirty-six hours after the operation with a soap and water enema, increasing peristalsis in order to get rid of that which might be troublesome, such as gases. Opiates were contraindicated in almost every case of abdominal section. Morphine was distinctly and absolutely of value in the differentiating between shock and secondary hemorrhage, and that was the only condition in which he ever permitted injections of morphine to be given. Full doses of morphine given in shock, changed the clinical picture at once; if administered when there was secondary hemorrhage, the picture would not be changed. Another condition in which he used opiates was for the relief of pain; for this he never used anything else but codeine, and in two and a half or three grain doses in suppositories, and repeated in five hours if necessary.

After ordinary abdominal sections, he believed in changing the position of the patient frequently, largely in order to keep the intestines in motion. Posture with proper draining through the vagina (the only proper way to drain), was of great advantage, especially with the head elevated. By so doing the field of operation would soon be converted into an extraperitoneal one.

Dr. Grandin said the average man was very prone to give digitalis and nitroglycerin when exact indications were absent. The nitrites were only indicated when there was tension of the pulse; the greater the tension, the larger the dose of glonoin should be given. Desperate cases required desperate remedies, and he not infrequently pushed nitroglycerin, giving 1-10th of a grain every hour; it should be given in full doses and without fear, because the effect of this agent was so evanescent. Strychnine was a drug that was much abused, and be believed there was but one indication for its use, viz., when the heart failed, and then strychnine was our mainstay, but in heroic dosage, say 1-25th or 1-20th of a grain every two or three hours. Digitalis, especially the infusion, was indicated when there was kidney insufficiency. When the kidneys were not working properly, and the patient was passing an insufficient amount of urine, infusion of digitalis, associated with continuous saline irrigations of the colon, was the mainstay. He believed the giving of sodium and potassium salts did more harm than good; it was like applying the spur to a tired horse.

Dr. Grandin then referred to those desperate cases, met with often at midnight, cases in which the diagnosis of sloughing fibroids should have been made and had not been made, or in which there was intestinal obstruction, or perinephritic abscess which had been treated for something else. In all these cases there was a soiled peritoneum, and these were the cases which caused a great deal of anxiety in the after-treatment. If a chance was given, he believed in administering calomel and soda four or five hours before the patient went to the operating-room; unfortunately this chance was not given in many instances, and then often spastic paralysis of the gut would follow. Salicylate of physostigmine should be given as a routine measure before operating in these cases. If plastic paralysis occurred, tympanites increasing so that the diaphragm could not act, unless something was done and at once death would invariably follow. Here atropine in full doses, given hypodermically, or hyoscine until the pupils were as big as saucers, was of great value, and restoration of patients often occurred when there was but a forlorn hope. Prior to using these drugs he had seen patient after patient die; but since then he had seen many desperate cases respond to these agents and recovery follow.

Dr. Charles Jewett said he had used Dr. Craig's method since May, giving eserine with the view of preventing intestinal paresis and mechanical obstruction, with great satisfaction. The patients vomited less, the abdomen was flatter, and the bowels opened easier as by a simple molasses enema. The use of eserine had been very satisfactory to him, as it did away almost entirely with what had been to him a horror, viz., the danger of intestinal paresis and adhesions. Dr. Jewett used this agent at the close of the operation, although he believed Dr. Craig used it during the operation. He believed it might be given with very good effect in cases of tympany accompanying typhoid fever. In doses of 1-40 grain, he thought it was more effective than in doses of 1-60 grain, such as Dr. Craig formerly used. One-sixtieth of a grain should be used for meteorism other than operative.

Dr. S. Marx said that the eserine treatment had been used before Dr. Craig used it, as in acute ileus; the original instruction was to give it immediately and in large amounts. Dr. Craig could claim to have advised it shortly before operation. In acute ileus following operation, it was said that from 1-60 to 1-40 grain of eserine should be given. Dr. Marx's results with atropine had been better than with eserine. He had found the use of eserine in the chronic constipation of women to be of great value. With regard to pain he did not think we should be sparing in the use of morphine. It was not given if the patient was semi-unconscious, but if there was much pain complained of, morphine and not codeine had given him the best of results. It not only relieved pain, but gave a feeling of well-being. With regard to vomiting, he believed that if the patients were well prepared before operation, this would not give much trouble. The differential diagnosis between shock and hemorrhage could not be made in some cases. The peculiar form of shock that was brought to his mind was the post-partum. The most intense shock was that which could be interpreted as spastic paralysis. This had the peculiar picture of an intense internal hemorrhage. He said he did not know how to make a differential diagnosis between spastic paralysis, internal hemorrhage, and shock. If one depended upon morphine to differentiate between shock and hemorrhage, one would lose many patients. With regard to the bowels, Dr. Marx said he took no particular pains about them. In acute appendicitis operations he did not think of causing the bowels to move for at least a week after operation, because he looked upon the lesion as making a weak spot in the gut.

Dr. Joseph Brettauer said that ten years ago he expressed the same views regarding the time to move the bowels after operation, and he had been severely criticised; he advised leaving them alone. He had no doubt that many cases of intestinal adhesions could be traced to causing the bowels to move early. In those cases in which the bowels had been handled a good deal, or in which the intestines were adherent to diseased organs, he said we might have the condition called pseudo-ileus which was not septic, but which might become septic by forcing calomel and salines down. Dr. Bretauer referred to a book which was written eighteen or twenty years ago, in which was described minutely the action of large and small doses of opium on the bowels, and the comparison was made with the action of digitalis on the heart. According to this when we were dealing with a condition in which the nerve centers which supplied the intestines were hyperstimulated, it was an indication to stimulate the inhibitory centers, as by small doses of opium. One-quarter of a grain of morphine begun on the third or fourth day, and given every four hours, had been followed by much greater benefit than anything in the way of drugs, that he knew of.

Dr. A. Ernest Gallant said that when carrying out the orders of the visiting staff in hospitals, it was generally understood that the bowels should be moved thoroughly the second night before operation; the day before operation the bowels should be again moved by a soapsuds enema, and then they should be allowed to remain quiescent the night preceding operation. After the operation he believed in giving the patients all the water they wanted. He was a believer in the use of small doses of morphine; unless the patient weighed over 250 pounds, he never gave as much as 1-4 of a grain. Following operations he said he had been called upon to wash out the stomach only once with the tube. Dr. Gallant then dwelt upon the advantages of the performance of massage of the abdomen. In the use of salt solution he believed better results were obtained from the use of a nine per cent., rather than a six per cent. solution, and that it was absorbed better. With the patient on the right side and the sigmoid and anus on the level, he said it would not be necessary to use the high enema.

Dr. John O. Polak, in speaking of eserine, atropine, and hyoscine, said that they were to be used in two different classes of cases. Eserine was a preventive of distention; after paresis had occurred he did not believe that eserine worked as well as atropine in full doses, or as hydrobromate of hyoscine. Two points of value were omitted. There was no question about the value of eserine shortly after opening the abdomen. Before the patient left the table, a saline enema should be given, something for the intestines to work upon; the expulsion of gas then was very prompt and voluntary. In emergency cases the intestines should be cleared out by enemata; especially if the patient was seen four or five hours before operation, it would work particularly well. Most of these cases were vomiting cases, and ten grains of calomel was of very little value When post-operative vomiting was marked, lavage should be used immediately following operation; by so doing the patients were made more comfortable and did not vomit so much, if at all. It was well to leave a certain amount of fluid within the stomach in order that it might pass on into the intestines; that was an advantage in diminishing the amount of toxemia. The elevated head posture was of value in diminishing vomiting, but was not to be used in cardiac cases, or where there had been hemorrhage, or where the Trendelenberg position had been used. Since May 1, he said he had had an experience with the use of eserine in 80 cases. He had used it before and after operation; he had continued its use for days afterwards, but not as recommended by Dr. Craig. Immediately after the abdomen was opened 1-30 or 1-40 of a grain of eserine was given; after the operation saline solution was left in the bowel. This procedure so far had given him very good results.

Dr. George H. Balleray said that the real value of eserine could not yet be determined, and he thought one should be careful in attempting to ascribe to it any such specific action. If there was much pain or restlessness, opium in some form, should be administered, although he was not in favor of large doses. In all cases in which there was much distention, rectal feeding should be resorted to entirely. He had never seen a patient die from simple distention not accompanied by peritonitis.

Dr. Philander A. Harris of Paterson said that when active peritonitis developed after laparotomy the patient usually died, in spite of whatever might be done for her. In such cases the tympany was generally very pronounced, and the evidences of intestinal paresis were both early and persistent. Four or five years ago he adopted the practice of beginning, whenever possible, the administration of one drachm of sulphate of magnesia thirty-six hours before operation, with instruction to repeat the dose every hour until the bowels had moved four times. In some cases there were but four or five movements, but more often the bowels moved eight or nine times. Patients thus prepared, suffered very little from intestinal fermentation and consequently were generally free from tympany after abdominal section. Sometimes the bowels would move after operation, without enema, but as a rule he gave an enema or a low intestinal irrigation on the third or fourth day after laparotomy.

The most important item in the after-treatment of abdominal section was the discovery of internal hemorrhage. A close and frequent study of the pulse was the most important duty. Whenever a great deal of intra-abdominal hemostasis had been necessary, it had been his custom to take the pulse every twenty minutes for the first twenty-four hours, and leave word that should the pulse at any time go twenty beats faster than the lowest pulse recorded for that patient after the operation, he must at once be notified. If investigation led him to believe that there was bleeding within the abdominal cavity, he at once reopened the incision and inspected the field of operation. He had found that many trained nurses were unable to count correctly a pulse-beat when it was weak and more rapid than one hundred and twenty-five per minute, and he declined to allow such nurses to assume the care of these cases.

Dr. **Sidney D. Jacobson** said he had had good results from the use of 1-75 grain of atropine in the prevention of post-operative paralysis, as had been suggested to him by Dr. Brettauer. This agent checked glandular secretion and less mucus was to be found in the stomach. Its action upon the muscular coat of the intestine prevented flatus from gathering in the bowel.

Philadelphia Neurological Society.

At a stated meeting held December 27 Dr. Ralph Pemberton exhibited for Dr. **Charles K. Mills** "A Case of Rhizomelic Spondylosis," demonstrating the alterations in the joints and component structures by means of skiagrams. Dr. **S. D. Ludlum** exhibited "A Case of Spasticataxic Paraplegia Developing After Childbirth." Dr. **J. W. McConnell** exhibited "A Case of Senile Neuritis" and also "A Case of Hemianesthesia, Hemiataxia, Hemiastereognosis, Hemiathetosis, and Hemianopsia Due to a Sudden Cerbral Lesion." In the latter the patient was found in a dazed state without loss of consciousness or convulsion or loss of power or noteworthy alteration in the reflexes. The symptoms suggested a lesion in or about the optic thalamus. Dr. **C. S. Potts** reported "A Case of Traumatic Cervical Hematomyelia." The patient was a colored man who had fallen and fractured his skull. There was extensive weakness and impairment of sensibility in the trunk and the upper and lower extremities. After death the lower portion of the cervical cord was found compressed and the seat of hemorrhage. Dr. **C. D. Camp** presented a communication entitled "The Pathology of Tabes" and one on "Fibrous Nodules of the Pia." The latter condition simulated miliary tuberculosis. Dr. **A. R. Allen** read a paper entitled "Annular Degeneration of the Spinal Cord," describing the histological findings in a case of this kind. Dr. **T. H. Weisenburg** read a paper on "Pseudobulbar Palsy," reporting six cases of this disorder with the post-mortem findings in three. The lesions were not always confined to the cerebrum, being found sometimes in the peduncles, the pons, and the medulla.

Philadelphia County Medical Society.

At a stated meeting held December 28 Dr. **H. W. Wiley**, Chief of the Bureau of Chemistry of the United States Department of Agriculture, presented a communication entitled "Food-preservatives and Food-adulteration." He spoke first of primitive methods of preserving food, as by means of vinegar, sugar, wood-smoke, and the like, and admitted the necessity of adopting some such course in order to provide for seasons when fresh food is not attainable. He took the ground that when food is treated in any manner, as for instance by coloring matter, to improve its appearance or mordaunts to retain its natural color, or by antiseptics and the like to prevent decomposition, a statement of this fact should be made on the label of the food-product thus offered for sale.

W. W. **Smithers**, Esq., of the Philadelphia bar, read a paper entitled "Defects in Pennsylvania Food-legislation," in the course of which he criticised severely the methods in vogue for the enforcement of the food-laws, which in their present form he considered unconstitutional. He held that while the provisions of existing laws afford some measure of protection to the people at large they are to a greater extent made the instruments of private gain, political power, individual oppression, and unwarranted interference with trade. He made a plea for the abolition of the office of Dairy and Food Commissioner, for the passage of an act enabling each county or municipality to appoint food inspectors as provided for by the Constitution, for the repeal of the act of 1895 and the enactment of a rational food-law based upon the preservation of the public health and protection against fraud.

Dr. **Thomas L. Coley** read a paper entitled "The Evaluation of Evidence as to the Pharmacological Action of Food-preservatives." He contended that the researches heretofore made as to the harmfulness or otherwise of certain commercial preservatives have not been demonstrative and he took the position that if the quantity and the character of the preservatives used were restricted to certain limits and the articles properly labeled as to their constitution the public would be in a position to decide the matter for itself.

New Instruments.

VERMIFORM APPENDIX INVAGINATING PROBE.

By H. J. BOLDT, M.D.,

NEW YORK.

It has become customary with many surgeons when opening the abdomen, even for another purpose than that for the removal of the vermiform appendix, to remove also or to invaginate that seemingly useless structure. I prefer invagination or inversion to appendectomy, whenever the former can be done. To overcome the inconvenience accompanying the customary methods, I have had a very small spur attached to an ordinary silver surgical probe. After the mesoappendix is tied off and all particles of mesoappendix are stripped off from the appendix, the spur is inserted into the tip of the latter. This prevents the probe from slipping off and the inversion can now be readily accomplished in a few moments. One suture over the opening closes it, and then this suture is usually tied together with the ligature which was used to tie off the mesoappendix. Having found this simple little device, made on my suggestion by the Kny Scheerer Co., of such practical utility, I place it before the profession for trial. The small point should not be more than a millimeter long and as thin as the point of a cambric needle.

39 East Sixty-first-Street.

The Influence of Becquerel Rays on the Skin.—Halkin attached a radium capsule by a piece of plaster to different areas of the skin every day for from one to two hours; at the end of thirty-eight days, all these points were simultaneously excised. A patch exposed for two hours showed a livid discoloration, which disappeared on pressure. At the end of twenty-five days microscopic changes were very characteristic. The effects were visible upon the vessels at the end of eight days, later upon epithelial and connective tissue cells presenting certain analogy to those produced by x-ray. He finds that the action is too superficial to be of use in lupus vulgaris.—*Archiv für Dermatologie und Syphilis.*

Books Received.

Die Farbetechnik für das Nervensystem. Von Dr. Bernhard Pollack. Third Edition. 8vo, 150 pages, paper. S. Karger, Berlin. Price, M. 3.50

Being Done Good. By Edward B. Lent, Esq. With a foreword by Charles M. Skinner, Esq. Second Edition. 8vo, 345 pages, muslin. The Brooklyn Eagle Press, Brooklyn, N. Y.

Ten Lectures on Biochemistry of Muscle and Nerve. By W. D. Halliburton, M.D., F.R.S. 8vo, 160 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $2.00 net.

A Laboratory Guide in Histology. By Charles H. DeWitt, B.S. 8vo. 88 pages, illustrated, muslin. Charles H. DeWitt, Valparaiso, Ind.

Transactions of the American Gynecological Society. Volume 29. For the Year 1904. 8vo, 494 pages, illustrated, muslin.

A Dictionary of New Medical Terms. Including Upwards of 38,000 Words and Many Useful Tables, being a Supplement to "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences." By George M. Gould, A.M., M.D. 4to, 571 pages, half-morocco. P. Blakiston's Son & Co., Philadelphia. Price, $5.00.

Aequanimitas. With Other Addresses to Medical Students, Nurses and Practitioners of Medicine. By William Osler, M.D., F.R.S. 8vo, 389 pages, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $2.00 net.

Clinical Hematology. A Practical Guide to the Examination of the Blood, with Reference to Diagnosis. By John C. DaCosta, Jr., M.D. Second Edition. 8vo, 591 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $5.00 net.

Manual of Practical Ophthalmology. By George A. Berry, M.B., F.R.C.S. 8vo, 570 pages, illustrated, muslin. J. B. Lippincott Co., Philadelphia.

One Hundred Years of Publishing (1804-1904). A Brief Historical Account of the House of William Wood and Company. 12mo, 29 pages, illustrated. William Wood & Company, New York.

Précis du Paludisme. Par Dr. J. Crespin. 8vo, 323 pages, illustrated. A. Maloine, Paris.

Géographie Médicale. By Dr. Emile Laurent. 12mo., 830 pages, muslin. A. Maloine, Paris.

Bacteriology and the Public Health. By George Newman, M.D., F.R.S.E., D.P.H. Third Edition. 8vo, 497 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

Medical Electricity. A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D. 8vo, 536 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

Thirty-fifth Annual Report of the State Board of Health of Massachusetts. 8vo, 646 pages, muslin.

Normal Histology and Microscopical Anatomy. By Jeremiah S. Ferguson, M.Sc., M.D. 8vo, 738 pages, illustrated, muslin. D. Appleton & Company, New York.

Lectures on Diseases of Children. By Robert Hutchison, M.D., F.R.C.P. 12mo, 338 pages, illustrated, muslin. Edward Arnold, London.

Sixth Annual Report of the College Department of the University of the State of New York, 1903. 8vo, 296 pages, muslin.

Atlas and Epitome of General Pathological Histology. By Docent Dr. Hermann Durck. Authorized Translation from the German. Edited by Ludvig Hektoen, M.D. 12mo, 371 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $5.00 net.

A Manual of Personal Hygiene. Proper Living Upon a Physiologic Basis. By American authors. Edited by Walter L. Pyle, A.M., M.D. Second Edition. 8mo, 441 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $1.50 net.

Diseases of the Liver, Gall-Bladder and Bile-Ducts. By H. D. Rolleston, M.A., M.D. 8vo, 794 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $6.00 net.

The Accessory Sinuses of the Nose and their Relations to Neighboring Parts. By Dr. Gustav Killian. Translated by D. R. Paterson, M.D., M.R.C.P. Folio, fifteen colored plates, cardboard. Gustav Fischer, Jena, Germany.

The Surgery of the Diseases of the Appendix Vermiformis and their Complications. By William Henry Battle, F.R.C.S., and Edred M. Corner, M.B., B.C., F.R.C.S. 8vo, 208 pages, muslin, illustrated. W. T. Keener & Co., Chicago. Price, $2.50 net.

Medical Items.

Contagious Diseases—Weekly Statement.—**Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the** week ending January 14, 1905:

	Cases.	Deaths.
Measles	189	6
Diphtheria and Croup	307	43
Scarlet Fever	281	17
Smallpox	3	......
Chickenpox	202	......
Tuberculosis	338	160
Typhoid Fever	56	9
Cerebrospinal Meningitis	......	26
Typhus Fever	......	......
Yellow Fever	......	......
Cholera	......	......
Totals	1,376	261

Causes of Cardiac Insufficiency.—Joseph H. Pratt refers to Bamberger as being the first to recognize that this is a muscle insufficiency. In cardiac insufficiency there is a disproportion between the heart's capacity for work and the proportion between the heart's capacity for work and the work to be done. It may be that the working power of the heart is diminished, or, again, the demands made upon a healthy heart may be so increased that its functional capacity is inadequate. In either case the result is cardiac insufficiency. The cardiac incompetency is due either to the inability of the heart to dilate sufficiently to receive all the blood that flows from the veins, or to the inability to propel the blood onward with proper velocity. The condition of the heart muscle determines the clinical course of chronic valvular disease. The great variations in these cases depend more upon the condition of the cardiac muscle than on the valvular defect. The working power of the heart is dependent upon the contractility of the muscle fibers and the elasticity of the cardiac wall. Any cause, therefore, which diminishes the contractility and the elasticity, will tend to produce cardiac insufficiency. Fatty metamorphosis has been thought to be the most common cause of cardiac weakness. The term fatty heart refers both to an increase of adipose tissue between the heart fibers, and to a deposit of fat droplets within the muscle cells. The former condition is generally known as fatty infiltration and the latter as fatty degeneration. Many authorities consider the fatty metamorphosis as a most serious alteration in the structure of the heart. The writer states that his interest was aroused in this subject not only by the frequent occurrence of marked fatty degeneration at autopsies, but also because no relation seemed to exist between fatty heart and cardiac weakness. He has found in his investigations that extreme fatty metamorphosis can be present without producing symptoms and in some cases in which cardiac weakness had been prominent the myocardium contained little or no fat. A heart which contains very little blood but no fat has a yellowish hue and may easily be mistaken for a fatty heart. Recent writers assert that fatty degeneration is rare in chronic heart disease. The writer has examined the evidence furnished by anatomical, chemical, and experimental investigations without finding any support for the theory that fatty metamorphosis of the heart is the cause of cardiac insufficiency. The writer asserts that no justification exists for attributing cardiac insufficiency to nervous disturbances or exhaustion. The results of recent work indicate that the circulatory disturbances which occur during the height of the febrile period in the infectious diseases are probably due less to cardiac insufficiency than to paralysis of the vasomotor center in the medulla. The writer concludes by stating that in the light of present knowledge certain anatomical alterations, especially coronary sclerosis and acute interstitial myocarditis, must be regarded as the most common causes of heart failure.—*Bulletin of the Johns Hopkins Hospital.*

Gonorrheal Salpingitis in a Child Aged Six; Gonorrheal Inflammation of the Uterine Appendages in a Girl of Three and One-Half Years.—Leonard A. Bidwell reports the first case, and George Carpenter, the second. In the case of the first patient, inflammation of the vulva and painful micturition were observed at the beginning of the illness. Within a few days the right foot began to swell. There was redness and edema over the flexor tendon sheath, and pain on movement. On the following day an incision was made and some clear fluid was evacuated from the tendon sheath. Examination showed that the pus was issuing from the os uteri. Gonococci were found in the discharge. Abdominal symptoms developed and operation was decided upon. Some slightly purulent fluid was found in the peritoneal cavity, and some flakes of lymph on the intestines. Both tubes were full of pus, and so were removed after ligature of their ends for sterilization will result. In case of gonorrheal vaginal discharge did not completely cease after the operation, and still contained gonococci. The os was dilated and the uterus curetted. Within a week after this the discharge ceased and the child was in perfect health. The writer believes that in such cases an operation should not be done until all hope of cure by other means has been abandoned, for sterilization will result. In case of gonorrhœal vaginal discharge, the patient should be anesthetized, and if it is found that the discharge comes from the uterus, the uterus should be curetted in order to avoid any extension to the tubes. The affection of the foot was undoubtedly a form of gonorrheal rheumatism. The second child when first seen by the writer had suffered from a vaginal discharge of six weeks' duration. There were pains in the lower part of the abdomen, which was not swollen. Micturition was frequent. Pus from the vulva contained numerous gonococci. Bimanual examination of the pelvic viscera was made by way of the rectum and the uterine appendages were found to be involved. All of the parts had rather a woolly and indistinct feel, which was thought to be due, possibly, to associated peritonitis. A month later the pelvic condition had changed considerably for the better. All parts were freely movable. There was still a purulent discharge from the vagina. The writer thinks that the pelvic disease was secondary to gonorrhea. He believes that there were pelvic peritonitis and salpingitis, certainly on the right side and probably on the left. There was apparently spontaneous recovery. Marx believes that these infantile inflammations are apt to commence afresh at puberty, and are often the real cause of pelvic inflammations of newly married women. The writer emphasizes the value of bimanual examination of the internal genitalia in young children.—*The British Journal of Children's Diseases.*

Tuberculous Peritonitis.—C. H. Mayo bases the statements made in this paper upon 144 operations for the relief of tuberculous lesions involving the peritoneum. Fifty-nine operations were performed for tuberculous peritonitis died. There were 58 operations for the removal of tuberculous tubes, with 56 recoveries and 2 deaths, and 27 cases of tuberculous appendicitis without a death. Peritoneal tuberculosis was found 284 times in 13,922 necropsies, as collected by Grawitz and Bruin. Although this form of tuberculosis is always due to the tubercle bacillus, it is practically always secondary to tuberculosis in other regions. Infection reaches the peritoneum most commonly through the tubes, the uterus, the appendix, or a perforating ulcer. The peritoneum is more resistant to this than it is to other infections, and when the primary focus is removed, it is capable of wonderful repair. About five women are afflicted to one man. The most common period of life for this affection is between the ages of twenty and thirty. A tuberculous family history is reported in from 30 per cent. to 71 per cent. The peritoneal type is generally classified as follows: miliary with ascites, the adhesive or fibro-plastic, the suppurative or mixed infection, and the nodular. The larger number of the infections are found in the lower half of the abdomen. Oftentimes the only diagnosis possible is a tumor or a condition of the abdomen which it will be safer to explore than to leave. In most cases, however, a fairly exact diagnosis is possible. The excellent effect of operation in many cases is well known. The writer states that in all cases where it is at all warranted by the patient's condition, he attempts the removal of the primary focus of leakage or infection. The peritoneal condition is left to cure itself, and the abdomen is closed without drainage. In some cases operation would be extremely hazardous. In males, the writer makes the incision over the appendical region, while in women it is so made that the pelvis can be explored. Great care must be taken not to open the bowel. It is generally best to keep close to the parietal or pelvic peritoneum, separating as few adhesions as possible in exposing the region affected.—*Dominion Medical Monthly and Ontario Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended January 13, 1905:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
District of Columbia, Washington	Jan. 1–7	2	..
Illinois, Chicago	Jan. 1–7	16	..
Peoria	Dec. 1–31	7	..
Louisiana, New Orleans	Jan. 1–7	5	Three imported.
Massachusetts, Everett	Jan. 1–7	2	..
Hyde Park	Jan. 1–7	1	..
Missouri, Saint Louis	Dec. 25–Jan. 7	35	6
New Jersey, Camden	Jan. 1–7	1	..
Ohio, Cincinnati	Jan. 1–7	7	..
South Carolina, Charleston	Jan. 1–7	3	..
Greenville	Jan. 1–7	6	1
Tennessee, Nashville	Jan. 1–7	6	..
Wisconsin, Milwaukee	Jan. 1–7	3	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Dec. 11–24	24	..
Brazil, Bahia	Nov. 29–Dec. 10	27	1
Rio de Janeiro	Nov. 28–Dec. 4	296	108
Belgium Brussels	Dec. 18–24	..	1
China, Shanghai	Nov. 13–26	..	71
France, Paris	Dec. 18–24	17	..
Great Britain, London	Dec. 18–24	9	..
Newcastle-on-Tyne	Dec. 18–24	7	..
Nottingham	Dec. 18–24	3	..
South Shields	Dec. 18–24	3	..
India, Bombay	Dec. 7–13	..	19
Panama, Colon	Dec. 26–Jan. 1	..	..
Panama	Dec. 26–Jan. 1	1	..
Russia, Moscow	Dec. 11–17	7	..
St. Petersburg	Dec. 18–24	6	5
Turkey, Constantinople	Dec. 19–25	..	8

YELLOW FEVER—UNITED STATES.

Texas, Galveston	Dec. 31	2	From S.S. *Horatio* from Para, *via* Barbados.

YELLOW FEVER FOREIGN.

Brazil, Rio de Janeiro	Nov. 28–Dec. 11	2	1
Cuba, Habana	Jan. 6	3	2
	From Austrian vessel *Dora*, from La Guaira and Colon.		
Mexico, Coatzacoalcos	Dec. 25–31	1	..
Juchitan	Dec. 25–31	1	..
Vera Crus	Dec. 25–31	1	1
Panama, Panama	Dec. 25–31	2	..

CHOLERA.

India, Bombay	Dec. 7–13	..	2
Calcutta	Dec. 4–10	..	72
Russian Empire—			
Astrachan District	Nov. 23–39	6	..
Jelisavetpol District	Nov. 22–26	32	..
Samara District	Nov. 23–29	162	..
Saratov District	Nov. 23–29	40	19
Trans Caspian Territory and Central Asia, Serachs	Nov. 23–29	27	20
Trans Caucasia, Baku	Nov. 14–23	29	10
Batum	Dec. 1–7	3	..
Erivan	Nov. 23–29	1933	661

PLAGUE.

Arabia, Crater	Dec. 1–16	47	47
Maalla	Dec. 1–16	2	2
Hedjuff (Hospitals)	Dec. 1–16	2	2
Tawahi	Dec. 1–16	1	1
Shaikh Othman	Dec. 1–16	3	4
Egypt, Port Said	Dec. 3–10	1	1
Tukh District	Nov. 27–Dec. 10	3	3
Great Britain, London	Nov. 30	1	From S.S. *Weybridge* from the Rio de la Platte.
India, Bombay	Dec. 7–13	..	72
Calcutta	Dec. 4–10	..	12
Karachi	Dec. 5–11	27	22
Straits Settlements, Signapore	Dec. 20–26	1	1

Medical Record

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Original Articles.

PATHOLOGICAL CHARACTERS, DIAGNOSIS, AND EPIDEMIOLOGY OF BUBONIC PLAGUE.

By MARK JOHNSTON WHITE, M.D.,

PASSED ASSISTANT SURGEON UNITED STATES PUBLIC HEALTH AND MARINE HOSPITAL SERVICE.

This article is based on my observations of pest among white persons, Asiatics, animals, and insects in California, from April, 1901, to December, 1902, and more recently in Honolulu and Hong Kong.

B. pestis, like its biochemical homologue, *B. typhosus,* exhibits special preference for lymphatic tissue. Acting on the highly organized encased lymph-nodes, it produces the anatomical character peculiar to plague, just as *B. typhosus,* attacking the less completely organized nonencapsulated areas of lymphatic nodules, produces the anatomical character peculiar to enteric fever. But its action is not limited to the lymphatic system, although the mesodermic tissues are those affected most. Along with certain other tissue-preferring organisms it is accredited with the ability to produce pneumonia. It appears, too, that plague, like enteric fever, sometimes occurs without demonstrable lesions of the lymphatic or pulmonary tissues, and so a third clinical variety, the septicemic, is recognized. Other tissues, as is usual in acute infections, show parenchymatous and fatty degenerations.

The bacilli being absorbed by the lymphatics from the mucosal or cutaneous atria of infection, cause bubonic enlargement of the intercallated nodes, but it is probable that a typical bubo may also result from infection through the blood-vessels as well as through the lymphatics. Toxemia invariably is present, and it is almost invariably true that a demonstrable bacillemia occurs very early, even before a distinct subcutaneous bubo. Plague without characteristic lymphadenal lesions is of rare occurrence, as is the case with enteric fever. I have examined cases clinically without finding any evidence whatever of bubo, and post-mortem examination has demonstrated its entire absence in all of the subcutaneous, the internal and external iliac, the lumbar, and the mesenteric nodes; but upon removing the very heavy covering of the deeply seated celiac nodes, I have demonstrated its typical presence, thereby setting aside the clinical and "ordinary post-mortem" diagnosis of "septicemic plague without bubo." But it is possible that a quickly fatal termination may occur even before the primary lymphagenous bubo has time noticeably to develop, so that a bacillemia only is demonstrable. In other clinically septic cases, the lymphadenal involvement, not observed during life, has been found post-mortem, in the lingual and pharyngeal tonsils and the consecutively, though not extensively, involved deep cervical and retropharyngeal nodes.

There are many cases of plague in which the conditions preceding the development of the subcutaneous bubo, rather suggest that the organisms entered the nodes through the afferent blood-vessels and not through the lymphatics from the skin. Unquestionably, the bacilli may enter through the skin as well as through the alimentary mucosa, and similarly involve the related lymph glands; but analogously and experimentally, it would appear reasonable and likely that some evidence of such cutaneous portals would be demonstrable, at least during life if not at the post mortem; and so there is in some cases, but not nearly so uniformly as in the case of other bacteremias following skin infections. The infection aspects of plague and anthrax may be noted. The evidence of dermic inoculation in severe anthrax is the characteristic malignant pustule, while in the very mild cases it is a promptly healing, though demonstrable, papulovesicular lesion, both of which precede the lymphadenal involvement and the general symptoms. In anthrax edema, there is no demonstrable infection—atrium, and the general symptoms may precede rather than follow the lesion. Experimentally the cutaneous infection-atria of plague are well marked, but naturally they are, when present, more nearly like that of very mild anthrax. In the majority of subcutaneous plague buboes, however, the skin, as in anthrax edema, shows no infection atria, and commonly the constitutional symptoms precede the development of the bubo. In internal anthrax the infection-atria and the clinical sequence are comparable to plague infection, the onset being with diarrhea and vomiting, followed by bacteremia and skin lesions, some of which may be suggestive of infection-atria. And if a variola-like papulovesicular lesion should be present on the lymph-shed of a plague bubo, the disposition to consider it the portal of infection would, in many instances, predominate. Clinically and at necropsy I have carefully searched for cutaneous infection-atria, and have particularly interrogated patients, yet no direct evidence could be found in the great majority of cases to show that they ever existed. Nevertheless, the possibility that minute atria may occur and completely heal, even without the patient's or clinician's knowledge, should be kept in mind. The common and early association of the pneumococcus with *B. pestis* in the buboes and heart's blood, first directed my attention to the upper alimentary mucosa, from which the cocci readily might invade the blood through the lesions caused by the bacilli. And while lymphagenous infection more naturally and satisfactorily explains the occurrence of any bubo, hematogenous infection in the case of certain subcutaneous plague buboes deserves thorough consideration. In such cases the sequence of invasion may be: (1) mucosal infection-atrium; (2) primary or lymphagenous bubo; (3) bacillemia; (4) secondary hematogenous or metastatic bubo, in the adenoid tissue of which the bacilli, rapidly multiplying, pass along with the newly formed leucocytes into the lymph-channels, and through them subsequently invade the other nodes of the bubo chain, all of which, along with the other lymph nodes throughout the body, have suffered previous attack by the circulating toxins and bacilli.

The Pathological Characters.—The three clinical varieties, the bubonic, the pneumonic, and the septicemic may be defined pathologically as follows:

1. *Bubonic or Lymphadenal Variety.*—This is a regional lymphadenitis or "typical bubo," characterized anatomically by a chain of hemorrhagico-necrotic nodes embedded in serohemorrhagic edema.

2. *The Pneumonic Variety.*—This occurs as a lobar or lobular consolidation essentially indistinguishable, histologically, from pneumococcal and other bacterial pneumonias.

3. *The Septicemic Variety,* which is a bacillemia without the association of pneumonia, lymphadenitis, or other gross lesions resulting from bacterial activity.

Post-mortem Findings.—External features common to all varieties. Most victims are noticeably well nourished, but a few are only fairly or poorly so, yet in all of them there are quite commonly observed the following: (1) Firmly contracted calves with extended adducted feet. (2) Firmly flexed and adducted thumbs, their tips approximating the third metacarpophalangeal joints. Occasionally the thumbs are abducted and hyperextended. (3) The little fingers are fully flexed and their tips strongly apposed to the outer borders of the hypothenæ. The rigidity of this little finger contraction is very noticeable and constant. The other fingers are not so completely flexed and are far more easily extendable. General post-mortem rigidity is well marked during the first twenty-four hours. (4) Suffusion of the face, ears, and neck. (5) Small conjunctival hemorrhages of a dirty light brown color most numerous in the line of the palpebral aperture. (6) Rapidly appearing general lividity beginning shortly after the removal of the clothing and free exposure of the body to air within three hours after death. (7)) Pest eruption characterized by distinct purpuric spots varying in size from 1 to 3.5 mm. upon the surface, and from .5 to 1. mm. in depth; in color from a fading pale red in the irregularly shaped larger ones to a bluish-purple shade in the oval medium, and a growing red in the round, smaller, and apparently younger petechiæ. They are discreetly and generally scattered over the body, but most numerously over the lower thoracic and upper abdominal regions where from 25 to 40 may be counted in the relative proportion of 2 of the smaller to 3½ of the medium and 1½ of the larger ones. The bluish-purple shade is most intense upon the forearms. (8) Marks of counter-irritation over the arms, neck, chest, and abdomen anteriorly in patients of Chinese physicians, who frequently employ three methods of counter-irritation in the treatment of plague and other acute febrile diseases of severity. The coin and salt method, usually applied to the arms and chest causes large cutaneous ecchymotic patches, and in plague cases, diffuse hemorrhages into the deeper soft structures. The twisting pinch method produces similar lesions, but of smaller area. The "black tan" method consists in pricking the skin over areas of about 5 mm. in diameter and usually along the anterior middle line of the body. Ordinarily, one pricking is over the manubrio-gladiolar junction, a second over the xyphoid cartilage, and a third above and near the umbilicus. At necropsy they usually are black-crusted and dusted over with a reddish-brown powder. (9) Polylymphadenitis characterized by palpable and occasionally visible enlargement of the lymph nodes of the body without appreciable exudation or hindrance to their movability. (10) A distinct plague odor for the appreciation of which experience is necessary.

Additional features are observable where there is a typical bubo subcutaneously. The overlying skin, especially in the cervical and inguino-femoral regions, is usually very tense and glistening. Frequently it presents a large, light yellow, sharply defined, irregular, barely elevated area, apparently caused by slight cutaneous edema and the underlying subcutaneous pressure. The bubo has a peculiarly brawny, infiltrative firmness, and it is distinctly an acute lesion characterized by marked lymphadenitis embedded in an extensive subcutaneous, caky exudate, and usually unaccompanied by any explanatory infection-atrium, lymphangitis, or phlebitis. One of my patients had phlebitis (long saphenous), but none had lymphangitis. When present, lymphangitis is usually attributed to other organisms on the score that "*B. pestis* causes necrosis, but not inflammation."

In the inguino-femoral region the periglandular edema may extend from near the umbilicus to the knee, and from the anterior superior iliac spine, to the scrotum and prepuce. In the axilla, it may extend over the entire axillary, lateral, anterior thoracic, and sternal regions, and to the base of the neck. In the cervical bubo, the edema usually involves the entire side of the neck, crosses the anterior median line and extends into the cheek, anterior and posterior auricular tissues. When the lingual and pharyngeal tonsils are affected the edema usually involves the uvula, faucial pillars, epiglottis, vocal cords, and posterior pharynx.

Section of a regional lymphadenitis or typical bubo reveals very striking lesions. The commonest, or inguino-femoral bubo, is usually but the external end or beginning of the chain of characteristically and progressively affected lymph nodes. Ordinarily, the chain is composed of the superficial and deep inguinal, the external iliac and the median lumbar nodes, but occasionally the iliac and lumbar nodes escape noticeable involvement as the result of early death or arrest of the process. Section of a unilateral bubo involving these nodes and their surrounding tissues reveals the following:

1. *The Nodes.*—Those of the ***superficial inguinal*** group vary in shape and size from a bean 8 mm. in length to a marble 25 mm. in diameter and in color from a pink to a mottled purple shade. They are soft, swollen, tense, and of uniform consistency. The smaller ones are movable, while the larger ones are firmly embedded in the infiltrated periglandular tissues. Upon section, the smaller glands show cortical injection, with an occasional small cortical hemorrhage. The cut surface of a large one shows a dirty gray-colored, succulent cortex with discreet ovoidal hemorrhages varying from .2 to .6 mm. in length, and clearly distinguishable from the wet, pulpy, dull-brownish-red medulla with crops of necrotic areas, and a uniform consistency much softer than the uniform consistency of the cortex. The ***deep inguinal*** nodes are larger, being of the shape and size of a hen's egg or an English walnut. They are of a diffuse purple-red or bluish color, tense and immovable. Their cut surfaces are very soft and of uniform consistency and color, but marked by numerous areas of necrosis and bars of fibrous septa. The delineation of the cortex and medulla is impossible. The ***external iliac and lumbar*** nodes are somewhat smaller than the deep inguinal, and they assume the general shape of an enlarged turtle's egg. In color they are darker, and in consistency very much softer, for upon sec-

tion their contents frequently are found to be almost semifluid, and of a dark-brown chocolate color. This was particularly well marked in the case of a white man who, while recovering from the bubonic type with the aid of Yersin's serum, succumbed to the rapidly developing pneumonic type.

2. *The Surrounding Tissues.*—They are swollen, edematous and hemorrhagic. The edema immediately surrounding the *subcutaneous* nodes is serohemorrhagic, but at points varying from 30 to 50 mm. distant it fades into a serogelatinous type. The bloody serum exuding upon section fills the wound and floats upon its surface many flat globules. The *internal or retroperitoneal* periglandular edema, is decidedly hemorrhagic, and indeed constitutes a plainly visible, diffuse, black, succulent blood clot extending from Poupart's ligament to near the lower border of the kidney, and from the mid-spinal line to near the middle line of the loin. Like the subcutaneous edema, it has a serogelatinous periphery, most observable in the post-renal and anterior abdominal tissues, and fringed by discreet and fairly numerous peritoneal hemorrhages. Externally, the serogelatinous element predominates over the hemorrhagic, while internally the reverse obtains. The larger arteries traversing such a bubo show no gross lesions in the media or elsewhere, but their accompanying veins, in noticeable contrast, almost constantly present numerous discreet and, at points, confluent medial hemorrhages. This is especially marked in the external iliac and lumbar veins, and, to a less degree, in the femoral. The sheaths of related nerves occasionally show long hemorrhagic bands. The underlying muscles are very pale, soft, swollen, edematous, and easily torn. The urethral mucosa is injected, but not hemorrhagic. The vas deferens sometimes is discreetly hemorrhagic, while occasionally there is an acute hemorrhagic epididymitis, with noticeable tendency to orchitis.

It may be observed that the virulence of this process is progressive, as the consecutively involved nodes and their surrounding tissues are more hemorrhagic, necrotic, and disorganized than are the structures first attacked, and such is the case no matter where the bubo-chain occurs. In explanation, it may be noted that lymph nodes throughout the body are affected early by the circulating toxins, while those nodes of the bubo-chain are, in addition, subjected to a progressive lymphagenous invasion by lymph-node-born-and-nourished bacilli, whose pioneer ancestors may have first effected favorable lodgement through the lymph vessels from the skin, or through the blood-vessels, with subsequent entry into the lymph stream along with the newly made leucocytes.

In some cases, and in very fat persons, the bubo appears much smaller, so that palpation does not reveal such distinctive periglandular edema, or swollen nodes. In such cases, however, there is, ordinarily, an appreciable fullness of the region that is especially noticeable on oblique inspection. Failure to palpate a bubo, especially in a fat person, by no means indicates its absence.

The lesions of an inguinofemoral bubo are well shown by a long incision approximately perpendicular to the middle of Poupart's ligament, and extending from near the umbilicus to the middle of the thigh, bisecting Scarpa's triangle and including all tissues down to the bone. After completing the examination of this longitudinal section, extend the usual anterior median incision outward along Poupart's ligament to and beyond the anterior superior iliac spine, cutting through the entire belly wall along this line. This gives an obliquely transverse section of the bubo, and brings into full view the position of the consecutively involved retroperitoneal nodes and their strikingly hemorrhagic surroundings.

Ordinarily the subcutaneous bubo is unilateral, but sometimes characteristic ones exist bilaterally. In other instances there may be an axillary and an inguinofemoral, or a cervical, axillary, and femoral, or celiac and femoral, together with, of course, the general polylymphadenitis, and in the majority of instances primary lymphagenous buboes, connected with the alimentary mucosal atria. The primary bubo commonly involves the celiac nodes or the lingual and pharyngeal tonsils. The latter are but moderately enlarged, somewhat edematous, and in places hemorrhagic. The lingual tonsils, however, may show very distinct or but moderate involvement. The peritonsillar tissues are especially edematous, and the infiltration may extend to the faucial pillars, uvula, epiglottis, vocal cords, and posterior pharynx.

Ordinarily this tonsillar process is bilateral, but usually it is most marked on one side. The deep cervical nodes are consecutively involved, dark purple-red in color, and frequently semifluid. In size they may remain small and not palpable through the skin, or they may be very large. In either case the surrounding edema of the soft parts, together with the damaged nodes, indicates a typical bubo. The retropharyngeal nodes are similarly involved, and, as a rule, are but moderately enlarged. These lesions also indicate the progressive virulence of the process.

The primary or lymphagenous bubo also occurs in the deeply-seated celiac nodes, the portals of infection being in the pyloric stomach and upper duodenum. The lesion is not demonstrable until its heavy covering is dissected away, and hence it may be overlooked. Here the mucosal infection-atria are well marked and the bubo-chain typical. In size it may be small, medium, or large, just as any other bubo, whether lymphagenous or metastatic.

The Pneumonic Variety.—Anatomically and histologically the pneumonias of plague are substantially indistinguishable from those caused by the pneumococcus or streptococcus, or by other bacteria, or by protozoa. Pneumonia plague has been classified because the onset and clinical course of pest sometimes are characterized like enteric fever, by signs and symptoms of pneumonia, associated with plague bacilli in the sputum, which may have been derived from the linguopharyngeal or the pulmonary lesions. And furthermore, because the pneumonic areas are found post mortem to be rich in plague bacilli.

Ordinarily the type is lobular, but sometimes lobar or semilobar. The entire lung is markedly edematous, and the pleural covering of the consolidations noticeably roughened. Plague pneumonia is believed to occur with or without the coexistence of a bubo, and either early or late in the attack. Infection is thought to be by inhalation or by aspiration, but it could readily occur through the blood, as the pneumonia of measles is sometimes believed to arise, especially as there is an early, not agonal, pneumococcemia even in large bubo cases without pneumonia. Such pneumococci may or may not find favorable lodgment in the lung. The possibility of bacterial succession in this variety may be profitably considered. The pneumococcus is very constantly associated with *B. pestis* in the pulmonic consolidations, and it may be that it exerts the primary and principal bacterial action in the production of the lesion, the pest organism being a secondary and etiologically unessential invader from the blood, but symbiotically more active than the causative cocci, and therefore in course of time appearing in overshadowing numbers, both in the sputum and the pulmonary consolidations. The consecutive examinations of the sputum in this variety are somewhat suggestive, as the cocci, very noticeably predominating at first, gradually decrease in numbers as the plague bacilli steadily increase.

The Septicemic Variety.—This is supposed to be a primary bacillemia without the occurrence of a bubo, pneumonia, or other gross lesions. I am strongly inclined to believe that a painstaking search of all lymphnodal regions, especially those of the deeply seated thoracico-abdominal nodes, and the lingual and pharyngeal tonsils, will reveal the fact that plague, primarily, is a disease of the lymph nodes, and that non-bubonic cases are quite as rare as typhoid fever without primary lymphatic involvement. The undermentioned secondary changes occur in the various other tissues of the body in all clinical varieties:

1. Polylymphadenitis, characterized anatomically by moderated enlargement and cortical injection of the nodes, but without demonstrable periglandular edema. Some of these nodes may be almost the size of a pigeon's egg, and present several cortical hemorrhages, or what may be termed the first stages of metastatic or hematogenous bubo-formation. The nodes are movable and allow easy extirpation without rupture of the capsules. In color they vary from a pink to a purple-red shade, or better, bluish-purple. This condition is similar to that more or less commonly observed in other acute infections, like measles, scarlet fever, pneumonia, and it may be regarded as due principally to the circulating toxins, and perhaps to an occasional organism that may or may not find bacteriolytic conditions favorable to its further successful invasion and attack.

2. The spleen may be much enlarged, diffluent, and almost semifluid, or but moderately enlarged without bulging of the pulp upon section. Commonly there is a mild grade of acute perisplenitis, with occasional wedge-shaped infarcts. Not infrequently the organ has the distinct characteristics of acute streptococcal spleen, but at times it may appear practically normal.

3. The pancreas is negative, except when the celiac nodes are extensively involved, when the head may be hemorrhagic by contiguity.

4. The liver is somewhat swollen, and presents on the upper surface of the right lobe light yellow irregular subcapsular patches of necrosis, varying from 6 cm. to 15 cm. in diameter. Upon section these may be shown to be continuous, with more diffuse, deeply seated areas, or they may extend but a few millimeters into the parenchyma. Fatty degeneration is the rule. Commonly there are diffuse hemorrhages into the lateral and suspensory ligaments at their hepatic attachments. Acute nephritis and swollen adrenals are common lesions. The bladder is contracted and usually contains a few cubic centimeters of mucoid urine. Ureters, prostate gland, penis, and testicles present no characteristic lesions. Occasionally the epididymis is hemorrhagic. Vagina, uterus, and tubes are not affected. The ovaries are very much injected.

5. The lungs show marked edema and hypostasis, with or without pneumonia. The bronchial mucosa is very much reddened. Sometimes there is acute plastic pleurisy, and not infrequently simple hydrothorax, bilaterally.

6. The left heart is firmly contracted, the right moderately dilated. Acute and well-marked myocarditis, with scattered sub-epicardial hemorrhages, is a constant lesion. The blood-vessels, except as already noted, are unaffected. The blood is very fluid and dark.

7. Gastrointestinal tract: The tongue is swollen and covered by a dark mahogany-brown fur. Its lymphadenoid tissue is noticeably swollen and at times very markedly so. Gastric contents are frequently found in the unaffected esophagus. The stomach mucosa is reddened and usually thrown into longitudinal folds, the crests of which are hemorrhagico-necrotic, and not infrequently present long superficial ulcers that extend the length of the viscus. Such ulcerations are confined to the mucosa, and are the result of numerous small hemorrhages that coalesce to form long hemorrhagic strips which subsequently necrose and ulcerate, aided perhaps by gastric juices. In other cases the mucosa is not thrown into rugæ, but presents numerous discreet hemorrhages, most marked in the cardia. The upper duodenal mucosa is usually injected and hemorrhagic. Ordinarily, there is an acute catarrhal enteritis, with very tenacious mucous. Peyer's patches occasionally exhibit the shaven-beard appearance, but I have never noticed any inflammatory involvement of this tissue or of the usually distinct solitary follicles, or the mesenteric nodes. A golden-yellow serous edema is frequently found at the thymus gland site. The thyroid gland is somewhat swollen. The solitary glands are not involved. Cases of pest parotitis have been reported, but the deep parotid lymphnodes are sometimes consecutively involved, giving the *superficial* appearance of a "parotid bubo."

The skeletal muscles are moist and reddened. The skin, bones, periosteum and joints appear to escape noticeable lesions.

Administrative reasons prevented me from examining the cerebrospinal system, bone marrow, interior of joints, etc.

Plague in Insects, Rats, and Other Animals.—The most noticeable post-mortem appearance of the plague-rat is the engorgement of the subcutaneous blood-vessels, together with a diffuse pink color of the subcutaneous muscles, which have a peculiarly dry, waxy translucency. The spleen is soft and the lymph-system may show isolated buboes, but not bubo-chains, as in man. Nor is the extent of the periglandular edema nearly so great as that about a bubo-chain. Intestinal infection is marked by inflammatory induration of the intestinal wall. I have never recognized a case of chronic plague adenitis, but it is reported to be of vast epidemiological importance. Plague bacillemia is, as a rule, well marked. Pestlike colon-group bacilli are frequently found in dead rats, and it is wrong to make even a provisional diagnosis of plague, because a bipolar, Gram-decolorizing bacillus is present and fairly numerous. Especially is bacterial confirmation essential. Similar organisms also appear in dead cats and in the marketed lungs and other viscera of swine.

In other animals, such as calves, sheep, hens, pigs, ducks, turkeys, geese, and pigeons, the lesions are those of hemorrhagic septicemia. Infection of poultry is through the alimentary tract, and so with the animals, but they are also susceptible to infection by cutaneous inoculation. After feeding on plague tissues, from 3 to 6 weeks may elapse before such animals and poultry show visible signs of plague. And this matter is of much importance, epidemiologically.

Flies die in from 6 to 8 hours after feeding, the principal symptom being profuse diarrhea and restlessness. Cockroaches and bed-bugs have intestinal plague, but are more resistant than flies.

Diagnosis.—*Clinical.*—The facies and tongue are indicative. The facial aspect indicates that the patient is "inwardly aware" of all that is transpiring, and that he is making a determined will-power resistance to the attack. There is an element of anxiety, secondarily and incidentally about his life, but primarily about the progress of the will-power fight, and the noticeably injected conjunctivæ add materially to the peculiar, hieroglyphic countenance. The tongue, at first pearly white-coated, soon becomes covered with a thick, very moist, mahogany-brown coating most marked along the center posteriorly. The borders are pale-red and the organ is somewhat swollen. The early coexistence of such facies and tongue, especially when the severity of attack is marked, is almost pathognomonic, and particularly if there are very severe headaches and injected conjunctivæ.

Additionally, in the lymphnodal variety, the bubo, if subcutaneous, presents three important diagnostic features, to wit: (1) Sudden appearance and very rapid growth, with intense pain and tenderness. (2) A rather extensive periglandular, brawny edema, which, with the firmly embedded, immovable lymph nodes, constitute a subcutaneous exudative mass without, as a general rule, any explanatory lesion of the cutaneous lymph-shed, and, on the whole, appearing to have resulted from invasion through the blood-vessels, instead of through the lymphatic vessels. (3) In case a point of infection is present, the induration about it is limited thereto, and does not constitute a part of the brawny edema of the bubo proper, with which it may or may not be connected by demonstrable lymphangitis. The extent of the periglandular edema in the case of large cervical bubo, with mucosal infection-atria in the pharynx, is particularly well marked. In addition to that, subcutaneously, there is a serogelatinous edema of the faucial pillars, uvula, and epiglottis. And it is of diagnostic importance in such large buboes that the pharyngeal tonsils are but moderately enlarged, while the lingual tonsils are strikingly swollen, and especially so in the absence of distinctive evidence of diphtheria, scarlet fever, or acute leukemia, with virulent sore throat.

Venereal buboes, involving the perpendicular and transverse inguinal nodes, and without demonstrable portals of infection, as a deep urethritis without meatal discharge, may be quite large and attended with fever and depression, but the surrounding edema is altogether disproportionate and incomparable in extent to that which would occur in a plague bubo of equal size, age, and rapidity of growth. The venereal bubo mounts up like a peak, while the plague bubo spreads out like a gradually sloping mound. The plague bubo is a large "cakey" swelling, the venereal, a lump. But in size and shape some plague buboes very closely resemble the ordinary venereal bubo.

In the septicemic variety the coexistence of the facies, tongue, and severity of attack, especially if the onset was with diarrhea and intense frontal headache, with injected conjunctivæ, justifies the provisional diagnosis of plague. But diarrhea and vomiting are, as a rule, the initial symptoms in all varieties. The one additional sign in the pneumonic variety is the sputum, which is tenacious and shows areas of blood, and not mere streaks as in lobar pneumonia, and which contains a greater percentage of blood than the sputum of that disease does.

In the diagnosis of plague by clinical signs it is important to bear in mind (1) that while the local pain and tenderness of a bubo is at first very intense, it gradually subsides, so that there may be found a typical anatomical bubo that is not painful or tender; (2) that persons desiring to deceive may deny having had pain or tenderness at any time, and sometimes they deliberately will bear firm pressure on the bubo for the purpose of misleading the clinician: (3) that the normal tongues of Asiatics frequently have a light brown coating, not to be confused with the wet, mahogany-brown coating of plague; (4) that the mortality statistics of venereal and other coccal buboes, compared with those of plague buboes, are indicative.

Clinical Microscopy and Cultures.—It should be borne in mind that the typically plump, bipolar *B. pestis* varies in shape and size, appearing as a small diplococcoid bacillus, or a bipolar rod larger than its usual size; also as a doughnut or lanceolate-shaped body or as a straight, uniformly stained bacillus. Bruno Galli Valerio has reported many variations, especially in cultures, and I have observed the disintegrated bacilli appearing as bacterial dust, as it were. Staining with toluidin blue colors the bacterial dust purple, and I am sure that the "dust" is not precipitated stain or cellular detritus. Material for smears and cultures may be obtained from a bubo by extirpating a portion of a node, or by aspirating a node with a hypodermic or larger needle, or by knife puncture and the use of the platinum loop. The material spread on a slide and flame-fixed may be well stained with a 2 per cent. toluidin blue in 1 to 2 per cent. aqueous solution of carbolic acid, allowing the dye to act for 15 to 30 seconds, and then rinsing in cold water. Pestlike organisms and others not taking Gram's stain, so far as I have examined, appear distinctly purple, while the Gram-staining organisms appear deep blue. A field laden with purple-stained bacteria or bacterial dust is extremely suggestive, the very presence of myriads of Gram-decolorizing organisms being indicative, even though they may be coccoid, lanceolate, doughnut-shaped, or otherwise pleomorphic.

Smears from some buboes may reveal no bacteria at all, but the bacterial dust usually is demonstrable. This condition may obtain postmortem, even though the spleen smears show numerous bacilli. From such buboes it is very necessary to make at least six agar cultures, incubating them at different temperatures, not being misled if the first colonies are cocci, for even after the fourth day the plague bacilli may appear, and perhaps in only two or three of the tubes. If bubo smears show bacilli two agar cultures will suffice, but otherwise make at least six, incubating in either case some at from 22° C. to 30° C., and others at 37°C.

In examining blood allow the unsmeared drop to air-dry, and then wash out the hemoglobin with normal saline, and stain the residue with toluidin blue. By this method easy demonstration of bacillemia is easy, for four or five such blood-drops may be prepared and examined without difficulty.

Blood-smeared agar-cultures are the best, incubating at different temperatures. In examining sputum and other mucous media, thionin (Berliner Actien Gesellschaft, and not the polychromatic dye of Grübler) is perhaps a better stain than toluidin blue, using the same mordant. Both stains are valuable on account of their avidity for mucin, in which *B. pestis* appears to be rich. The smears and cultures are best made from the blood areas in the sputum. As the sputum is likely to contain cocci, it is well to work gelatin-slant cultures and low-temperature incubation with prompt subculturing. Agar, however, will answer if the cultures are incubated at low temperature—22°C. to 25° C.

Ordinarily, strepto- and pneumococci are present in sputum, and the plague bacilli at first may be few, while the cocci are numerous, and the sputum may contain bipolar Gram-decolorizing bacilli that are not pest organisms, as the pneumobacillus and others that have been found in rare hemorrhagic infections of man.

I recall the case of a farmer who, from physical signs, had lobular pneumonia, and the facies, tongue, and sputum of plague. To my surprise the sputum contained myriads of pneumococci (Gram) and only a few pest-like bacilli. Two hours later fresh sputum showed a slight increase in the percentage of bacilli. After another period of two hours I again found the bacilli increasing and the cocci apparently decreasing, though still plentiful. Four hours later, and about half an hour before death, the sputum showed a distinct predominance of pest bacilli and a striking diminution of cocci; and at necropsy, about eighteen hours after my first examination, and thirty hours after the onset, the patches of bronchopneumonia showed innumerable bacilli and but few cocci.

Symbiotically, *B. pestis* is more active than the pneumococcus, and the possibility of bacterial succession should be considered in the question both of pneumonic plague and of other rapidly fatal pneumonias. Be not misled if your first smears and cultures from sputum tend strongly to indicate a pneumo- or streptococcal infection only. And the same may again be said respecting bubo smears and cultures. Sputum should always be examined when fresh, for the *B. pestis* rapidly changes its characteristic form in that medium.

In the examination of feces, which offers a good chance for early diagnosis, and which should be made in every case, it is best to study well the Gram-stained slides, for many plump organisms which, if stained otherwise might show confusing bipolarity, discriminatingly will retain the gentian violet, while the pest bacilli will be stained well by the rosin used in the counter-staining.

The clinical microscopy of pest buboes will sometimes reveal the entire absence of bacilli, or even bacterial dust, especially in Yersin-serum-treated cases, while rarely only a few Gram-staining diplococci will be seen; yet the noticeable presence of most cells would be very suggestive. In some cases the bacilli do not appear in smears until true suppuration of the bubo ensues, while in others they will entirely disappear from slides when the purulent condition begins.

In foaming carcasses, due to the *B. aerogenes capsulatus,* and in those overrun by colon organisms, the pest bacilli are likely to be in the very insignificant minority. And such cases must be entrusted to inoculative and cultural methods.

Pathological Diagnosis.—The plague bubo presents only the attributes of an acute, rapidly developing, virulent process, noticeably and extensively involving, not only the lymph nodes, but the surrounding connective and muscular tissues as well. There is no evidence of, or tendency to chronicity, nor disposition of the process to limit itself chiefly to the lymph nodes, as is the case in coccal buboes.

Upon section plague nodes exhibit a distinct tendency toward hemorrhage, necrosis, and uniform consistency, while the surrounding tissues show a marked tendency to serohemorrhagic exudation, with but little inflammatory redness. The very succulent nodes do not tend toward true suppurative, but toward mere necrosis-liquefaction.

On section of a gono-, strepto-, staphylo-, or diplococcal bubo, the tendencies toward hemorrhage, uniform necrosis, and consistency appear wanting, while the disposition to suppurate is evident. The periglandular tissues, too, show no distinct and active tendency to exudation or hemorrhagic involvement unless associated with diphtheria, scarlet fever, or measles, when the throat and skin lesions are indicative. There is a marked inflammatory redness of the connective tissue immediately adjacent to the affected nodes, but the deeper muscular tissues are not edematous or otherwise especially involved. Plague inflammation is decidedly wet, while coccal inflammation is but moist.

In anthrax, acute glanders, and malignant edema, the lesions particularly involve the skin or mucosa and the contiguous soft parts, instead of, as in plague, exhibiting particular and essential attack of the lymph nodes and subcutaneous tissues—nor is the hemorrhagic tendency so marked as in plague.

The lymphadenitis of tuberculosis, syphilis, and leukemia does not similate plague nodes, except, perchance, the very rare and virulent acute types. In San Francisco I examined two cases of leukemia, one at the U. S. Marine Hospital, the other at St. Luke's, in which the tissues fairly suggested the possibility of plague. In the St. Luke's case there was a diffuse, moist, retroperitoneal hemorrhage about the iliac and lumbar nodes, which, in extent and location, was very comparable to the hemorrhagic periglandular edema of plague. It was, however, but moist and not wet, as in plague, nor were the psoas and iliac muscles edematous. The iliac and lumbar nodes, while hemorrhagic and much softer than the characteristic leukemic nodes elsewhere in the body, were not succulent or of a uniform consistency at all approaching that of a plague node. And further, the cellular and bacterial evidence indicated leukemia. .

In the Marine Hospital case, which was characterized clinically by acute onset with fever, gangrenous pharyngolaryngitis, large and tender cervical lymphadenitis, and hematuria, the post-mortem showed that the cervical lymph nodes, while acutely hemorrhagic, revealed their chronicity in the consistency so like that of the leukemic nodes elsewhere. And the surrounding edema, neither in extent nor kind, was similar to that which invariably would attend a plague bubo of equal age and size. The kidneys and bladder were markedly hemorrhagic, and many is particularly true in rat-examinations.

The lesions of a typical plague bubo-chain are quite as characteristic and definite of pest infection as are tubercles and cavities of phthisis, and in the great majority of cases bacteriological confirmation for diagnostic purposes is no more called for than it would be in typical tuberculosis. But in many other cases of plague the diagnosis can be made only by bacteriological methods, and the *B. pestis* cannot be recognized by mere clinical microscopy. This is particularly true in rat-examinations.

Bacteriological Diagnosis.—The most troublesome associates of *B. pestis* are the colon-group organisms. In case the primary cultures are overrun with such bacteria, attempts at plating or rapid subculturing, even at low temperatures and on special media, will prove tedious and unsatisfactory. The most serviceable method is to filter out the colon bacilli by cutaneous inoculation of a guinea-pig's shaven abdominal wall. The tissue or culture should be rubbed on an area about 2 cm. in diameter, without breaking the skin. Post-mortem cultures from this pig's spleen or heart's blood usually will be free from colon and other bacteria, such as pneumococci and streptococci, provided the animal is examined promptly. And it is well to chloroform the pig when the natural outcome appears inevitable, in order to avoid the chances of agonal invasion of undesired organisms.

But if the colon persist, as may be suggested by the bacterial morphology of the smears, a second guinea-pig should be similarly inoculated with the spleen of the first. If only cocci persist, prompt subculturing on gelatin or agar and incubating at from 22° C. to 25° C., nearly always will cause their total, or at least apparent, eradication.

In post-mortem and clinical work it is always advisable to inoculate several slant agar tubes, a guinea-pig cutaneously, and a rat subcutaneously with emulsion or bits of tissue. Sawdust, frequently kept in cages, will in time cause nephritis in rats, and such renders them unfit for use, for invariably they will die of toxemic pest. Some of the agar cultures should be incubated at from 22° C. to 25° C., and subcultures promptly made, if cocci are demonstrable by Gram's or Cladius' methods; others, at 37° C., because pest at one time may not grow promptly at a temperature below 30° C., and at another time not at a temperature above 30° C.

If the primary cultures should be overrun by colon bacteria, await the results of animal inoculations, and then obtain a new set of cultures. In recovering the bacillus from putrid tissues it is well to emulsify a bit, and give the centrifugally collected sediment two washings in bouillon, preparatory to cutaneous inoculation of the guinea-pig.

If after 48 hours' cultivation only bacilli appear that are morphologically and tinctorially pest-like, particularly if the colonies exhibit moderate viscosity, the probability is that the culture is pure. To test the purity of this culture, and at the same time to determine whether the bacillus, biochemically and culturally, is *B. pestis,* inoculate two bouillon tubes, incubating the one at from 25° C. to 30° C., to develop the rather characteristic pest growth, and the other at 37° C., to determine whether cocci are present, for sometimes they seemingly disappear from agar cultures, but show themselves when given a more favorable medium and temperature. Without waiting for this coccal test inoculate plain and litmus milk, peptone solution, and sugar media, either solid or liquid, and incubate until active bacterial growth develops. Gelatin stabs also may be made and incubated at low temperature, in order to compare the development with the pneumobacillus in gelatin stabs. *B. pestis* does not produce demonstrable change in plain milk even after two weeks' growth, while the somewhat pathogenically similar *B. pseudotuberculosis rodentium* coagulates it, as does the pneumococcus, as a rule, but not always. In litmus milk, pest causes a *very faint,* barely appreciable, acid reaction, up to the tenth or fourteenth day, and in Dunham's peptone solution it, at times, produces indol. The indol reaction is faint, but present, especially if the organism has been kept long, or rapidly subcultured on agar. It does not ferment sugars, liquefy gelatin, or require hemoglobin for its development. Its growth in bouillon is indicative, forming very characteristic stalactite growths and floating flakes made up of streptobacilli of typical pest-like morphological and staining qualities. This is best developed at about 25° C., taking due care not to slake down the hanging flakes by jarring the tube.. At 37° C. the bouillon is more apt to appear cloudy and settle more quickly to the bottom, forming a mucinoid sediment, that, by circularly shaking the tube, may be made to rise up through the bouillon in a viscid column. As far as my work has progressed in the cultivation of the *B. pestis* in antitoxic serum, I am inclined to consider of diagnostic value the resulting well-formed, compact chains composed of six or eight plump bacilli showing typical bipolarity and decolorizing by Gram's method.

If, then, this morphologically and tinctorially pest-like bacillus, taken from agar colonies of pest-like viscosity, grows in the several special media as *B. pestis* is known to do, it may be fairly regarded as culturally and biochemically *B. pestis.* Its pathogenicity, however, must be demonstrated, for culturally *B. typhosus* not only parallels it in those media and on potato, but reacts similarly to Gram's stain and at times may show polar staining, and the toxin-forming aspects of the two bacilli are similar. The bacillus of swine plague and the bacillus of chicken cholera also simulate its cultural, morphological and tinctorial features in many respects, while the *B. pseudotuberculosis rodentium,* very virulent influenza, and colon bacilli, may produce comparable lesions in animals, and possibly in man.

The inoculation then with the pure culture should be made intraperitoneally in a guinea-pig, using a few drops of a 24- to 48-hour-old bouillon culture. At the same time a rat may be subcutaneously inoculated to differentiate pathogenically *B. pseudotuberculosis rodentium,* and a pigeon subcutaneously or intramuscularly to exclude further the numerous other organisms of the hemorrhagic bacteriemias of lower animals and poultry. If the bacillus is that of bubonic plague, the necropsied guinea-pig will exhibit a copious, very ropy, grayish peritoneal exudate unmixed with blood, but extremely rich in like bacilli; also bacillemia and numerous miliary nodules in the spleen. Dermic pure-culture inoculation of a guinea-pig, will cause hemorrhagico-necrotic lymph nodes and an infection-atrium comparable to those in the primary or tissue-inoculated guinea-pig. And so with the rat and with the rabbit, should pathogenic differentiation of the pneumo-bacillus be sought. The pigeon will remain alive and well if subcutaneously or intramuscularly inoculated, but pest-infection by feeding may prove fatal.

Another test is that in pregnant animals and women the *B. pestis* does not pass through the placenta and enter the fetus, or at least it cannot be demonstrated in fetal tissues, thus differing from *B. typhosus,* the bacillus of swine plague and the bacillus of chicken cholera. Use also may be made of experimental immunization of animals to plague, followed by inoculation of the pathogenic bacillus in question. And it is likely that definite differention will soon be practicable through agglutinins, precipitins, and other derivatives of biochemical products.

In testing the pathogenicity of a pest-like bacillus, it is very important to bear in mind the fact that *B. pestis* at times becomes so attenuated that its pathogenic property is almost inappreciable. Whenever a culturally pest-like bacillus proves non-pathogenic, it should be carried through the collodion-sac or other methods calculated to increase its virulence, and then further inoculations with young cultures made, using young guinea-pigs. Widal's reaction will promptly differentiate *B. typhosus,* and within certain limits other bacilli.

Epidemiology.—*Host and Distributors of the Infection.* — A. Insects.—(1) Special-Diet or Suctorial Insects.—Mosquitos, lice, bedbugs, ticks, and fleas may obtain the contagium by sucking the blood of bacillemic persons, rats, and other animals, and their bodies also may possibly become contaminated by contact with infected material. Such insects may distribute the infection, mechanically, by their feet, and when crushed upon the skin or clothing. The well-founded conclusions of Mühling and Nuttal indicate that insects do not, by biting, inoculate bacteria, either when infected themselves or when the part to be bitten has been smeared with bacteria. Plague inoculation by flea-bites is highly improbable, and the chief danger of human and animal infection from suctorial insects is when one crushes them on the skin, or in the mouth as animals are wont to do and as some Chinese do fleas. The reason why such insects do not inoculate bacterial, as well as protozoal diseases like malaria, Texas fever, mountain or tick fever, is of course due to the fact that bacteria do not reach their injecting salivary glands. (2) Omnivorous or Scavenger Insects.—Flies, cockroaches, and ants obtain the contagium by feeding and by resting on infected material, such as foods, sick and dead persons and animals, sputum, feces, moist soil, etc. As distributors, their feet and excrement are ready agents with which they contaminate wearing apparel, bath-tubs, towels, floor-dirt, kitchen tables, eating utensils, solid and liquid foods, sweets and other eatables of street vendors, and many other things from which cutaneous and alimentary tract infection would likely result. In other words, they obtain and distribute pest contagium, as they do the organisms of cholera, enteric fever, anthrax, and ophthalmia. Ants take their infected cargo from foods and dead insects, and it is obvious how readily they could distribute it to floor-dirt, tables, etc. (3) Granary Insects.—It is possible that these may become infected from rat dejecta on grain, and that they may retain the infection in grain transported from one place to another, and of themselves be a source of infection to poultry and animals feeding on such grain.

B. Animals, Poultry, and Man.—(1) Rats contract plague (a) by eating and drinking infected foods; (b) by licking one another, as well as their own feet and bodies that have been in contact with infected material such as human sputum on sick-room floors, and human feces in sewers; (c) by biting and crushing infected fleas, and possibly by inoculation of cutaneous abrasions, but very improbably from flea-bites. (2) Other animals, like cats, dogs, swine, sheep, and cattle, as well as poultry and birds contract and distribute the disease similarly. (3) Man contracts the disease (a) by eating the insufficiently cooked flesh and viscera of infected animals and poultry; (b) by eating and drinking foods that have been infected by insects and rats, or by contact with infected hands, dishes, and tables; (c) by cutaneous inoculations—*B. pestis* may reach the skin as the pyogenic bacteria do, and, like them, be rubbed into abrasions, hair, and sebaceous follicles by the clothing; (d) by pulmonary infection from aspiration of bacilli from a primary throat lesion, and very probably by hematogenous invasion. Neisser and others duly conclude that infection by breathing dusty air is altogether unlikely. There are many facts pointing to the alimentary mucosa as the principal and original channel of infection, and I have found it well always to attach special importance to the lingual and pharyngeal tonsils and the gastroduodenal mucosa, in connection with the question of hematogenous origin of subcutaneous buboes, and invariably in the clinically "septicemic cases."

C. Fish, crabs, and oysters are apt to feed on infected foods, sewerage, and dead animals entering waters frequented by them, and when marketed, they may become a very common source of infection to raw fish-eating people, and to flies, poultry, and rats, as well as kitchen utensils, etc.

D. Experimental Viability of *B. pestis.*—Rosenau concludes: (1) *B. pestis* is not a frail organism. It resembles the hemorrhagic septicemic group or the coccobacilli as far as its viability is concerned. (2) Temperature is the most important factor in the viability of the *B. pestis.* It keeps alive in the cold, under 19° C., a very long time. It dies quickly, especially when dried, at 37° C. (3) Moisture favors the life of the bacillus. It usually dies in a few days when dry, even in the presence of albuminous matter, provided the temperature is above 30° C. It may keep alive and virulent when dry, for months, in the cold, under 19° C. (4) Sunlight kills the organism within a few hours, provided the sun shines directly upon the organism and the temperature in the sun is over 30° C. The effect of sunlight is not very penetrating. (5) The virulence of the bacillus is often lost before its vegetative powers. (6) It is unlikely that new merchandise would carry the infection. The organism usually dies in a few days on the surface of objects, such as wood, sawdust, bone, paper, etc. (7) Clothing and bedding can harbor the infection for a long time. The bacillus lives for months, when dry, in albuminous media at temperatures under 20° C. (8) The bacillus lives a long time in milk, cheese, butter, and water. It usually dies quickly on the surface of fruits and prepared foods. (9) In sterilized garden soil containing moist albuminous matter (bouillon) at 37° C., the bacillus lived 14 days, while at cooler temperatures, 17° C. to 19° C., it lived from 84 to 93 days."

It is noteworthy that suctorial insects derive most of their infection from bacillemic victims; that they do not by biting inoculate bacteria, and that rat fleas are not wont to infest man; that plague rats must therefore be dangerous chiefly by distributing their dejecta to the foods and habitations of man, animals, poultry, and insects; that scavenger insects are particularly exposed to the contagion distributed by rats, animals, fish, man, and other agents, and that they are well qualified for distributing the bacilli to human foods and habitations; that suctorial insects and rats of all ages and susceptibilities unrestrictedly continue active throughout the year, while scavenger insects are particularly active during the seasonal prevalence of plague, and likewise inactive during the seasonal lull; that the foods, environments, and habits of suctorial insects and rats are not essentially altered during the year, and that at all times they have the same capabilities of conveying bacteria to one another and to man.

Experimentally, the *B. pestis* may become attenuated by successive passage through rats, and this fact has been offered in explanation of chronic rat plague, which is characterized by cervical lymphadenitis without bacillemia, and which, it is said, supersedes the acute or bacillemic type periodically, and especially prevails during the seasonal lull in the rat and human plague *deaths;* and further that the seasonal abatements of the epidemics occur, because these chronic or non-bacillemic rats are incapable of infecting one another and man, either through the agencies of their fleas or their dejecta, but that the new generations of rats, being young and therefore very susceptible, develop the bacillemic type, and so opportunely distribute the bacilli that the seasonal recrudescence of human and acute rat plague takes place. In this connection, however, it is to be noted (1) that rats breed 4 or 5 times annually, and that the young rats at the age of about 6 months begin to breed, so that there is throughout the year an ample supply of rats of all ages and susceptibilities; (2) that the coming of the new generations of rats is not an annual event, as is the rise in the epidemic curve; (3) that the temperature and humidity preceding and during the lull are not such as would, of themselves, diminish the virulence or viability of the bacillus. It appears to me that there is an ample supply of susceptible persons, rats, and fleas, throughout the year; that if the bacilli were obtainable, the human and rat epidemics would keep up; that the rise and fall in the human epidemic is not dependent on the rise and fall of the rat epidemic, but that a seasonal variation in the distribution of the bacillus is the common cause of the fluctuations in both epidemics, and that the omnivorous insects, particularly flies, cockroaches, and ants, are largely responsible for such seasonal variation.

Rat plague abates (1) because the scavenger insects become inactive with the natural close of their season, or from their diminution by heavy winds and rains, which also remove many of their breeding places and infection sources on the ground surface and in sewers; (2) because rats migrate and shun suspicious food, whenever there occurs among them an epidemic sickness caused either by chemical poisons or by bacteria, and so the total number likely to be exposed to infected sources is reduced.

Human plague abates, not as a result of the rat plague abatement, but because the scavenger insects less extensively infest and contaminate wearing apparel, human foods, and habitations.

Herein, I think, lies the principal factor in the rise and fall of the human and rat epidemics, and the essential indication for the eradication of the disease.

In the eradication of plague, the "usual measures" have not been entirely satisfactory, and I believe that it is necessary to kill scavenger insects as well as rats, and the latter not by the remarkably limited means of poisons and traps. They should be shut off from human habitations and from their other food-sources, breeding-places, and haunts by screening doors and windows, and closing the cracks and holes in food markets, houses, stables, abattoirs, etc. Further measures of prevention consist in prompt and thorough removal of street droppings, garbage, sewerage, patches of moist albumin-containing soil, back-alley and vacant lot feces, and other accumulations, and in paying due attention to the industry of marketing fish and crabs from waters likely to be contaminated by infected sewerage, dead rats, etc., and also to the marketing of animals and poultry likely to suffer with subacute and chronic plague.

Transmission of the Infection from One Place to Another.—In this connection the epidemics of Hawaii and of California are especially indicative. The original focus of infection in Hawaii was Chinatown, Honolulu, which is quite removed from the docks. In California, the original focus was Chinatown, San Francisco, which likewise is well removed from the docks. In both instances, the disease began in the Chinese quarters and spread thence to other sections of the cities, and in Hawaii from the Island of Oahu to other Islands of the group, and in California from San Francisco to Oakland, Pacheco, Concord, and other interior places. In neither case does it appear at all probable that infected ship rats were carted into those districts along with cargo. And even though alien plague rats should effect a landing, and an epidemic among the wharf rats and laborers ensue, it must be borne in mind that infected foods, cockroaches, and articles landed from the ships, would also infect the wharf rats, insects, and laborers, and the fish and crab thereabout. Plague-infected cockroaches and granary insects are more likely to be imported in cargo and baggage, and to be carted away to distant parts of a city, than are plague-infected rats. And the rôle of infected persons is obvious, for their dejecta and sputum are dangerous to scavenger insects and to rats infesting sewers.

The principal transmitters of infection from port to port are (1) imports likely to be eaten or infested by insects and rats; (2) persons, wearing apparel, and bedding; (3) scavenger, and possibly, granary insects; (4) rats and other animals.

Hong Kong.

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THE LIMITATIONS OF THE OFFICE TREATMENT OF RECTAL DISEASES.*

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Some eight years ago the writer published a small book on "The Office Treatment of Hemorrhoids, Fistula, etc., without Operation," which some of my fellow members of this society may have seen. It was stated in it that "a very large proportion of all cases of piles, fissures, superficial ulcers, and pruritus, and a certain proportion of abscesses and fistulæ may be radically cured in one's office without resorting to ether or confinement to bed." Also it was stated that "the methods by which these results may be accomplished do not include any new surgical principle, but simply the application of modern methods more effectively and perhaps with greater ingenuity. These methods have, it may be said, been floating through surgical literature for years, but have received only temporary and casual attention. No man seems to have deliberately tried them to their full efficiency as a rule of practice, before resorting to the better known and generally accepted operations under anesthesia."

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My reason for including piles in this category was that at that time I was having considerable success with experiments in the old French treatment by punctate cauterization modified by the use of cocaine instead of general anesthesia—a treatment thoroughly aseptic in itself, attended by no hemorrhage at the time or after, and seldom causing sufficient after-pain to confine a patient to the house. These experiments have never been published because after years of trial the method does not appeal to me as a safe one for recommendation to the general practitioner, however well it may work in selected cases in the hands of one with sufficient experience to know when and how to employ it. The little book was therefore after two or three editions allowed to drop out of print, and I only refer to it now to explain that in saying the majority of cases of piles could be cured in one's office without general anesthesia or confinement to the house, I did not refer to a cure by either the ligature or clamp operations.

It thus happens that after eight years of constant use in my office of local instead of general anesthesia in selected cases, when we come to discuss the limitations and applicability of these methods, I cannot do better than repeat what I then said with the addition of this explanation, viz., that "a very large proportion of all cases of piles, fissures, superficial ulcers, and pruritus, and a certain proportion of abscesses and fistulæ, *may be* radically cured in one's office without resorting to ether or confinement to bed."

Experience has not led me to increase this list of diseases, and we may to-night analyze even these very closely in our discussion of the limitations of office treatment.

Take in the first place hemorrhoids. The worse the case the better is it adapted for the easy application of local anesthesia. Nothing is simpler than to inject a large prolapsing internal hemorrhoid with cocaine, eucaine, or water (I prefer eucaine), throw a ligature around it and cut it off. Much simpler is this than to get above the sphincter and operate through a speculum upon piles which though requiring operation never prolapse, though they may cause every other symptom except prolapse. For our purpose now all hemorrhoids may be grouped under three general clinical forms—the thrombolic, the distinctly prolapsing, which can be caught and treated when prolapsed, and the equally severe cases which, though causing tumefaction of the anus in straining, and requiring for their cure an incision at the mucocutaneous junction, still never prolapse.

My own experience with local anesthesia has convinced me: (1) That to place an hypodermic injection into a thrombolic pile before turning out the clot is not as painful as turning out the clot without the anesthetic, and is therefore a distinct gain.

(2) That prolapsing hemorrhoids may be satisfactorily operated upon by several methods, the best of which for general use is the ligature. The ligature is much better adapted for local anesthesia than the clamp for the reason that the pile itself is easily rendered painless; but the suffering caused by a powerful clamp in a strong right hand, even when applied to a pile itself dead to pain, may be unendurable. I have known a man suffer agony from the clamp who did not even feel the cautery, because the effect of the latter was confined to the anesthetized spot, while the former causes a squeezing, dragging pain on all the surrounding tissues in no wise lessened by the cocaine in the pile itself.

(3) That to attempt to dilate the sphincter, use a speculum, go up into the rectum proper and operate upon three or four piles which do not prolapse, as such cases should be operated upon, first by thorough dilatation of the sphincter, then by an incision at the mucocutaneous junction, followed by the clamp or ligature requires such a quantity of the local anesthetic introduced at so many different points of the most sensitive parts of the body as renders the method exceedingly unsatisfactory and general anesthesia far preferable.

(4) In the treatment of fissures by stretching, local hypodermic anesthesia is not applicable, although most satisfactory in the treatment by incision.

(5) In superficial ulcers, cocaine or eucaine applied on cotton works as well as in the nose and throat.

(6) In pruritus, where the use of the cautery is indicated, hypodermic anesthesia is very satisfactory; and small abscesses and fistulæ may also be operated upon in this way in the office. As for attempting to operate upon large abcesses or anything but the shortest and straightest fistulous tract with local anesthesia in my office, it would never occur to me, for the simple reason that in severe cases one never knows how much cutting will be necessary, and a half hour's quiet dissection is by no means unusual in my own practice. For this kind of work local anesthesia would not seem well adapted.

It will be noticed that in thus briefly enumerating the class of cases in which hypodermic anesthesia is best adapted we are keeping very closely to those in which the agent used can be placed in a circumscribed area and exactly where it is wanted. To attempt to anesthetize the whole anal and lower rectal region by hypodermics of cocaine or eucaine is dangerous from the constitutional effects of the drug; and with water it is either ineffectual or causes great pain and tumefaction. The nerve-supply which must be affected is very generous and comes from several branches on each side, all of which must be reached. This method is therefore inapplicable to extensive disease.

Again, the giving of ten or twenty hypodermics in this region is much more unpleasant than general anesthesia.

Having thus briefly enumerated the class of cases to which local anesthesia is best adapted, we may consider as briefly the limits to which office operating should be carried.

Because an operation may be done painlessly, it does not follow there will be no subsequent shock or suffering. A man may nerve himself to undergo an operation for piles with local anesthesia in the office, and at the time suffer little. Still there is generally some nervous shock, often a good deal, and after a few minutes the pain will begin and he may be very glad to get home and abed and stay there several days. I have found no advantages in operating by the ligature in my office, putting the patient in a cab and sending him home, going there after him in an hour to give him morphine, and tending him for a week, over the more usual custom of going to his home to operate in the first place. In fact, there are many disadvantages, and the question of asepsis comes in very prominently, for a doctor's working office and examining table are never aseptic and cannot be; and the injection of a sterile solution into the substance of a pile by no means constitutes asepsis in the subsequent cutting operation for the removal of that pile. It is hard to find any procedure less aseptic than the puncture of the gut with a hypodermic needle from within the caliber outward—a procedure which has itself been fatal from general septic poisoning, as notably in the recent case seen by me and others in consultation. The technique is essentially the same as sewing the opened gut to the abdominal wall, by passing the sutures from the caliber outwards, which is known to be extremely dangerous, no matter how sterile the needle and suture may be. It may be, as I believe, that the mucous membrane of the gut is never absolutely sterile and cannot be made so by any practical means, but this is no excuse for neglecting any precaution to make our operations as aseptic as possible; it is, in fact, an excellent reason for doubling the precaution.

In a general way I think it may be stated that any cutting operation for hemorrhoids is a matter of some seriousness; that it is often attended by considerable shock; that it is apt to be bloody and should be done with as perfect asepsis as possible; and that whether done by local or general anesthesia, at the office, home or hospital, the patient is better off resting quietly in the house for a few days after. I am aware that some men will undergo this operation and get up and go about their usual business. They are not the majority, and it does not prove good surgery that even a few may be able to do it. To me this is a question not of personal preference on the part of the surgeon as to where he shall operate, but of safe and cautious surgical practice by which the patient is subjected to no unnecessary risks and is made as comfortable as possible.

For these reasons, when I operate upon suitable cases of piles with local anesthesia, I much prefer to operate at the patient's home or hospital rather than in my office on my examining table, and to use the same precautions and give the same subsequent care he would have were the anesthesia general instead of local. The amount of this care will depend upon the disease and the individual, but is usually more than is compatible with free exercise and attention to business, though it may not be necessary to stay in bed and have a trained nurse. If the patient is led to suppose he will have no suffering and need only report in a week, there is apt to be bitter disappointment.

In short, neither the surgery of the rectum or the after effects of such surgery are in any way greatly changed by the substitution of local for general anesthesia, unless the attempt to obtain local anesthesia be carried to extremes, and additional suffering and other complications are thus produced, as sometimes may happen. For the mere production of local anesthesia by hypodermic injections into this part is very painful, and when the injections are numerous and the amount of fluid large the local edema and swelling must be counted on, often as a very troublesome complication.

There is one other question which I would put, merely in the form of a suggestion.

Is it best for the patients that general practitioners all over the country should be taught that aseptic precautions at the time and rest at least at home for a few days after operations of this kind is an exploded antiquated notion? That all that is necessary is to inject some sort of sterile anesthetic into the piles or fistula, operate, and tell the patient to go on about his business regardless of the risks of pain, hemorrhage, retention of urine, and all the other possibilities attendant upon these operations? Is not a method which is applicable to a few of the simpler forms of disease being unduly magnified, and will not accidents surely follow? Do we not thus belittle the importance of a class of operations in themselves neither little, unimportant, or free from danger?

There is no doubt that many patients are now, as in the past, subjected to the trouble, expense, and confinement attendant upon general anesthesia for very trivial affections which could easily be operated upon with a few drops of cocaine in the office. Also, there is no doubt in my own mind that to attempt to reduce the majority of the surgery of the rectum to these simple proportions will result disastrously.

18 East Twenty-Ninth Street.

THE USE AND ABUSE OF CURETTAGE OF THE UTERUS.*

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Curettage of the uterus is the simplest of all gynecological operations. It is used, according to Howard Kelly, to remove the superficial portions of the uterine mucosa in endometritis, to secure bits of tissue for diagnostic purposes, in suspected cancer of the body, and to remove portions of the incompletely cast-off ovum. In private every-day practice, curettage has occupied a still larger field, and has been used rather extensively whenever a mere suspicion of an existing uterine lesion was present.

Curettage is largely known among the lay community as "the cleaning of the womb," and is believed by them to be a panacea for all sorts of menorrhagias, metrorrhagias, and leucorrhœas. The uterus, as a rule, is regarded to be the offending organ. A little closer study into the pathology of the generative organs brings forth the conclusion that there may exist similar morbid manifestations springing from two entirely different sources. Thus a hidden tubal pregnancy may produce intrauterine oozing which cannot be removed by curettage; a case of long-standing sterility, with diseased adnexa as a cause, may resist the most ardent attempts at divulsion and scraping of the uterus. The uterine appendages, which play such an important functional rôle, have been frequently lost sight of, and a close microscopical examination of the endometrium is often overlooked. Whenever there has been observed a sanguineous, semisanguineous, or leucorrhœal discharge from the os—there has been a great tendency to enter the first door to the disease, the endometrium—the scraping has been performed on general principles, and its use, therefore, frequently proved to be symptomatic. Again, "on general principles," cases of puerperal sepsis of different sorts and forms, puerperal endometritis, endometritis with existing pyosalpinx, be it acute or chronic, have been boldly attacked. The ease of technique of curettage, and the seeming absence of risk involved, may probably account for its indiscriminate and frequent use. It is the purpose of this paper to plead for a more reserved and cautious use of it, as my observation leads me to believe that this "home" operation has very often brought about great fatalities, which were the result, not so much of the faulty technique of the operator, as of the preexisting pathological lesions of the uterus or adnexa, which did not sanction the use of curettage.

Curetting is a most useful resource in cases of endometritis, not associated with pelvic inflammations or exudates or diseased adnexa; in cases of subinvolution of the uterus or retained secundines, post partum or post abortionem; endocervicitis as preventative against carcinoma, in mole pregnancies and in all cases of endometritis of so-called "hyperplastic" nature. Here curettage is useful, and many practitioners can cite cases of absolute cure. On the other hand, whenever with the above-mentioned conditions, the adnexa or pelvic cellular tissue are involved, its use becomes doubtful. One text-book, however (American Text-book of Gynecology), strongly and absolutely advises the use of a sharp curette in all cases of acute septic gonorrhœal endometritis, even in the case of acute tubal and peritoneal inflammations of uterine origin, in order to check the supply of septic material from the endometrium, and thus prevent an extensive infection of the tube and peritoneum.

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* Read at the meeting of the Eastern Medical Society.

Some gynecologists claim good results of curettage in cases of acute purulent salpingitis and peritonitis, even in cases of old endometritis with pyosalpinx, with expectation that osmosis through the uterus may deplete the infected Fallopian tube (Polk). Berlin of Nice curettes the uterus even when the adnexa are painful.

Some use the curette only in cases of endometritis, with catarrhal or interstitial salpingitis (Coe, Boldt), and warn us against it in both acute and chronic cases, on account of danger of reproducing an acute attack of tubal trouble, or causing an intraperitoneal rupture of the dormant pus tube. Others, again, treat all cases of septic or specific endometritis by curettage (Dudley, Krug).

It is quite a natural desire for a young practitioner to curette the uterus in a post-partum case, with a temperature of 102° to 103°, associated with chills, in order to remove the suspected focus of infection. While curettage is of greatest benefit in cases of putrid saprophytic infection, or sapremia due to retained secundines, it is proved to be harmful in cases of septicæmia due to pyogenic streptococcus infection. In the first case, the curette removes placental débris, and with it the saprophytes which thrive only on dead tissue; in the second case, curettage removes the infected ulcerated endometrium, and produces a new traumatism, opening the lymphatics for a new infection of the microorgainsms.

Kroenig (cited by Edgar) obtained by expectant and supporting measures without curettage, a mortality of only 4 per cent. in cases of streptococcus infection; 80 per cent. of patients with streptococcus infection recover spontaneously from the formation of a protected layer of leucocytes in the decidual lining of the uterus.

Whitridge Williams and Kroenig, appointed by the Commission of the American Gynecological Society, made an analysis of every case of puerperal fever reported in the literature of the world for five years. They found that curettage of the uterus, when bacteriological examinations have been made and streptococcus found, gave the frightful mortality of 22 per cent. They themselves applied no local treatment to the uterus whatsoever, and had a mortality of 5 per cent.

Pryor adopted the method of posterior cul de sac incision and packing with iodoform gauze in cases of streptococcus infection. He claims to have had no deaths except when he operated upon cases which were curetted before coming into his hands; out of ten such curetted patients he had a mortality of 33 1-3 per cent.

Reports of Bumm (Basler Frauenklinik) present the following: He had, post-partum, thirty-eight cases, out of which 20 cases ill-smelling, 18 cases bleeding. He used no curettage, and all his patients recovered. But of 13 cases curetted post-partum, 3 developed thrombotic phlebitis, 1 endocarditis, 1 parametritis, 1 perimetritis, and 1 died.

Dr. Riou (Jahresbericht Geburt. u. Gynäkologie) states that in the year 1901, in the clinic of Tarnier, with treatment by intrauterine irrigations or digital detachment of débris in puerperal fevers, post-abortionem or post-partum, he had a mortality of 0.057 per cent. It is, therefore, of vital interest to ascertain whether we are dealing with a case of sapræmia or streptococcus infection.

Our attention, then, is directed to a bacteriological examination of the uterine discharges, the result of which is to govern our treatment of the lying-in woman. However, according to Fehling (cited by Vineberg), a microscopical examination of uterine discharges cannot always be relied upon, as streptococci or staphylococci have been found in the discharges of normal uteri; and, on the other hand, in severe forms of puerperal infection, only occasionally streptococci, sometimes staphylococci or bacilli coli communis, or mixture of these, have been found. Neither could a bacteriological blood examination reveal the presence of pathogenic germs in the puerperal septic woman (Vineberg).

The treatment, therefore, is not always easy to determine, and must be based chiefly upon the clinical history; upon characteristics of pulse, temperature, and upon personal observation and experience.

According to the researches of Fritsch, in most cases of puerperal sepsis the endometrium is only secondarily affected; the infection generally proceeding from the cervix and its deep laceration into the parametrium, and he is therefore hostile to the intervention of the curette. In the same manner infection may travel up into the genital tract from a lacerated perineum or from injuries to the vagina or vestibule, caused by instruments, and produce elevation of temperature or pulse in the treatment of which curettage is contraindicated.

Curettage and divulsion constitute the routine treatment for sterility in a nulliparous woman; the condition of the ovaries and tubes and their importance in fecundation are not always considered. To emphasize the danger of invading the healthy endometrium by curettage, Dr. J. B. Cooke (*American Journal of Obstetrics*, 1904), mentions three cases in which ectopic gestation followed operations of curettage. Plastic operations upon the ovaries and tubes, excision of diseased parts thereof, and most remarkable ovarian graftings, have been successfully performed of late. The conservative surgeon finds favorable response in his most noble attempt to combat this woe of womanhood—sterility. Men like Polk, Ill of Baltimore, H. Kelly, Dudley, and others, are responsible for this good work. Exploratory laparotomy involves but little danger, while unnecessary curettage may aggravate pathological conditions.

Curettage has been frequently attempted in cases of old endometritis, with or without existing sterility, upon a retrodisplaced uterus, bound down by old adhesions, or in the presence of pelvic exudates. Here, the very traction of volsellum forceps, may injure old adhesions probably bound to the intestines and cause a fresh pelvic inflammation or pelviperitonitis.

Cases of syphilitic, tuberculous, sarcomatous, or cancerous degeneration of the endometrium, manifesting local symptoms of leucorrhœal or sanguineous discharges, have been also frequently doomed by curettage. It is in these cases that perforation of the brittle diseased endometrium is liable to take place.

Should microscopical examination of the endometrium reveal the presence of malignancy, a more radical treatment, say hysterectomy, should be instituted. Quite often a sanguineous discharge may mask and harbor an incipient cancer of the uterus, and the family physician cannot be too optimistic as to the results of curettage. Here the life of the patient is in his hands; conservative curettage may delay a timely hysterectomy, which could save the patient from slow death.

This simple operation of curettage, which, according to the late Dr. Mundé, in his Manual on Minor Gynecology, could be easily performed in the physician's office, is quite frequently executed in the patient's bed, on an improvised Kelly's pad, without assistant or anæsthetic, as a satisfaction to the request of the nervous woman. Such procedures are associated with danger of perforation and, curettage should be done only when the parts are well exposed and non-resisting.

Case I.—Mrs. S., 26 years old, menstruation regular. No previous ailment; married three years; no children, no miscarriages. Applied for treatment of sterility. Divulsion and curettage advised by family physician. No anæsthetic given. When being curetted the woman gave a sudden jerk upward, coming down suddenly with her body, causing the curette to plunge into the uterus. No perforation was noticed the same day. Next day, while the gauze was being removed, a shiny mass of membrane was pulled down by the dressing forceps, and this turned out to be a part of the omentum and intestines. Packing of the uterus followed with transfer of the patient to the hospital. An anæsthetic given and laparotomy was performed; five inches of black congested gut were resected and Murphy's button was introduced. Lambert's sutures were applied and the uterine rent was closed. The woman did well for one week, then succumbed to septic peritonitis. This case shows plainly the danger of curettage without an anæsthetic.

Curettage presents danger and aggravates the already existing lesions, when performed in the midst of the septic surroundings of the tenement house, where the body, bed, or genitals cannot be rendered perfectly aseptic. I have seen pelvic abscesses following curettage, after a fresh non-septic case of abortion.

Case II.—Mrs. W., 24 years old. Had two children, no abortions. Regular menstruation. Always been well before. She suffered from retained menses for two weeks, then from bleeding. Temperature normal; pulse 78. The only existing symptom is bleeding, no pain. Curettage was performed at her home; two days after she had chills, fever, a temperature of 103°, and intense pain in the right inguinal region. Examination revealed a mass the size of a walnut in the right posterior cul de sac. Pain and fever continued for one week more, the tumor getting larger. An incision in the posterior cul de sac gave exit to bad-smelling pus. Drainage was instituted and recovery followed after a stay of six weeks in bed. The adnexa on the right side are still swollen; the uterus is non-movable. This is a case in which the infection traveled from the outside.

While curettage is indicated in cases of retained secundines post-abortionem, it is doing more harm than good when performed too late, say in a week or so, when the local infection has been already permitted to travel through the lymphatics and produce a general systemic infection. Curettage in such a late case may be instrumental in developing a pelvic cellulitis or pelvic abscess, or cause a septic peritonitis. At this late stage intrauterine douches combined with tonics are indicated.

Case III.—Mrs. R., 29 years old, married four years. Menstruation regular every four weeks for five or six days. No children, has had four miscarriages. No gonorrhœal history. Temperature and pulse normal. Examination presents normal-sized uterus, movable. Slight oöphoritis on both sides. As she applied for the relief of sterility, curettage had been advised and performed under strict aseptic precautions. For one week the temperature ranged between 98° and 99°, and the pulse was 90° when, on the eighth day while sitting in bed and lifting a child, she felt a sudden pain in the abdomen, associated with chills and fever, just as though something had burst. The temperature was now 102° to 103°. The chills continued, the abdomen was distended, and tympanitic and peritonitis set in. An examination showed a large mass in the posterior cul de sac, spreading into the two fornices. Incision gave exit to a large amount of ill-smelling pus. The patient succumbed to septic peritonitis two weeks after the curettage. The husband later admitted having had gonorrhœa before marriage. This was probably a case of dormant pyosalpinx aggravated by curettage, and ruptured later on into the abdominal cavity.

Case IV.*—Mrs. A. F., 21 years old; first menstruation occurred when she was thirteen years old, and was regular every four weeks, lasting four days. Has been married two and a half years. Had a gonorrhœa and gonorrhœal endometritis two years ago. About a year and a half ago she presented herself to her physician with a Hunterian chancre, followed later on by a macular eruption, for which she has been treated accordingly. Nine months later the physician was again called to attend her for abortion of a macerated six-months fœtus; the placenta was also degenerated and much adherent. Digital detachment was practised, followed by curettage. The patient was soon able to leave the bed, but two weeks later she had pain in the abdomen, uterine bleeding, temperature 101°, pulse 120. Examination revealed the presence of stringy bands of placental tissue in the uterus. A secondary curettage was ordered. While curetting the physician found the curette slipping behind the uterus, and partial collapse of patient indicated perforation. Laparotomy was performed and the uterine rent was closed. The right ovary and tube being degenerated, were removed. The patient made an uneventful recovery. Microscopic examination of the placenta showed an increased number of villi and a considerable proliferation of cells in the stroma about the vessels of the villi, almost entirely obliterating the lumen of these vessels.

This case clearly indicates the importance of clinical and microscopical observations in a given case prior to curettage, and also the ease and danger of perforation of a preexisting degenerated uterus.

A few remarks about the technique of curettage. The uterine sound should always be used to ascertain the direction of the uterine canal. Many a sharp retroflexed or anteflexed uterus has been perforated by the curette. One should avoid making too much traction upon the uterus with volsellum forceps; it may produce new traumatism in addition to the preexisting adnexal inflammations. Too forcible curettage may cause atresia of the uterine canal; packing of the uterus favors obstruction to free drainage, and is, therefore, abandoned by many gynecologists.

Intrauterine irrigations are not absolutely necessary. Swabbing of the canal with gauze removes the débris. Curettage and divulsion are unnecessary in cases of sterile women suffering from dysmenorrhœa due to anteflexion of the uterus. Dudley's operation for anteflexion gives better results as regards both dysmenorrhœa and sterility.

The uterus should be dilated to the full extent (according to Polk a half-hour should be consumed in this dilatation), and the finger introduced into the uterus, in case of retained secundines, in order to feel what we are doing.

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*The history of this case has been kindly related to me by Dr. S. Rottenberg.

A case has been reported to me, not as an anecdote, in which the whole placenta was expelled two days after a thorough curettage; a predigital examination would have prevented such a mishap. One should never curette the placental site even in cases of sapræmia.

From the facts above stated we see that it behooves us to look upon the traditional "womb cleaning" as a capital operation, and always to remember the saying, "*Multum ex parvo.*" It behooves us, as caretakers of the public health, to be more painstaking, more investigating in cases of uterine symptoms, which are frequently only manifestations of obscure pathological lesions, every case being a law unto itself.

It is a dreadful experience for a young, ambitious practitioner to encounter a case of unsuspected, degenerated, malignant uterus and perforate the same, in the midst of tenement house surroundings. Hemorrhage is sudden and removal of patient to the hospital is not always possible. It is too late then to reproach the physician, who, in his sincere desire to help the suffering woman, was prepared only for a "cleaning of the womb," and found himself at bay, having no resources or knowledge of how to open the abdomen, ligate the rent, and save the woman's life. Such perforation of the uterus in a well-equipped hospital is easily overcome; such grave occurrence in a tenement house means danger to life.

I agree perfectly with a noted obstetrician, who said that the teachings of our colleges to regard minor operations as minor procedures are dangerous for the recent graduate. I plead for a more careful, discreet, and scientific application of curettage. If I have succeeded to-night in deterring some medical friend from the wholesale use of this simple but often dangerous operation, and if by so doing I have expressed the opinion of the more careful and conservative older practitioner, I shall be well repaid for having presented before you this paper, on a subject so simple as uterine curettage.

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Copper in Canned Foods.—A wholesale grocer recently convicted in the Bow Street Police Court, London, of selling canned peas and beans containing four grains of copper sulphate to the pound was fined only £3 and costs, although he admitted that he had known of the presence of the adulterant.

Railway Travel in Germany.—Recent investigations by German health officers have shown that one runs more risk in traveling second-class on the railways of the Empire than in the third-class, because the wooden benches are not so likely to harbor bacteria as the cushions of the second.

GLUTTONY OR "FOOD POISONING" AS A CAUSE OF SYMPTOMATIC EPILEPTIC CONVULSIONS.

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The first few cases of symptomatic epileptic convulsions that I saw in middle aged men in which convulsive attacks invariably followed gross over-indulgence in eating and in drinking, did not impress me as constituting a class of sufficient importance to warrant their being placed in a group alone. But having seen 18 or 20 such cases during the past two years, I have come to believe that they represent a distinct phase of the subject that it is well worth calling especial attention to, particularly since they are usually so amenable to treatment; substantially all of them making satisfactory recoveries when treatment is promptly instituted and observed as long as the nature of the case requires.

The cases of this kind that do not turn out well under treatment are those in which the patient is unwilling to deny himself the pleasures of the palate, except spasmodically and immediately after he has had a convulsion. But unfortunately the lesson learned at such times is soon forgotten, and all such individuals stand in danger of ultimately becoming confirmed epileptics of the so-called "habit" type, and to suffer all the mental and physical accompaniments of that affliction.

Usually those who suffer in the way I am about to describe are between 35 and 45 years of age. Most of them are men of robust, frequently plethoric physique; all are hearty eaters; all lead more or less inactive, indoor lives, and some are heavy drinkers. When the latter factor complicates the case, the prognosis is less hopeful than when there is excessive food consumption only; not because the type of convulsions induced by alcoholic indulgence yields less easily to treatment, but because the drink habit is not so readily broken.

While it is true as a general rule that heredity plays but little part in the causation of epilepsy, when it originates anew after the twentieth year, I have found that it is quite frequently a factor of some degree in the cases in question. It seems that there need not be insanity, or alcoholism, or epilepsy, or some other nervous affection in the ancestors in such cases as these, but a stomach disorder of pronounced type, like an aggravated dyspepsia, may make its influence felt in some obscure way in the offspring.

A very intelligent professional man, 40 years of age, came under my care eight years ago. He was subject to symptomatic *grand mal* attacks that invariably appeared the day following gross dietetic indiscretions, such indiscretions usually occurring between midnight and 2 A. M. He had a weak stomach and could digest certain foods only. On investigation I found that his father suffered the better part of life in the same way. The father respected his nutritional peculiarity, but the son did not; so the father escaped anything more serious than a severe, periodic dyspepsia; while the son was threatened with becoming a confirmed epileptic. After having an attack while speaking in a public hall once, he realized his danger, changed his manner of living, and had been free from attacks for five years when I saw him last on November 24, 1904.

The primary cause of convulsive attacks in cases of over-eating and over-drinking in certain individuals seems to lie, first, in a weak stomach, and, second, in some obscure disorder of metabolism. Not only is the amount of food habitually taken by such persons beyond all reasonable requirements, but it is usually of an improper kind, and is taken to gratify what seems to be an abnormal appetite.

The type of convulsion usually induced is of the *grand mal* variety, though it is not definitely fixed. So long as the attacks remain *grand mal* only, the case is less likely to pass into "habit" epilepsy than when the type changes. The last case of the kind I saw was that of a newspaper man, 38 years of age, who suffered grand mal attacks for some years, but whose dietetic habits were so atrocious that the seizures at the end of that time changed to infrequent *grand* and very frequent *petit mal*, with the result that some mental enfeeblement is becoming apparent, his memory in particular failing. This annoys him painfully, for in his work a good memory is a necessity. Along with the change in the type of his convulsions have come periods of marked automatism.

The day before I saw him he had a breakfast of cereals, eggs, fried potatoes, pancakes, and coffee; a hearty dinner at noon of a rich soup, chicken pie, several vegetables and pudding, with wine sauce for dessert; for supper he had a heavy meat pie, of which he ate heartily, three large baked potatoes, three pieces of apple pie, and three cups of tea; and yet he wondered why he suffered so much from headaches, from his stomach, from eructations of gas and flatulence, and attacks of momentary unconsciousness that were increasing in frequency, and that, worst of all, were fast undermining his mental faculties. He had written me two letters within a week, one on the day before I saw him, and yet he could not recall my name when I met him.

While the indications for treatment in such cases are plain enough, they are not so easily carried out. The cause of the convulsions must be sought in toxic states due to faulty metabolism. We must first eliminate waste and toxic products, and then plan a course of treatment which will prevent a recurrence of such products.

The first thing is to put the patient upon a low diet, and be sure to make it low enough. There are plenty of food stuffs that are light, nutritious, and easily digested that can be substituted for the grosser food stuffs such persons are accustomed to consume in large quantities. Then insist upon absolute regularity in taking food, and forbid its consumption under any condition after the early hours of the evening. Let the patient go to bed on an empty stomach. Cut off all meat for supper and breakfast, and teach the patient to have a wholesome respect for cooked fruits, bread and butter, toast, milk, chocolate and cocoa, eggs, and other such things for supper. If there is a tendency to constipation, correct it by daily doses of the fluid extract of cascara sagrada, given some time before breakfast. Stop all use of alcohol, and if the patient is irritable, nervous, and his attacks show a tendency to recur under the low dietetic regime, put him on a nerve sedative made up so that each dose represents 10 to 15 grains of an equivalent of bromide of potassium. This drug will not cure the trouble, but it will be useful in allaying cortical irritability while reconstructive and eliminative therapeutic measures are being applied.

Let the patient take as much outdoor life as possible, the more the better. Hydrotherapy is of great value.

Under this simple regimen and course of treatment the majority of such cases soon experience great relief and eventually complete cure. But let such patients understand that they can keep well only by right living.

MARKED MENTAL IMPROVEMENT FOLLOWING OPERATION FOR DEPRESSED FRACTURE OF SKULL.*

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MARKED mental and moral improvement in a lad of eight years, following operation for depressed fracture of the skull, is the history in brief of the patient I have the privilege of presenting before the Section this evening.

I first saw the boy in October, 1903. He was brought to the Clinic of Muhlenberg Hospital in Plainfield, by his mother, who was anxious to know if his condition could be relieved by any operative interference. He was the youngest of seven children, the others all living and of sound mind and body. No specific, tuberculous, rheumatic, or neurotic family history. Until the age of four, his development in every way seemed perfectly normal. He was then accidentally hit on the head by a brick, and as a result was confined to the house for some weeks. When he recovered his mother noticed a marked depression in the bone at the seat of the injury. From this time on, that is, for the next four years, there was evidence of a decided change in his mental and moral make-up. Intellectually he seemed to reach a standstill. His mind appeared incapable of grasping even the simplest rudiments of instruction, and if an impression was made at any time he seemed to forget it all the next day. It was with difficulty, also, that he could give expression to his wants; such simple words as "milk" and "water" often failing him entirely when needed.

But even more pronounced than his backward mental condition was a curious moral obliquity. For example, he seemed to have no regard whatever for the rights and ownership of property. If he saw a bicycle that suited his fancy, in his neighbor's yard, he would immediately appropriate the same to his use and proceed to ride it home. Severe punishment for such an act would not deter him in the slightest from repeating it the next day. His disposition, which prior to the accident seemed perfectly normal, took such a vicious turn that none of the neighbors would allow their children to play with him. At the slightest provocation, sometimes without any provocation whatever, he would show violent outbreaks of temper and attempt personal violence upon any who might be near at hand. His language, such as he could command, was at these times most indecent. He lied on all occasions and seemed to elect falsehood by preference; the truth was not in him. Moreover he seemed utterly devoid of all natural love for his family. Such was the condition of the boy for which his mother sought relief.

Physical examination of the little fellow showed him to be perfectly well in every way save for the depression in his skull. This was found to be about one inch in diameter, one quarter inch in depth, situated in the median line along the course of the sagittal suture, the center of the depression being one inch and a half anterior to the vertical point, and four and one-half inches from the glabellar point.

The boy was admitted to the hospital and kept under observation for a week, at the end of which time I operated, assisted by my brother, Dr. E. W. Hedges. A horseshoe incision was made with the base anterior so as to insure a good blood supply for the flap. After dissecting back the periosteum, the entire area of depressed bone was removed. The underlying dura was slightly adherent to the bone in places, but was easily detached without injuring the longitudinal sinus. The dura was not opened. It looked thick but in other respects seemed normal. The periosteum and skin were then brought together with catgut and silk worm respectively, and the subsequent convalescence was perfectly normal in every way—the patient leaving the hospital at the end of three weeks.

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* Read before the Pediatric Section, N. Y. Academy of Medicine, December 8, 1904.

Over a year has now elapsed since the operation, and we are in a position to note what changes, if any, have occurred. During this time I have seen the boy at frequent intervals myself and have had him carefully watched by his mother and those with whom he has been thrown in contact. The improvement has been most satisfactory. He now not only seems to grasp the meaning of what is said to him, but can also express himself with a considerable degree of intelligence. He knows his letters and seems to show more than ordinary aptitude in his lessons.

Moreover he has a realizing sense of his moral obligations to those about him, and plays with other children of his age without any of the former violent outbreaks of temper. He tells the truth, his language is decent, and he does what he is told. He also seems to have developed a proper love and affection for his mother, sisters, and brothers.

One of the most interesting features of this case is the further light it seems to throw upon work that has already been done in determining the functions of the prefrontal area, anterior to the motor zone—the point at which the depression occurred.

Church and Peterson state that "while it is true that this region may be largely destroyed by injury or disease without producing localizing symptoms, there is a rapidly growing number of cases indicating that mental and moral obliquities are usually the sequence of such lesions. Ablation of the prefrontal region in dogs and monkeys induces a change of character, of disposition, of behavior, that is clearly recognizable.

"In men with prefrontal brain injury, mental sluggishness, want of attention, diminished memory, and loss of energy and self-control, are noted with more than coincidental frequency."

Adolph Meyer in an article on "Brain Traumatism," in the *American Journal of Insanity* for Jan., 1904, reports several cases similar to the one here recorded, in which operation gave complete relief.

The conditions present before operation in this case were so distressing, the cause of the trouble so apparent, and the results following operative procedure so eminently satisfactory, that I have felt warranted in giving this brief history and also in presenting the boy for inspection.

Plague Rats Put to Use.—Some time ago the Japanese offered a bounty of two and a half cents for each rat captured and killed, in order to check the dissemination of the bubonic plague. Over a million pelts were brought in, and these, after disinfection, were made into ear muffs for the army.

Longevity in Warm Climates.—Statistics seem to show that living in subtropical climates is conducive to length of days. According to the *Mexican Herald,* men and women beyond the one hundred year line are common in that country, and Spain, with its relatively small population, is said to number 401 centenarians among its inhabitants.

GEHEIMRATH DR. DETTWEILER.

EULOGY PRONOUNCED ON THE OCCASION OF THE FIRST ANNIVERSARY OF HIS DEATH.*

By S. A. KNOPF, M.D.,
NEW YORK.

A YEAR ago, on January 13, 1904, Privy-Counselor Dr. Peter Dettweiler died at his villa at Cronberg, near Frankfort-on-the-Main. His death was such as he had always desired it might be, without previous invalidism. He died of an apoplectic stroke, while sitting at his desk, writing.

In presenting his photograph to the Academy, I desire to recall in a few words the life and works of this great man. Dettweiler was born at Wintersheim in Hesse, August 4, 1837. He studied at Giessen, Würtzburg, and Berlin, and took his medical degree in 1863. During the Danish-Prussian (1864), Austro-Prussian (1866), and Franco-German wars (1870-71) he served as an army surgeon. In the performance of his duty he contracted tuberculosis, and resigning from the army went as a patient to Brehmer's sanatorium in Goerbersdorf. Regaining his health, he became an enthusiastic assistant to Dr. Brehmer. In 1873 Dr. Dettweiler published his first work "Die rationelle Therapie der Lungenschwindsucht in Goerbersdorf," which attracted considerable attention. After six years' service at Goerbersdorf Dettweiler became the founder of the celebrated sanatorium at Falkenstein, which, up to this date, is the Mecca for students of modern phthisiotherapy from all over the world. From everywhere, where sanatorium treatment has taken a foothold, physicians come to Falkenstein to see the institution and learn its methods, and many of our foremost American specialists in tuberculosis have paid a visit to this institution and its distinguished director.

It should be said of Falkenstein that the place was selected without special regard to climate—a rather cient, and that there is probably a combination of factors which determine it (inflammation, infection, and senility—Crandon).

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*Read in connection with the presentation of Dettweiler's picture to the Academy of Medicine, at its regular meeting, January 19, 1905.

Anatomy.—Under this heading only a few points will be mentioned. Mr. Freyer[19] believes correct the fact, shown by Sir Henry Thompson forty years ago, that the prostate, until the fourth month of fetal life, consists of two separate lobes, which later unite around the urethra, and that the so-called third lobe in reality is a projection from the lateral lobes into the bladder, or rarely from the commissure between them. Each of these is enveloped by a thin, strong, fibrous capsule, which constitutes the true capsule of the gland, and is intimately connected to its substance. The prostate is further incased in a sheath formed by the rectovesical fascia, in the layers of which are the plexuses of veins. There are bands of connection, however, between the capsule and the sheath, but it is in this "plane of easy cleavage" that the enucleating finger must keep to avoid hemorrhage. This sheath also prevents extravasation of urine into the surrounding tissue after the operation. Mr. Freyer compared it to an orange, the inner thin fibrous tissue covering the segments and intimately connected to the pulp corresponds to the true capsule, while the rind represents the outer sheath, and it is this that is left behind in enucleating the prostate.

Pathology.—Mr. Walker[20] of London classifies the glands into those which remain wholly within the sheath (this sheath covers the entire gland, except at its basal attachment to the bladder and at its extreme apex), and do not project into the bladder, and those which project more or less through the vesical sphincter (the majority take this route) and have an extra—and an intra—vesical portion, separated by a groove made by the sphincter vesicæ. The glands assume an infinite variety of shapes, and may form the main obstruction along the urethra, from the pressure of the lateral masses, or a tumor projecting into the urethra, or into the bladder, or the enlargement may be chiefly back toward the rectum. Hypertrophy of the lateral masses often draws a fold of mucous membrane across the vesicle urethra, forming the so-called "bar at the neck of the bladder." The prostatic urethra is lengthened, and may be dilated and contain a small amount of urine. The bladder wall loses its tone, urine is retained, undergoes ammoniacal decomposition, and cystitis follows. Compression of the ureteral orifices may prevent the normal discharge of urine, and, interfering with the circulation in the kidneys, almost invariably sets up degenerative changes. Later the ureters may dilate and infection take place, with, perhaps, a pyelonephritis. The bladder either dilates and its wall becomes thin and pouched, or it may contract, and the wall will be thick and rugous. Usually with the adenomatous changes in the prostate will be a dilated bladder, and if the prostate is hard and fibrous, the bladder will be of small size and have a thick wall. Enlargement, when once begun, invariably produces residual urine, and often complete retention.[21] Calculi and hemorrhage are of not infrequent occurrence.

Symptoms.—Frequent urination at night is usually the first symptom, and there is often difficulty in starting the urine, and in expelling it the stream has very little force, and there is dribbling at the end of the act. The trouble may run along without causing much inconvenience, until some indiscretion sets up complete retention, and the bladder becomes very much distended. There may be later frequent urination from the overflow of retention. An inflamed bladder may also cause frequent passage of urine. Introduce a soft catheter, coudé or bicoudé, noting any obstruction, and its distance from the meatus; also the distance from the meatus to the bladder, which is usually much lengthened. Observe if there is any deviation from the normal course of the urethra. Never draw off *all* the urine in cases of *chronic retention*, as it may cause immediate death. Examine the prostate through the rectum, without removing the catheter, to determine its shape, size, density, irregularities of any kind, and the condition of the bladder wall, if thin, pouched, and dilated or thick and contracted; also try to estimate the amount of prostate protruding into the bladder, the firmness of its attachments, etc., all of which are matters of importance in deciding upon an operation. In passing the catheter into the bladder, remember that the obstructions occur on the posterior and the lateral walls of the urethra, therefore the catheter should be kept along the anterior wall (Murphy). Measure the amount of residual urine from day to day, or from one complete catheterization to another.

Diagnosis.—The diagnosis must be made from atony of the bladder walls, cystitis, urethral stricture, vesical calculus, tuberculosis and carcinoma of the prostate. By bearing in mind the above symptoms and by a careful rectal examination there need be few errors in the diagnosis, except from carcinoma; this, however, is more difficult and of more frequent occurrence than supposed. Mr. Freyer[19] had three cases out of 110 prostatectomies. Goodfellow also reports three cases. George W. Hawley[21] claims that it demands closer clinical observation, and that it is distinctly operable before metastases have taken place, the danger of delay in operating in doubtful cases is therefore evident. The symptoms he gives are pain, tenderness, and cachexia, with hard nodes in either a hypertrophied or a contracted prostate, and with or without urinary obstructions. Deposits may be found in the urethro-vesical trigone, seminal vesicles, pelvic lmyph glands, and diffuse metastases in the trunk bones. The blood shows a myelocytosis and a quantitative alteration of the erythrocyetes. Every surgeon should be on the alert for the above symptoms, lest a grave mistake be made in the operation or prognosis.

Geo. Goodfellow (*Journal American Medical Association*, November 12, 1904) reports three cases of syphilitic prostates. The symptoms were similar to ordinary hypertrophy, but ceased after the use of potassium iodide. One was operated on and was found to contain a grumous material. He believes these are more frequent than is supposed, and urges greater care in the diagnosis.

The *prognosis* depends upon many conditions, as the age and the vitality of the patient, the duration and degree of the bladder and kidney symptoms. The shape and size of the prostate and the operation indicated. (See statistics below as to mortality.) Most authorities believe in the large number of cases that impotence will result. Horwitz says it is caused by severing the nerves to the prostate and breaking an important and complicated nervous mechanism, and is not due solely to the injury to the ejaculatory ducts; consequently it nearly always follows prostatectomy. Goodfellow, however, reports cases without impotence, as do other surgeons who advocate the methods of preserving the ejaculatory ducts. In careful operations permanent lack of control of the urinary function is rare, although Proust (in His Manual on Prostatectomy for Hypertrophied Prostate, Paris, 1904) admits that patients have some difficulty in retaining the urine after the perineal operation. Contrary to former views of Thompson, Guyon, and many others, the bladder is now known to regain its contractile power after the obstruction is removed. Sir Henry Thompson, in a recent personal

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THE TREATMENT OF TYPHOID FEVER.

IN the treatment of no disease, unless perhaps it is pneumonia, is there such a variety as in that of typhoid fever—and yet at the same time in none is there greater monotony. Almost every physician who is called upon to see many cases of this disease, after trying various methods and testing one new or popular theory after another, gradually settles down into a more or less unvarying routine—not always to the advantage of his patients. But with most of us there is still an uneasy feeling that perhaps we are not doing the best we can for those who place their lives in our keeping, and for this reason perhaps there is nothing more interesting than to learn how others are doing and what success they are having.

Dr. F. Foord Caiger, who was the Bradshaw lecturer for 1904, took as his theme the treatment of typhoid fever,* or enteric fever as it is usually called in England. The lecturer speaks with the authority conferred by a wide experience—he is medical superintendent of the Southwestern Fever Hospital, Stockwell—and the résumé he gives of his usual practice in the treatment of typhoid fever is therefore of more than ordinary weight and possesses the interest inseparable from a narrative of personal experience. In his introductory remarks, Dr Caiger referred to the fact that the case mortality of typhoid fever in England remains at a height of more than 15 per cent. The treatment of typhoid fever is necessarily conducted on one or two lines, viz., an active remedial method or a passive or so-called expectant method, each of which has its firm adherents. The three methods of treating enteric fever by means of remedies which are assumed to be capable of exerting a direct controlling influence over the natural course of the disease may be designated as the specific, the antipyretic, and the antiseptic, according to the nature of the agents employed.

The hope that the serum treatment of typhoid fever would prove as valuable as in the case of diphtheria has not been fulfilled. However, in this connection it should be mentioned that Chantemesse claims to have produced a serum, the nature of which is not known, the use of which in enteric fever is said to have met with remarkable success. Wright's method has also had some considerable degree of success.

An antipyretic effect may be produced either by drugs or by the direct application of cold to the body surface by baths, packs, sponging, etc., or by a combination of both. Quinine is undoubtedly the best drug for this purpose. It possesses a marked antiseptic influence over living cultures of the typhoid bacillus, and its administration is not attended with cardiac depression. For the purpose of lowering the temperature, quinine must be given in large doses—15 to 20 grains or more, twice in the 24 hours. Or a still better method is to give it in four 7½ gr. doses repeated at intervals of 15 minutes in the evening of every third day during the first fortnight of the fever. In cases of moderate fever, the writer does not favor the use of antipyretic drugs, at least in antipyretic doses. He believes such pyrexia to be a natural element of defence against bacterial invasion. In cases of excessive pyrexia, however, vigorous antipyretic measures are indicated. The cold bath is the most effective method of applying cold to the surface. Its contraindications are well known. It is probable that the cold bath owes its superiority over all other therapeutic measures of which the chief aim is refrigeration to its salutary influence on the nutrition of the skin and kidneys. The "graduated bath" has been widely recommended.

Although it is now recognized that any attempt to destroy the bacilli in the lower intestinal canal by the administration of antiseptic drugs by the mouth is futile, unless given in such doses or in such strength as greatly to injure the patient, still it is not unreasonable to expect that they might be capable of exerting some restricting influence on the multiplication of bacteria in the mucous membrane and contents of the bowel. This is positive in respect to the various putrefactive organisms, for there is a decided decrease in the fetor of the stools after the use of antiseptics. The writer calls attention to the good effects, in suitable cases, of calomel before there is much diarrhea. But in certain cases, even when it is given not later than the end of the first week, it causes intestinal irritation which is prejudicial to the patient. The writer has been so impressed with the fact that he has given up the routine use of calomel in the early stage of typhoid fever, and limits himself to its use in cases in which there exists some special indication for this drug. Perchloride of mercury has been highly recommended as an intestinal antiseptic. Although Dr. Caiger believes that some of the antiseptic remedies distinctly influence in a favorable manner the course of an attack of typhoid fever, still he does not believe that they are capable of cutting short the attack or of lessening to any appreciable degree the risk of hemorrhage, perforation, or relapse, as some have contended. He mentions some other antiseptic remedies, among which are sulphurous acid, oil of turpentine, the combination of quinine and nascent chlorine, and the essential oil of cinnamon. His results so far with the oil of cinnamon have been favorable. Among 147 cases, there was a mortality of 9.5 per cent. The temperature ran lower in these cases than the average in typhoid cases, the patients for the most part remained drowsy throughout their illness, thus enjoying mental rest, and delirium was less frequent. Intestinal decomposition was controlled in a striking manner, no single instance of meteorism occurring among the 147 cases in which this remedy was used. It is well, the author says, to begin with small doses, for example, 2½ minims, increasing this to 4 or 5 minims in the course of a few days. Laboratory experiments with this oil have been likewise encouraging. In cases in which there is any suspicion of circulatory failure, he gives a grain of sulphate of quinine with each dose.

Dr. Caiger believes that the adoption of an entirely expectant treatment is not only fallacious in its conception, but very mischievous in practice. In the absence of a specific, he would treat a case of typhoid fever on symptomatic lines, and in addition would employ from the earliest possible date either antipyretic or antiseptic remedies, or both, as might appear especially suited to the attack and to the individual in question. In the treatment of toxemia it is always well as a preliminary measure to rid the lower bowel of its putrid and offensive contents. Calomel is most effective for this purpose. Soap and water enemata, with the addition of turpentine, are also useful, as is the oil of cinnamon. The cinnamon treatment is also especially serviceable in cases with nervous manifestations. It is most important for the victim of typhoid fever to obtain mental rest. For this purpose opium is valuable. In ataxic cases, a combination of quinine and chlorine is excellent. In the treatment of pyrexia, Dr. Caiger much prefers the cold pack to the cold bath. If the effect of this treatment proves temporary, the pack should be repeated and sulphate of quinine, 15 to 20 grains, combined with 15 to 20 minims of laudanum should be given. The administration of quinine usually prolongs the effect of mechanical refrigeration. In cases in which restlessness and insomnia do not yield to cold sponging, one of the numerous hypnotic drugs may be tried. If diarrhea and abdominal pain are present, the preparations of opium are especially useful. If the number of stools exceeds more than four or five in the course of 24 hours, the diarrhea should be controlled. If the feeding is not at fault, a starch and opium enema is indicated. Cold abdominal compresses are of value when definite tenderness exists. Constipation is well treated by a soap and water enema, not exceeding a pint in the morning of every third day. In cases of cardiac failure, strychnine, quinine, or digitalis may be given. There are special indications for the employment of alcohol, but the lecturer thought that in most cases of enteric fever, alcohol is not only not required but its employment is occasionally distinctly harmful. In cases of intestinal hemorrhage, he said, that after having seen that the patient receives a full dose of opium and that an icebag is carefully applied to the abdomen, the treatment may be summed up in the simple word "precaution." The complete deprivation of fluids, except an occasional fragment of ice is most important in these cases. As to the management of perforation, the lecturer was in complete accord with those who hold that a moribund condition of the patient should be the only contraindication to operation in such cases. And as to the most favorable time for operation, "there is no time like the present." A careful examination of the abdomen should be made daily in the course of typhoid fever, as then any change in its condition will be more accurately perceived.

Dr. Caiger was fortunate in his choice of a subject for the Bradshaw Lecture, and his hearers were fortunate in being able to listen to so good a dissertation on such an important subject as that of the treatment of typhoid fever.

Prison Accommodations Unsanitary.—In his report to the State Commission of Prisons made last week, State Inspector John P. Jaeckel makes serious objections to the condition of several New York city police station houses, and to the practice of confining there prisoners accused of crime without discrimination. He also recommends reforms at Clinton Prison, where a large majority of the State's consumptive convicts are confined.

THE PATHOGENESIS OF SYPHILITIC RECRUDESCENCES..

The clinical course of syphilis presents so many puzzling features that it has always furnished a fruitful source of speculation to pathologists. The fact that a disease may give rise to repeated relapses years after its beginning and that serious sequelæ not infrequently develop after even decades of apparent health, is sufficiently curious to account for the circumstance that even the master minds of medical science have not been able to furnish unassailable explanations for the phenomenon. At the present day theorists are necessarily hampered by a lack of knowledge as to the contagium concerned, and it is probable that only the discovery of the exact character of the syphilitic virus and its relationship to the various pathological changes manifested by different phases of the malady will permit a satisfactory insight into the nature of the disease process. So long as this remains obscure, the problem must be approached from the clinical side, and the chances of error are necessarily large.

Virchow considered that the spasmodic character of the outbreaks indicated an irregular outpouring of active virus into the blood, thus giving rise to virtually fresh infections. The lymph nodes were to be regarded as the depositaries of the latent virus, which from time to time was set free, entered the blood, and brought about a renewal of the symptoms.

Finger adopted a radically different stand and assumed a bacterial nature of the virus as his point of departure. In an extensive critical study, published in 1890, he came to the conclusion that the primary and secondary lesions were caused by the virus itself, but that the immunity and tertiary symptoms were the result of metabolic products of the virus which gave rise to special reactions of the organism leading to the development of the late manifestations. This view was supported by the *quasi* chemical affinities of the two types of lesions, the early ones due to the virus responding to mercury, whereas the others, depending on the reaction products, are most easily influenced by iodine.

Lesser, in a contribution to the recent *Festschrift*, dedicated to Senator, adopts the older hypothesis of Lang. This author presupposes that at the time of infection the virus is carried by the blood into all the tissues, and occasions the early manifestations. The virulence of the deposited contagium gradually abates, but it still for a time retains the ability to incite recrudescences of the symptoms. After a variable period it is either partially or entirely destroyed, and in the former cases is modified to such a degree that it loses its infectious nature. During this period of dormancy it remains quiescent unless some, often external, stimulus provokes it into action and gives rise to the late manifestations of the disease. This view is in harmony with the clinical observation that the early lesions are apt to be symmetrical while the late symptoms are characterized by asymmetry. Lesser cites several cases in support of this theory, in which recurrences of the skin eruption took place in the pigmented spots left behind by the first exanthem. He summarizes his conception of the matter by stating that in the eruptive stage the entire body is flooded with syphilitic poison, and that this is deposited more or less uniformly in numerous foci which serve as sources of relapse during the course of the disease. As the length of time after infection increases, more and more of these persisting germs perish and they may finally disappear completely.

The practical bearing of this assumption lies in its application to the therapeutical management of the disease. In order to hasten the diminution and neutralization of these depots of latent virus frequent repetitions of the course of medication are necessary, and the advocates of intermittent mercurial treatment should find a potent argument for their cause in this theory of the pathogenesis of late syphilitic manifestations.

THE EVIL EFFECTS OF ALCOHOL AND SMOKING ON YOUNG SOLDIERS.

MAJOR P. G. Tevers, R. A. M. C., writing in the *Journal of the Royal Army Medical Corps* on the above subject, expresses the opinion that alcohol is seldom, if ever, needed by the soldier, and declares that the habitual use of alcohol in any form is not necessary to the animal economy. With regard to smoking, Major Tevers states that in England the practice of cigarette smoking is becoming so common amongst recruits of a certain class—especially those raised in towns—that it is rare to find them without fingers stained from the smoke, which only too often tells its own tale. On referring to the recruiting returns of the Manchester district, for example, for the year 1901, we find that out of 11,896 who presented themselves only 3,076 were accepted, and the recruiting officers declare that one of the chief causes of this rejection is the widespread habit of cigarette-smoking. The experience of American army recruiting officers at the time of the Spanish-American war, with regard to cigarette smokers, is said to have been similar to that of the English. Upwards of 90 per cent. of cigarette smokers who offered themselves as soldiers were rejected.

Major Tevers endeavors to show that the mental effects of cigarette smoking are as injurious as the physical, and earnestly warns young soldiers not to acquire the habit, as once established, it will continue to old age.

There can be no doubt that cigarette smoking by youths is greatly on the increase both in the United States and in Great Britain, and when it is carried to excess, especially when the smoke is habitually inhaled, there can also be no doubt of its baneful effect. This is a statement the truth of which is universally conceded, even by cigarette "fiends" themselves, who call the paper cylinders "coffin-nails." There is thus no need for further discussion of the fact; what is needed is a practical remedy for the acknowledged evil. The usual or only remedy proposed, and which has been actually tried by some State legislatures, is prohibition. This may reduce slightly the number of cigarette smokers, but what little it may accomplish can only be at a tremendous sacrifice of personal liberty, and it will in the end as surely fail as the attempt to repress beer drinking on Sunday in this city has failed.

REPORT OF THE TUBERCULOSIS COMMISSION OF THE STATE OF VERMONT.

THE Tuberculosis Commission of the State of Vermont, appointed in 1902, has issued recently its first report. In 1903 there were 441 deaths from tuberculosis in Vermont, an annual death rate of 12.8 per 10,000 of population, and it is believed that there are at the present time at least two thousand consumptives in the State. Considering that Vermont is a strictly rural state, possessing hills, mountains, pure air and water, the prevalence of consumption denotes that there must be factors predisposing to the disease. According to the report the prime factor is undoubtedly a climate so rigorous that the people of Vermont spend a large part of their lives indoors, in living and sleeping rooms not only poorly ventilated, but almost hermetically sealed and heated to an unnatural degree.

The following are the conclusions reached by the commission: (1) Consumption is a communicable disease, responsible for one-tenth of all deaths. (2) It is not hereditary, as we understand the term, but inherited tendencies may increase the liability of contracting the disease. (3) Treated properly in its early stages, consumption can be arrested in the majority of instances, and through simple precautions in destroying infective material its spread can be almost entirely controlled. From this the natural expectation follows that consumption can ultimately be conquered and relegated to an unimportant place as a cause of death. (4) Study and experience has demonstrated beyond controversy that the only successful treatment of tuberculosis to-day is that known as the open-air treatment, which can nowhere be administered with results equal to those obtained in modern sanatoria. (5) If the above premises are correct, then the State owes it to her citizens, not only for economic and humanitarian reasons, but in the interests of the well and the preservation of the public health, to establish a sanatorium for the care of incipient cases of tuberculosis, especially those in indigent circumstances. (6) In the event of any reason arising making advisable the postponement of the establishment of a State sanatorium, then it is earnestly recommended that a special tuberculosis commission be provided for by an appropriation sufficient to properly carry on the conflict with tuberculosis, a conflict which means so much to the health, wealth, and happiness of not only an afflicted class, but the people at large—directed as it will certainly be toward the relief of suffering, the restoration to usefulness of a large class, and, above all, the protection of the well.

BERIBERI.

THE late Dr. Louis Vintras contributed to *The Hospital*, November 26, a paper on beriberi which possesses particular value at this time in view of the reported ravages of the malady in the Japanese army which is in other respects so well guarded from the attacks of disease. Dr. Vintras had had a long experience in observing the disease while in Brazil and the Guianas, and his conclusions are therefore of interest. His belief was that the malady is neither endemic nor epidemic, but is primarily due to privations and faulty nutrition, and that both white and colored people are equally liable to it. He states, moreover, that as Professor Achermann, the President of the Norwegian Commission on the disease, has recently established, there is no essential difference between Asiatic beriberi and ship beriberi. The difference in the symptoms on which it has been sought to lay so much stress, is a difference due simply to the conditions under which the patients find themselves, and not to any fundamental pathological difference. For the symptoms differ as largely among Asiatics as they do among the members of white crews, nor can it be said that the form it assumes is more severe with the one class of patients than with the other.

The writer pointed out an important pathological feature in connection with the disease, which is that when the damage done to the nerve endings has reached a certain point, though the progress of the disease may be arrested, the affected parts of the nerves do not recover and the paralysis and subsequent deformities are irremediable.

Dr. Vintras summed up as follows: "Beriberi will appear wherever life is dependent for any length of time on foods, whether animal or vegetable, whose nutritive value has become impaired, more especially when people are at the same time subjected to heavy physical strain or to long exposure in debilitating climates. Our present knowledge of dietetics is too imperfect for us to formulate the exact relations between the different constituents of our foods and the different tissues of the body. Otherwise, knowing that it is the nerves which are primarily affected in beriberi, we should be able to say what is the particular impairment in food generally which is responsible for the causation of this disease."

News of the Week.

The Illinois State Association for the Prevention of Tuberculosis was recently organized in Chicago. The Association will endeavor to obtain from the Legislature an appropriation of $250,000 with which to build a State sanatorium, and the enactment of a law compelling the registration of all tuberculosis sufferers in the State. Any city or county interested in the combating of tuberculosis may be affiliated with the Association upon application to the Central Council. The dues are $1 annually. The Secretary is Dr. Arnold C. Klebs.

Dr. Chas. A. L. Reed of Cincinnati has been appointed by President Roosevelt as one of the two members from the United States to the joint commission which is to settle the dispute between the United States and the Republic of Panama over certain property rights. Mr. T. T. Gaff of Washington is the second. Their duties will be to appraise private property in the canal zone which is to be used in the construction of the canal. Two commissioners will be appointed by Panama, and the British consul will also act. The commission is to meet in Panama February 7.

Long Association of Doctor and Patients. — Dr. James H. Payne of Boston, who was graduated from the University of the City of New York in 1848, has three patients on his visiting list to-day who have been his patients upwards of fifty years; and he has another patient in good health from whom he removed an ovarian tumor 32 years ago. This patient is now 91 years of age.

Fatal Influenza in Chicago.—According to the weekly bulletin of the Chicago Health Department, influenza is more prevalent and more fatal in that city this winter than at any time since the epidemic there of 1891. In that year influenza was the chief agent in increasing the death-rate more than one-fifth over that of 1890, and numbers of the survivors have never since regained their former condition of mental and physical health.

Insanity Increasing in Connecticut.—The annual report of the Superintendent of the Connecticut Hospital for the Insane shows there were 2,259 patients in the institution for the year ending September 30, 1904. The superintendent says that insanity is increasing largely in the State, but the statistics show that this increase is especially among the foreign-born rather than natives. Although the native insane have increased to some extent, they have not done so in any such proportion as is apparent among the foreign elements. "In 1900 the foreign-born population of the State comprised 26 per cent. of the entire number. From 1898 to 1902, four years, 38 per cent. of the admissions to the hospital were of foreign birth and parentage. In other words, the 26 per cent. of foreign population furnished 38 per cent. of insane during those four years."

The Smoke Nuisance in Washington.—A congressional resolution has been passed directing the District of Columbia Committee of the House to cause an expert investigation of the smoke nuisance to be made, with a view to abating it. The resolution recites that the report of the committee should embrace an enumeration of the most serious offenders and be accompanied by recommendations as to appropriate remedies and necessary legislation, supervision, and control. Which reminds us that there are some very flagrant offenders against the New York smoke ordinance among the large hotels in this city.

A Scared Commissioner in Chicago. — The peripatetic sanitary commissioner of *The Lancet*, who has been inspecting this country for some time and from petulance has advanced to a state of chronic disgruntlement apparently believed he had struck the limit when he landed in Chicago preliminary to an investigation of the slaughtering methods of the beef trust. "At Chicago," he says, "the sky was black, though there was no fog or mist, and huge clouds of dense smoke spread over the city like a pall. The streets were dark and gloomy, and being hedged in on either side by ugly houses ranging from ten to twenty storeys in height it seemed, on leaving the station, like penetrating some sinister ravine rather than walking along the best streets of a great and wealthy city. But for the gas burning in the shop windows and various electric advertising contrivances it would have been quite difficult to see. At rare intervals a little pink speck indicated that some abortive effort had been made at electric lighting and that was all the trace noticeable of municipal enterprise. Miserably slow horse tramcars rumbled along badly paved dark streets where desperate men not infrequently stop and rob pedestrians." One would think the poor man had never been in London.

Model Tenements in New York. — Mr. Henry Phipps, it is announced, has planned to give one million dollars for the erection of improved tenement houses in this city. An organization will be formed to carry on the work, and it is proposed to apply the net income from the rents to the erection of additional houses.

Yellow Fever on the Isthmus. — Reports from Washington state that yellow fever is gaining hold in Panama in spite of hard efforts to check it. A recent public health report shows seven cases in December and three new ones from January 1 to 10. The isthmian canal commission has cabled to Gov. Davis of the canal zone calling attention to reports of the prevalence of yellow fever on the isthmus, and asking for a report on the conditions. The commission is shipping a large amount of medicinal supplies to the canal zone to aid in the sanitation of that region. Immense quantities of rolled sulphur and insect powder have been sent there, an average of 2,000 pounds of the latter being shipped weekly.

Sickness in Zion City.—It is reported in Chicago that Dowie, the great "healer" of Zion City, has chronic gastric catarrh; his wife has long suffered from severe nervous prostration; the chief of police of Zion has empyema, and several other inhabitants of the place are seriously ill. The supply of spiritual medicine appears to have run low, or it may be a case of substitution.

Lecture at the New York Skin and Cancer Hospital.—Dr. Bulkley's usual clinical lecture at the

New York Skin and Cancer Hospital will be replaced on Wednesday, February 1, by a lecture by Dr. Boleslaw Lapowski on the "Treatment of Syphilis," and on Wednesday, February 8, by a lecture by Dr. Charles Mallory Williams on the "Treatment of Acne."

Dr. S. Weir Mitchell has been re-elected President of the Franklin Inn Club, an organization of literary men of Philadelphia.

Pathological Society of Philadelphia.—The Annual Exhibition Meeting was held on January 11 and 12 in the Mütter Museum of the College of Physicians of Philadelphia, an elaborate exhibit of a great variety of classified specimens being made. On the evening of January 11 demonstrations were made as follows: Dr. Joseph McFarland, "How Metastases Occur in Malignant Tumors"; Dr. M. H. Cryer, "The Variations in the Frontal Sinuses"; Dr. W. T. Longcope, "A Series of Aneurysms"; Dr. W. E. Roberston, "A Series of Hearts and Aneurysms"; Dr. Randle C. Rosenberger, "Cardiac Pathology"; Dr. Brooke M. Anspach, "Gynecological Pathology." On the evening of January 12 the following demonstrations were made: Dr. A. J. Smith, "Structure of the Distoma Pulmonale"; Dr. Y. White, "Tuberculosis in Man and Lower Ani- Funke, "Diseases of the Alimentary Canal"; Dr. C. mals"; Dr. C. H. Frazier, "Tumors of the Thyroid and Salivary Glands"; Dr. A. F. Coca, "Peculiar Bodies in the Serum of Artificial Blisters on a Syphilis Eruption"; Dr. D. J. McCarthy, "Cerebral Arteriosclerosis."

The Bourbon County, Ky., Medical Society met at the offices of Dr. W. C. Usseng, Paris, Ky., on January 19. The following papers were read: "Diagnosis of Appendicitis," Dr. Wm. Kenney; "Treatment of Appendicitis (Surgical)," Dr. Robt. Crothers, Cincinnati; "Is there a Medical Treatment of Appendicitis?" Dr. Joseph Eichberg, Cincinnati; "Relapsing Appendicitis," Dr. A. H. Keller, Ruddles Mills, Ky. The discussion was opened by Dr. J. S. Wallingford.

The Cincinnati Society for Medical Research held its regular monthly meeting at the Cincinnati Hospital January 19. The program was as follows: "Experimental Decapselation of the Kidneys" (with lantern slides), Dr. H. J. Whitacre; "Myoma of the Skin" (lantern slides), Drs. Heidingsfeld and Markley; "An Attempt to Relieve Atrophic Rhinitis by a New Operation" (presentation of patient), Dr. S. Iglauer.

Philadelphia County Medical Society.—At a stated meeting held January 18 the following officers were elected for the ensuing year: *President,* Dr. James M. Anders; *Vice-Presidents,* Drs. M. Howard Fussell, Albert M. Eaton, H. M. Christian, M. B. Hartzell, and Franklin Brady; *Secretary,* Dr. Wm. S. Wray; *Assistant Secretary,* Dr. Ross H. Skillern; *Treasurer,* Dr. Collier L. Bower. Reports were presented from Censors, Directors, Secretary, Treasurer, and Publication Committee. A resolution was adopted petitioning the Legislature of the State of Pennsylvania for an appropriation not less than $500,000 for the establishment of camps, sanatoria, hospitals, and dispensaries for the treatment of the tuberculous sick.

A New Medical Society.—Physicians of West Philadelphia have organized the West Philadelphia Medical Association, and have elected the following officers: *President,* Dr. A. F. Targett; *Vice-President,* Dr. George C. Shannon; *Recording Secretary,* Dr. Wm. D. Beacon; *Financial Secretary,* Dr. A. P. Good; *Treasurer,* Dr. J. D. Brittingham.

Medical Society of the Missouri Valley.—In response to an invitation from the Jackson County Medical Society, the semi-annual meeting of the Medical Society of the Missouri Valley will be held in Kansas City, Thursday, March 23, 1905. Those desirous of presenting papers should send their titles to the secretary not later than February 10. Papers will appear upon the program in the order in which they are received. A Symposium on Puerperal Fever will be one of the features of the session, opened by Dr. R. T. Sloan, of Kansas City. The president of the society is Dr. S. Grover Burnett, Kansas City, the secretary Dr. Chas. Wood Fassett, St. Joseph, Mo. Dr. C. Lester Hall of Kansas City is chairman of the arrangement committee.

Medical Club of Philadelphia.—At the annual meeting held January 13 the following officers were elected for the ensuing year: *President,* Dr. Roland G. Curtin; *First Vice-President,* Dr. Wharton Sinkler; *Second Vice-President,* Dr. Thomas G. Potter; *Secretary,* Dr. J. Gurney Taylor; *Treasurer,* Dr. Lewis H. Adler, Jr.

The Fifth International Congress of Psychology will be held at Rome, April 26-30, 1905. There are to be four sections: Experimental, Introspective, Pathological, and Criminal. The general secretary, Dr. Tamburini, may be addressed at 92 Via Depretis, Rome, Italy.

A Healthful Town.—The report of Drs. West and Patterson, Health Officers for Brookville, Ind., shows that during the past year not one case of smallpox, measles, mumps, scarlet fever, whooping cough, or chickenpox occurred in the entire city.

French Training School for Nurses.—A great field exists at present in France for lay trained nurses, owing to the suppression of the religious orders. Baronne James de Rothschild has established a school in Paris to teach young women everything essential to the duties of the trained nurse. Boarders and outside pupils are to be received and will be admitted to lectures at the hospitals, and granted diplomas.

An Unusual Suit.—Dr. Doyen of Paris is said to have instituted a suit for 200,000 francs damages against a company engaged in the production ot cinematographic films. It appears that for some years Dr. Doyen has had his more important operations cinematographed with the object of recording his methods. The photographic concern did not regard their responsibilities in a scientific spirit, however, and several Parisian hostesses began to find cinematographed operations an agreeable diversion for after-dinner parties. The denouement may be imagined when one of the guests at such an affair witnessed her own operation thrown upon the screen. Dr. Doyen, after trying in every way to stop the display of the films, has brought suit, but the defendants assert that as they took the films they were free to use them as they pleased. A decision in the case has been deferred.

A Tuberculosis Directory.—A directory of American institutions dealing with tuberculosis has just been published jointly by the Charity Organization Society and the National Association for the Study and Prevention of Tuberculosis. It contains many statistics and much information which will serve as a guide to physicians and friends of consumptives.

Hospital News.—*The Sydenham Hospital, New York,* has just received, as a New Year gift, from Isaac Guggenheim, one thousand dollars. Mr. Guggenheim has also made a generous offer further to aid the hospital and its training school by giving monthly an amount of money equal to such sums as the Board of Directors succeed in raising each month through donations or voluntary contributions. This offer holds good up to the sum of ten thousand dollars a year, should the Directors raise a like amount. The recent benefit entertainment at the New York Theatre netted the sum of fifteen hundred dollars for the Hospital. The Sydenham Hospital was started two years ago and has been very successful. At first only one building was used for its dispensary, but the work and the needs of the hospital grew so rapidly that to-day three buildings are thoroughly equipped for this purpose. After May next, the two adjoining buildings will be added to the hospital plant in order to provide more room for nurses and private patients, and when complete the hospital will occupy five buildings, Nos. 339 to 347 East 116th street. The last report of the hospital shows that more than ten thousand treatments were given at the hospital dispensary during the past year and six thousand hospital days were free in the hospital.

State Appropriations.—A bill has been introduced into the Pennsylvania Legislature looking to the appropriation for $300,000 for the Free Hospital for Poor Consumptives. Of this sum $100,000 is for maintenance of the sanatorium at White Haven, $100,000 to assist in the erection and equipment of new buildings to increase the capacity to as nearly 300 beds as possible, and $100,000 to assist in purchasing a site in a suitable location and the erection thereon of buildings for the care and treatment of persons suffering from tuberculosis at a more advanced stage than can be treated at White Haven.

Bequests.—In accordance with the adjudication of the estate of the late Selina Walker, of Philadelphia, the Jewish Foster Home and Orphan Asylum will receive $9,965.64, the Jewish Hospital Association $7,286.73, the Jewish Maternity Hospital $2,428.90.

Hospital for Alcoholics.—A bill has been introduced at Albany providing for the treatment of persons found incompetent from the use of alcoholic stimulants, opiates, narcotics, or other drugs. It directs New York City to provide a hospital with a competent staff for the treatment of such cases, the Mayor to appoint these physicians, who are to be paid out of excise funds. Commitment to the hospital shall be made on the sworn application of the father, mother, husband, wife, brother, sister, next friend or child of the patient or by city magistrates. It is understood that the new hospital would take the place of the alcoholic wards of Bellevue.

New Medical Ward for Cook County Hospital.—A ward, with 100 beds, will be opened at an early date at the Cook County, Ill., Hospital, as the Public Service Committee recently concurred in the report of the Hospital Committee that the old ward for contagious diseases be changed into a medical ward. It is estimated that the alterations will cost about $4,000.

The Presbyterian Hospital, Cincinnati, will close February 1, in spite of the efforts made to keep it open. No definite financial aid has been obtained for the coming year.. The Board of Medical Directors of the Cincinnati Hospital have agreed to take the nurses in course of training as fast as it is possible, so as to allow them to complete their course.

Rival Hospital Schemes in Greenwich, Conn.—The Medical Society of Greenwich, Conn., is in favor of spending $10,000 for the purpose of enlarging the present isolation plant, which contains a small emergency hospital, in order to provide the town with the hospital facilities that are needed. This is not in accord with the wishes of the local hospital association, backed by several wealthy New York men, who have raised $60,000 for the erection of a hospital, and are desirous of having the doctors turn over their $10,000 to the proposed $100,000 fund.

Obituary Notes.—Dr. EDWARD VALENCOURT DEUELL, of Saratoga, N. Y., died suddenly on January 20, while in the witness chair in the trial of a case in the Supreme Court. He was sixty-five years old and was born at Malta, Saratoga county. He was educated at Union College, Schenectady, and was graduated with the degree of M. D. from the University of Louisville, Ky., in 1863. In that year he was appointed assistant surgeon in the Union Army, and at the capture of Little Rock, Ark., was placed in charge of the general army hospital. He was then appointed surgeon-in-chief of the District Arkansas and filled that post until 1869. Retiring from the army, he practiced his profession in Little Rock until 1889, when he removed to Saratoga.

Dr. SETH R. BECKWITH died at Atlantic City, N. J., on January 20, at the age of seventy-two years. He was a graduate of the Homeopathic Hospital College, Cleveland, O., in the class of 1853. He was at one time President Garfield's family physician.

Dr. LEONARD J. GORDON died at his home in Jersey City January 18. He was born in this city in 1844, and was a graduate of the Bellevue Hospital Medical School in the class of 1875. He was engaged in active practice only a few years.

Dr. OTIS EUGENE HUNT, of Newtonville, Mass., died on January 20. He was born in Sudbury in 1822. He was graduated at Berkshire Medical College in 1848 and continued in active practice until 1885.

Dr. JOSEPH PELTZ died at Philadelphia on January 13, at the age of sixty-two years. He was graduated from the Medical Department of the University of Pennsylvania, in the class of 1865.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S HOSPITAL FUND—LORD MOUNT-STEPHEN'S MUNIFICENCE—STUDY OF GREEK—MR. S. COLERIDGE AGAIN, AND THE LONDON HOSPITAL'S INVESTMENT—CENTRAL MIDWIVES BOARD—THE DIRECTORY—NOTES—OBITUARY.

LONDON, January 6, 1905.

LORD MOUNT-STEPHEN has signalized the new year by another magnificent gift to the King's Hospital Fund. Writing to the Prince of Wales as President, on the first of January, his Lordship expressed regret that the conditions of the anonymous offer failed, and enclosed an order for the delivery of bonds to his Royal Highness of the value of £200,000, producing an income of £11,000. The Prince showed the letter to the King and His Majesty at once wrote to Lord Mount-Stephen to express his "high appreciation of your magnificent donation," adding, "I have not forgotten that it is the second large donation which you have so kindly given, and I have now every hope that, owing to your great liberality, my fund will now be placed in the sound permanent position I had always hoped it would attain."

We have lately had some vigorous discussion, both at Oxford and Cambridge, on the question whether Greek should be a compulsory subject at the earlier examinations. The removal of Greek from the compulsory list is put forward by one party as a necessary concession to students who propose to devote themselves to science, and it was argued with more or less insistence that an elementary acquaintance with Greek was absolutely useless to scientific students and robbed them of a year or two's time, which could be more profitably spent in their more practical pursuits. The discussion found its way into the newspapers and called forth a correspondence, in which the statements were more fallacious than those of the heated university dons. In each arena we are confidently assured by some of the combatants that Greek requires some seven or eight years' study to be of any value; that those who intend to follow a scientific career are greatly hindered by trying to acquire the elements of the language;

that an elementary acquaintance with it is absolutely useless and not to be obtained concurrently with scientific studies, etc. On the other hand, these and many other assertions are as confidently denied by other disputants. If the scientists are really pressing these views on the universities they might at least remember that they still call on Greek to help them in their nomenclature, in which they inflict many sesquipedalian monstrosities on their readers. So far as medical literature is concerned, something similar might fairly be said. Really, it savors of more than exaggeration to talk of a little Greek as robbing the scientific student of precious time. That little should be acquired at school—not during the medical curriculum—and it would well repay the student by the help it afforded in understanding technical terms. Any examination in it should be restricted to the preliminary test, and be quite elementary. Even that "little"—pace the Dons—might have prevented the appearance in the *British Medical Journal*, during the last month, of three communications on "afebrile" enteric fever.

Mr. Stephen Coleridge is following up his attack on the Sunday Fund, in connection with the grant to the London Hospital, with the persistence in misstatements he usually displays. He asserted that the hospital had misappropriated its moneys by buying a cricket ground for the students. Mr. Holland explained that the ground had been purchased and let at a rental paying four per cent. per annum, that the security was as good as the one for which it was exchanged, and, in fact, that the property could be sold at a great advance on the price paid. Mr. Coleridge then reiterates that this is an unjustifiable diversion of the funds of the hospital, and complains of Mr. Holland's methods of controversy—a curious complaint from a man who has had to pay £2,000 as damages for the libellous method of controversy he has employed.

The subject would scarcely be worth notice had not the *Medical Press and Circular* taken it up in connection with its criticism of the Sunday Fund's attitude towards small special hospitals. That attitude certainly savors of injustice and prejudice, as I have more than once pointed out. I can, therefore, sympathize with the criticism in question, but it is not right to talk of the hospital "spending £6,000 on a sports ground for students," after it has been shown that this was no gift, but just as much an investment of the funds as would be the purchase of consols, only it yields a larger interest. The *Press* says: "The money was given for the benefit of the sick poor," but surely it will not be contended that the hospital ought not to have investments of any kind, but spend each year whatever it may receive.

The Central Midwives' Board's scheme of examinations has been sent back by the Privy Council, with the very proper intimation that examiners should be required to be qualified medical practitioners. Thus the absurdity of the women members who wanted to appoint midwives to report on the teaching of doctors, on the ground that these females could examine in bed-making, has been exposed to the public. It is becoming more and more obvious that it is necessary to impose a limit on the proceedings of the feminine party on the Central Board, unless the present rebuff brings them to their senses.

The medical directory for 1905 is out and the consequent shower of circulars has begun. The influx of new members of the profession continues and 572 additional names are added to the list. The total number now is 38,361.

What say you to this authentic instance as a proof of the value of physiology teaching in elementary schools? Inspector: "What is our blood composed of and how does alcohol act on it?" Answer: "It is made of one million red insects and one thousand white ones to every drop of blood. Alcohol kills them and sends their carcasses to the front of the body. That is why people who drink alcohol have red noses."

Dr. J. R. Wolfe, founder of the Glasgow Ophthalmic Hospital, and professor of ophthalmology in St. Mungo's College, died on the 26th ult., aged 80. He was M.D. Glas., 1856; F.R.C.S., Ed., 1868. His modification of the operation for cataract in detachment of the retina is well known and widely adopted. He retired from practice several years ago.

Liverpool loses two notable practitioners in Dr. James Armstrong, consulting physician to the Lying-in Hospital, who lost his life by a gun accident at a village where he was staying, and Dr. Adam, who was also away from home. He had been an invalid for some time and knew his precarious condition, but it seemed a surprise to his many friends when he died on the 19th ult., aged 38. He was on the committee of the Tropical School; he had had four years' experience on the West Coast of Africa.

Edward Treharne, J. P. for the country of Glamorgan, L.R.C.P., died very suddenly, on the 29th ult., aged 42. He was a member of the Board of Health for the Barry district, and had been its chairman.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

BERLIN, DECEMBER 23, 1904.

POST-GRADUATE SCHOOLS UNDER GOVERNMENT CONTROL—OLD AGE AND INVALID INSURANCE—SENATOR'S SEVENTIETH BIRTHDAY—ALBUMINURIA—SYPHILIS IN A HORSE—HUMAN AND BOVINE TUBERCULOSIS—ORTH'S VISIT TO AMERICA—OBITUARY NOTES.

AGAIN, the German medical world with few exceptions is expressing its antagonism to the foundation of a government institution, namely, an academy of medicine, the purpose of which is to offer special post-graduate advantages to specialists. Plans for founding such institutions now exist in Cologne, Hamburg, Frankfort, and Dusseldorf. There are, however, already enough specialists in Germany. To offer facilities for increasing their number would make the existing conditions still harder for general practitioners. The number of post-graduate schools is already sufficient for the demand. In looking for the cause of this movement, it would seem due partly to the fact that the government needs places for the education of army physicians; partly that it purposes to confer upon these academies the privilege of granting diplomas to specialists; this would be a disadvantage to the present specialists. From any point of view, there would be no advantage to the German physicians, and the authority of our universities, which are our pride, would be made to suffer.

Another important medical question has been presented to the Reichstag. Its full importance is appreciated by our admirable secretary of state, Count Posadowsky. A motion has been made to found an old age and invalid insurance society for workmen. If this bill should be passed lodges would soon be founded which would greatly reduce the number of people applying for free medical treatment. Count Posadowsky warned against the insurance plan, for under it incentive for work would be lessened. It is impossible to make an insurance society of all Germany. The State advances when the individual saves for his own future.

Senator has lately celebrated his seventieth birthday. The Berlin physicians observed the event to show their pride in the remarkable work of this great man. On November 21, his paper "Ueber physiologische und pathologische Albuminurie" was read in the Verein für innere Medicin. He said that when individuals otherwise well, void albuminous urine after exercise, the condition is called functional or essential albuminuria. Albuminuria is physiological when following excessive exercise, especially of the lower extremities; after hearty meals consisting largely of albumen; during menstruation; after cold baths, sexual excess, and mental exertion. In other conditions, albuminuria is pathological. Orthostatic albuminuria is generally classed here. Two errors must be avoided: the ideas (1) that in every case of nephritis it is necessary to find casts, and (2) that chronic nephritis is incurable. Knowledge of the blood vessels is of the greatest importance in explaining the condition of albuminuria. This is clearly accomplished by P. Edel who has made careful investigations in this line.

It was an unusual sight that presented itself on December 7, in the sessions hall in the "Medicinische Gesellschaft." A carpet of straw was spread before the first row of seats and Piorkowsky showed a living horse that had been infected with syphilis. From 5 to 10 c.c. of blood had been taken from 80 syphilitic men and injected into the jugular vein of the horse. No primary effect was observed, but after four weeks an eruption developed over the whole body, together with swelling of the submaxillary and neighboring lymphatic glands. The histological appearance of the eruption resembled to a great extent that of lichen ruber. Kromayer offers the objection that in the man the eruption is not only in the cutis but exists also in the subcutaneous tissue. Benda and v. Hansemann did not consider the histological picture that of syphilis because it lacked the characteristic of this disease, viz., the early involvement of the intima of the vessels.

The annual meeting of the German tuberculosis society was most interesting. A state commission was appointed for the study of human and bovine tuberculosis. One of the investigators read a paper on human and bovine tuberculosis, in which he described the differences between the bacilli of human and those of bovine tuberculosis. Out of 56 cases he found 50 in which there were only bacilli of human tuberculosis. The other 6 patients were afflicted with tuberculous mesenteric glands (they were all children), and in these cases were found the bacilli of both human and bovine tuberculosis. The investigator could not transform one species into the other. Amusement was caused by the report that cows recently imported from Denmark had been treated on the border by the traders with tuberculin injections by which they were thus made immune against the diagnostic doses given by the health officers.

Orth has recently given an account of his visit to America. He said that he did not take this trip for the sake of medical study, but to see the World's Fair. He calls the Americans very hospitable and says that they love their country and are very proud of it. They enjoy showing it to foreigners. A great many of the teachers there were pupils of Orth whom they honored not only for his own sake but also because he is the successor of Virchow. He saw only the eastern part of the country, but he admired the medical institutions. He calls attention to the sanitation of the hospitals, speaking especially of the ventilation in the Johns Hopkins and Mount Sinai hospitals. The advantages for theoretical work—the subject of his own studies—are somewhat superior to those for clinical work. The life of the students is more united than it is among German students. Hitherto American competition has been considered only from a commercial point of view, but the time has now come to consider it as a rival in scientific studies.

Two Berlin physicians of renown have recently died, one the pathologist, Langerhans, a pupil of Virchow and director of the pathological section in the Moabiter Krankenhaus. He died from a tuberculous infection. His manual was one of the few books that gained the approval of Virchow. The other was Kurt Freudenberg. Great praise was due to him for the amelioration of the condition of physicians. He also bent his energies to the improvement of the sanitation of the city of Berlin. His efforts met with great success.

THE ARMY CANTEEN.

To the Editor of the Medical Record:

Sir: In answer to several requests to give my views on the canteen question, I would say that it is hardly possible to write clearly on a subject invested with dense prejudice and ignorance and strange misconceptions. The very term "canteen" and "anti-canteen" are most stupid errors used largely to create prejudice. In reality there is no such thing as an "anti-canteen law." The canteens were not prohibited by the act of Congress, but remain the same. The only prohibition was the sale of intoxicating liquors on any military reservation, or in any building used for military purposes. Why this law should be stupidly interpreted as abolishing the canteen, or the post exchange, or the soldiers' club rooms, or any other means used to make the soldiers' life pleasant, is incomprehensible. Why partisans should talk so dogmatically about the act of Congress abolishing the canteen, and thus depriving the poor soldier of assembly rooms, can only be explained as an effort to create a sympathy, and have spirits sold again in these places. It was never the intention of Congress to break up or interfere with the canteen, but only to prevent the demoralizing saloon part of it. So great was the interest in the canteen, that over half a million dollars were appropriated to promote and make them attractive. Some of this money has already been used. The only medical question is this: "How far is the efficiency and usefulness of soldiers and officers promoted by saloons in the canteens?" or rather, the sale of intoxicating spirits, or drinks of any kind containing alcohol? Personal experience of officers in the service will vary largely with their own taste and sentiment, and no agreement can be reached from their varied opinions. To the medical and scientific men outside, it would appear that the army should be under the same strict and common-sense rules which govern the work on railroads and in large manufactures, and all business enterprises requiring nerve, brain force and physical vigor. The common-sense experience of business and professional men demand that the saloon and the sale of intoxicating liquors should be kept as far away from their business interests as possible. No one would think of opening a bar for the sale of pure liquors to railroad men or operatives in the factory for the purpose of promoting better work, and keeping down discontent among the operatives. It would appear that the army should be managed on the same principle, and that nothing which would diminish the value of the services of the men should be permitted, or even tolerated, no matter what it was. The real question has been obscured, and covered up by hysterical statements pro and con. If the army is determined that the use of alcohol is essential for the perfection of their work, and the vigor and usefulness of the troops, they will no doubt succeed in having the law repealed, but if the Government insists that the army and its management should conform to the highest business wisdom and judgment of the present, the law will be retained. The medical side of this subject is purely a hygienic one, and the army surgeon who imagines that he is more competent to decide on the merits of this question, assumes a knowledge and an experience compared with the well-settled principles of business, that sound very strange. There is no sentiment in this matter. Railroad corporations have reduced the facts of the influence of alcohol to dollars and cents. They know the losses which come from moderate drinkers in active service, and it is no sentiment to forbid the sale of spirits to their men, and discharge them if they persist in using it. It is a mistake to suppose that sentiment and theory could plan and carry out a measure of this kind unless it was supported by an experience and a common-sense conception of the reality. It is a mistake to suppose that sentiment can continue this law despite the judgment and experience of persons who differ with them. There is only one issue and that is, "shall license places be established for the sale of spirits to the soldiers in the army, or not?" It is not "canteen" or "anti-canteen," and most fortunately the final issue will not be reached from the opinions and theories of individuals. It will be settled as all other great subjects are, from a higher point of view, and along more exact lines.

T. D. Crothers, M.D.

Hartford, Conn.

A CASE OF CRYPTORCHIDISM.

To the Editor of the Medical Record:

Sir: In a recent issue of the Medical Record, a case of cryptorchidism is reported which contains a singular statement against which I protest as an instance of careless and unscientific misstatement. Among other things, the author writes: "This case from a medicolegal aspect is not without interest. In searching the literature of the subject at my command, I find that all authorities agree that cryptorchids are sterile. Doctor Curling (*British and Foreign Medical and Surgical Review*, April, 1864). has narrated nine cases in which the ejaculated semen of men with retained testes, or with a single testis, the other having been removed or its duct obstructed, was destitute of spermatozoa. The history of the case certainly contradicts the foregoing, for the patient is the father of a child whose resemblance to him is marked." This statement against the experience of all competent observers is made without the slightest evidence being adduced to show that an examination of the semen of this fertile cryptorchid had ever been made. Every authority agrees that whenever the semen of genuine cryptorchids has been examined the absence of spermatozoa has always been marked, notwithstanding the fact that some of these cryptorchids were said to have been fathers of children.

My only reason for commenting upon this case is to protest against the careless manner in which medical cases are so frequently reported, which not only makes them of no value for either clinical or scientific purposes, but, if taken seriously, renders them misleading.

F. R. Sturgis, M.D.

New York.

The Necessity for a Periodical Examination of the Apparently Healthy.—Alexander MacKenzie Campbell emphasizes the importance of preventive medicine. He divides society into three classes: The perfectly healthy, the apparently healthy, the unhealthy. The number of individuals who have no subjective reason to believe that they are diseased, but who, on examination, are found to be in the third class, is very large. The writer cites several cases which have fallen under his own observation, who, for one reason or another, on presenting themselves for examination, have been found to be suffering from serious lesions hitherto unsuspected. The following order in the physical examination has been suggested: Examination of the respiratory, circulatory, digestive, and urinary apparatus, and, finally, examination of the nervous system. The writer recapitulates as follows: Physicians have a tremendous responsibility in keeping people well. Only a small percentage of people enjoy perfect health. Physicians should educate people in apparent health to the necessity of subjecting themselves to a periodical physical examination. This examination, made at least yearly, should be careful and systematic, and should embrace all of the approved chemical and microscopical tests for the diagnosis of disease.—*Detroit Medical Journal.*

The "Atlantis" of this city, the first newspaper in the Greek language published in the United States, is henceforth to be issued daily. It was founded twelve years ago as a weekly; subsequently it became a semi-weekly, and then a tri-weekly, and now will be issued every day, owing to the increase of the Greek population here.

Progress of Medical Science.

The Boston Medical and Surgical Journal, January 19, 1905.

The Humane Treatment of Malignant Disease from a Surgical Point of View.—John C. Munro here presents a plea for more frequent interference in incurable malignant disease. He himself, as time goes by, becomes more and more willing to operate in cases in which there is the smallest outlook for relief. In dealing with cancer, neither surgery nor any other form of treatment is yet able to assure permanent relief in more than a small percentage of cases. Surgical cure depends upon the locality of the growth and upon the stage at which the operation takes place. The writer believes that there are enough desperate cases only temporarily relieved by operation to make it not only worth while, but also a duty to hold out these chances to such patients. Unless the surgeon can absolutely and definitely make a diagnosis of inoperable malignancy, especially when dealing with the abdominal cavity, it is safer to explore for absolute confirmation. And when the diagnosis can be made which condemns the patient to death, then most of all, exploration should be made. However, to operate for diagnosis without first using all other means is wrong, and ought to be condemned. The writer cites certain cases in which the diagnosis of malignant disease was proved by operation to be wrong. On the other hand, many cases of unquestionable malignant disease have been entirely relieved by operation of distress and suffering, and this for weeks and months until death came quietly from a general malignant toxemia, a state of affairs which would have been impossible without the operation. In regard to cancer of the intestine, the writer believes that we should be very conservative in committing such cases to medical treatment. In 43 cases of cancer of the rectum, Czerny lost only 3 by operation, the remaining 40 living from 40 days to 3½ years. In cases of cancer of the colon there is a quiescent period between the appearance of the first symptoms and the last fatal issue. It is inhuman to remain inert during this period. In Nothnagel's last edition, it is stated that the only way to arrive at a positive diagnosis in abdominal cases with indefinite symptoms is to perform an exploratory laparotomy. Surgery is indicated at the earliest stage. Cancer, wherever situated, is a surgical disease. The action of the Coley serum is still too uncertain for employment except in cases beyond surgery. The writer believes also that the *x*-ray is already doing more harm than good, except in very limited types. The writer appeals to the surgeon for more optimism in dealing with the apparently hopeless cases.

A Brief Consideration of Some of the Results of the Surgical Treatment of Cancer of the Stomach.—R. H. Fitz gives briefly the results of operation on 37 patients whose records are taken from the files of the Massachusetts General Hospital and also from Munro's communication to the Massachusetts Medical Society, June, 1904. Of these 37 patients, suffering with cancer of the stomach, 28 died within 2 months after operation, and only 1 is stated to have been in good condition at the end of 12 months. The writer declares that equally good, if not better, results are known to follow the medical treatment of such cases. From these cases, it would appear that merely exploratory operations in advanced malignant disease involving the stomach have a considerable mortality, afford no relief, and are followed by an early death. In the survivors, relief is inconstant though sometimes prolonged at least a year. Surgical treatment of advanced cases of malignant disease of the stomach may be said to be humane because it sometimes gives relief, more or less prolonged, and often shortens the period of suffering even if it gives no considerable relief. On the other hand, the treatment of such cases by other than surgical methods often gives more or less prolonged relief and usually makes dying easy. The writer concludes by saying that should the choice lie between the two methods—surgical treatment, or the administration of a lethal dose—the latter has certain advantages in its favor.

The Brown Tail Moth Eruption.—Harvey P. Towle, in discussing this subject, gives a brief consideration of the life history of the brown tail moth. The caterpillar is hatched in late July. It molts twice in this season and in September builds its nest and goes into winter quarters. With the return of warm weather, it wakens into activity. In the latter part of May it molts for the third time, and for the fourth time early in June. It is at this time, that of the third and fourth moltings, that the short barbed hairs are found. It is at the same time that the eruption is prevalent. Various extracts have been made from the hairs, cocoons and molted skins, but no poison has been found. Unfiltered extracts caused an irritation of the skin in every case. Filtered extracts did not irritate. A bit of skin that had been irritated by a brown tail moth was excised and examined microscopically. In the lesions the same minute barbed hairs as those of the caterpillar were found beneath the epidermis. Thus it has been proved that the short barbed hairs of the brown tail moth cause an eruption in human beings as a result of mechanical irritation which is typical in aspect, very annoying, and one which in invalids or very sensitive people may be followed by serious consequences on account of the intolerable itching and consequent nervous strain.

New York Medical Journal, January 21, 1905.

On Rubidium Salts with Special Reference to the Use of Rubidium Iodide in Optic Atrophy.—P. Bartholon gives a brief account of the chemistry of the rubidium salts. The iodide has been used chiefly in syphilis as a substitute for potassium iodide when the latter was not well borne and in cases of heart disease. The author finds that a five per cent. solution in distilled water is non-irritating, highly diffusible, withdraws water from the circulation, and causes a vigorous movement of the red cells toward the site of application and that there is a marked chemical activity of the ions of rubidium and iodine freed by the dissociative force of the aqueous solution. The latter may be painlessly applied. The author has employed it in this manner in one case—that of a man with tabes, suffering from concentric diminution of the visual field with progressive loss of sharpness of vision. The results after a three weeks' use of the remedy were distinctly noticeable in the way of improvement. The author is not unmindful of the fact that sudden changes for the better sometimes come spontaneously in the group of symptoms mentioned, but he is inclined to give the rubidium salt a share of the credit and to persevere in its employment with the hope of defining its positive action.

The Vasodilators and Constrictors.—G. W. Greene gives his experience with this class of remedies. He finds that in cases of cardiac insufficiency with dyspnea and dropsy of the feet without valvular trouble, that the nitrites, especially nitrite of sodium, are most efficient, in that they relieve the heart by dilating the capillaries, thus lightening the load and giving the heart less work to do. He also commends the use of the nitrites in headache attacks, in which the patient is pale, while in the congestive type of attack, ergot is the drug indicated. In cases of arteriosclerosis or cirrhotic kidney, two grains of the nitrate may be combined with one one-hundredth of a grain of bichloride. He also believes that the nitrate is also of service in anemia. It dilates the arterioles and hastens the elimination of the waste material. This waste material contracts the arterioles, which hinder the elimination and thus keep up a vicious circle, which can be completely counteracted by vasodilators. In pneumonia, the author counsels the use of veratrum to soften the pulse, and when in two or three days the heart begins to fail he gives alcohol and strychnine. He advocates the injection after minims of solution of nitroglycerine in puerperal eclampsia. Finally, as a prophylactic in chlorform inhalation, he advises the injection into a vein of ten minims of adrenalin solution in order to avert death from extreme vascular dilatation.

Delayed Results of a Wound of the Brain.—P. O'Hanlon relates the case of a man who received a pistol shot wound in the temporal bone. It was treated as a mere scalp injury and the man was allowed to go about. In two months he began to have attacks of "fits" and finally was brought to a hospital, where he died, the diagnosis being brain abscess. Autopsy revealed a bullet resting beneath the anterior lobe of the right hemisphere at the base, to all purposes a harmless foreign body so far as the lead itself was concerned. The track of this bullet was plainly visible through the brain tissue, beginning at the left temporal lobe and passing across to where it was found. An examination of that part of the brain broken down into an abscess showed a small piece of lead, to which adhered a sharp piece of bone, which had set up the irritation which resulted in the formation of the abscess. Eighteen months had elapsed between the shooting and the autopsy. A skiagram taken before death located the bullet in the locality revealed by the autopsy.

Medical News, January 21, 1905.

The Cystoscope as an Aid in Genito-Urinary Surgery.—Follen Cabot declares that cystoscopy will never become an easily accomplished method of examination. Large experience, great patience, and plenty of time are essential in its practice. The operator should have excellent eyesight, and his perception of color should be perfect. The hand of the operator should be steady, and all unnecessary movements should be avoided. In many cases, a 1% solution of cocaine gives great comfort. The writer introduces about one-half ounce into the bladder, and places a little in the deep urethra as the catheter is withdrawn. He has found the direct view instrument the easiest to handle, but he believes that the indirect view or angular instrument should be understood by every one who does much of this work. The angular and retrograde telescope is necessary for the examination of the prostatic region, while the straight-view telescope seems better for ureter catheterization. The bladder should be filled with about the same amount of fluid at each examination, for this organ varies in color and general appearance under varying amounts of fluid. The bladder can generally hold about 6 or 8 ounces. Great care should be taken not to overdistend the bladder, as rupture of this organ is possible. The patient should be made as comfortable as possible, while at the same time the ureteral openings and other parts of the bladder must be brought into view. The cystoscope is sometimes of use in detecting encysted stone of the bladder, stone in diverticula or in sacculations, and in other instances in which litholopaxy has been performed. This instrument is often of use in detecting new growths in the bladder. The writer has seen several new growths of the kidney. The cystoscope has not been of much help to the writer in determining the size of the prostate or the presence of a so-called third lobe. In one case of a suprapubic prostatectomy the cystoscope enabled him to diagnose a diverticulum which held eight ounces and had been caused by years of straining. This instrument is often helpful in locating foreign bodies in the bladder, especially in the female. The writer has devised a forceps for this work, and also a curette for removing a piece of cystic new growth for microscopical examination. The writer believes that the dangers of the cystoscope have been much magnified. It should, however, be used in selected cases and with careful technique.

Report of a Case of Postdiphtheritic Paralysis.—William J. Butler first gives a brief résumé of the literature in regard to the various changes observed during the course of acute infections and subsequent thereto. He then describes a case of postdiphtheritic paralysis of unusual extent, involving the external recti of the eyes, the soft palate, the pharynx, the abductors of the larynx, the diaphragm, and peripheral nerves. There was also acute cardiac dilatation, with pulmonary hypostasis, and edema; also liver stasis. During the subsequent course of this affection, it was noted that after withdrawal of the codeine and strychnine for 16 or 18 hours, a previous improvement in the cardiac condition was replaced by a condition approaching its earlier stages, and moreover, that a prompt improvement followed the resumption of medication. If either drug had this influence upon the heart, strychnine was probably the one. The writer states that it is probable that the dilatation was due to a change in the myocardium, that is, an acute myocarditis, concurring in Romberg's statement that all cases of diphtheritic heart paralysis present changes of acute myocarditis. The clinical picture of these cases varies according as the changes in the myocardium or in the vagus predominate.

American Medicine, January 21, 1905.

Psychiatry in Its Relation to Other Sciences.—Charles L. Dana shows the relations of psychiatry to its nearest allied sciences,—economics, psychology, physics, neurology and internal medicine, pathology and physiologic chemistry, criminology, forensic or legal medicine, and antropology. He indicates the lines along which work can be carried with mutual help to all, and especially to the advancement of a sounder knowledge of that capstone of all medical sciences, the pathology of the mind.

Subnormal Accommodation and Premature Presbyopia.—George M. Gould believes many failures to cure eyestrain diseases are due to non-recognition of insufficient or paretic accommodation, or premature presbyopia. He reports illustrative cases in which the clinical histories dated back from 6 to 14 years. From a careful study of these cases he concludes: (1) Subnormal, paretic, or insufficient accommodation, or premature presbyopia, even paralysis of the accommodation, of a functional or reflex nature, not dependent upon organic disease, exists in a certain, probably much larger than suspected, proportion of young or middle-aged persons. (2) It is usually permanent or ingravescent. (3) It may be caused by such degrees and kinds of ametropia as compel the renunciation of the accommodative function, especially high hyperopia or astigmatism, etc.; monocularity; glare of footlights; the use of magnifying glasses in engraving, etc.; long-continued abuse of the eyes; a direct inhibiting reflex to the accommodational mechanism. (4) It is of all degrees and varieties, and may even differ in amount in the two eyes. (5) It may complicate the condition of head tilting, torticollis, etc., with secondary spinal curvature, due to a peculiar axis of astigmatism in the dominant eye. The pathogenic results of dextrocularity and sinistrocularity should not be forgotten. (6) The pathognomonic symptoms are the persistence of common eyestrain reflexes (such as migraine, headache, indigestion, intestinal fermentation, constipation, nervous disorders, dermatoses, etc.) after proper correction of the ametropia and muscle imbalance, and especially an inability to carry on continuous nearwork. (7) The diagnosis is impossible by any of the ordinary tests. The loss of power has come on so slowly or has been so long present that the patients have no suspicion that the print is not clear, and it is usually possible for them to read even the finest letters with ease, and for a short time. The comparative rarity of the cases also throws the oculist off his guard, and routine begets carelessness. Abnormally wide pupils of one or both eyes, the demand of high corrections for distant vision, certain occupations, certain forms of ametropia and anisometropia, high heterophoria, unrelieved reflexes, photophobia, etc., are suggestions that there may be accommodation weakness. (8) It is an active cause of heterophoria, adding to the proof of the common dependence of muscle imbalance upon ametropic and optical causes. (9) The treatment is by means of bifocal spectacles, which accurately neutralize the error of refraction for distant, and the deficiency in accommodational power for near vision. Success depends upon the amount of damage done before the appropriate therapeutic measure is found. Usually relief is sudden and striking.

Is Cesarean Section Ever Justifiable in the Management of Placenta Prævia?—Richard Douglas estimates the dangers that attend cesarean section in the management of placenta prævia and limits it to placenta prævia centralis in primiparæ with undilatable cervix. An exsanguinated patient or one that has been subjected to various obstetric manipulations, repeated efforts at dilatation or version, thus opening the channel of infection, are not subjects for operation. In the execution of the operation, the surgeon must not forget his surgical training. There should be time for the uterus to contract and retract after the removal of the child. If this precaution is taken, there need be no fear of hemorrhage from the placental site. Should it occur, our means of controlling it are infinitely superior to what they would be after delivery by the natural channel. The cervix is easily torn in the presence of placenta prævia—an accident that is not always discovered at the time, and only recognized by its disastrous consequences. Remembering that labor is usually premature in placenta prævia and that the mortality of premature children is very high, this operation should not be undertaken in the interest of the child alone.

Radiotherapeutic Nihilism.—G. G. Burdick believes the destructive effects noted in the various malignant conditions are due solely to the chemical ray, and in order to get the best results the degree of penetration should be controlled in order to allow the ray to come to rest in the tissue where results are desired. He states that: (1) in lupus and local tuberculosis the tube should be held within four inchs of the skin, and the penetration regulated to within a half inch, in order to take advantage of the ray of low velocity that resembles the cathode rays; (2) in carcinoma and epithelioma the tube should be at 10 inches, and the penetration calculated to about the center of the growth, producing irritation at least twice and then increasing the degree of irritation to a high velocity, in order to get a cellular degeneration; (3) sarcoma requires a very high degree of penetration, depending upon the density of the growth; (4) when a lethal effect on tissue is desired a very low tube should be used; (5) the lethal effects are due to the chemic radiations; (6) the tonic effects are due to the fluorescence of the ray, fluorescence being understood as a form of motion; (7) all unbroken carcinomas should be thoroughly rayed before operation.

Journal of the American Medical Association, Jan. 21, 1905.

Dengue in the Isthmian Canal Zone.—This paper is a narrative of the personal experiences of D. N. Carpenter and R. L. Sutton, who have paid particular attention to blood examinations in dengue cases. Their findings are summarized as follows: (1) Dengue is one of the few fevers in which a leucopenia persists from the first. (2) Blood examinations are of great value in differentiating between malaria and dengue. Even though no parasites be found, a slight leucocytosis, with decided increase in the percentage of large mononuclears and transitionals is indicative of the former, while a leucopenia, with a normal differential leucocytic count or varying degrees of a small mononuclear lymphocytosis and a marked eosinophilia late in the disease, is characteristic of the latter. (3) Albuminuria is seldom seen in an ordinary attack of dengue, and then only in small amounts. The exact opposite is true of yellow fever. (4) The period of convalescence in dengue is almost invariably ushered in by a pronounced small mononuclear lymphocytosis, which persists for several days. (5) It is suggested that the causative agent is a small diplococcus or a delicate bipolar staining bacillus closely resembling Pfeiffer's organism. It is probably transmitted by the respiratory tract, and its virulence is much increased by the presence of the essential meteorologic factors and by overcrowding.

The Mechanism of Streptococcus Infection.—G. F. Rendiger finds that leucocytic exudate, the cell-fire exudate, and suspension of leucocytes or of bone marrow in serum or in defibrinated blood kill non-virulent but not virulent streptococci. Suspensions of organ cells from guinea pigs in serum or defibrinated blood do not kill streptococci. Leucocytes in the living animal take up streptococci. The author believes that we are warranted in concluding that the leucocytes and the bone marrow are the most important (if not the only) factors concerned in combating streptococcus infections in rabbits and in guinea pigs. It has been shown that normal human serum is a good culture medium for streptococci, and that there is active phagocytosis of streptococci by the leucocytes in a case of streptococcus infection in man. It would seem, therefore, that in man also the leucocytes are an important factor in protecting the body against invasion by streptococci. It has also been shown that the leucocytes take up living streptococci *in vivo,* and in all probability destroy them, but the fact that the cell-free exudate also destroys many organisms indicates that there may be destruction of cocci extracellularly as well as intracellularly. Virulent streptococci, when grown in heated serum, secrete a substance which is toxic for leucocytes. This may throw some light on the question why virulent streptococci are not taken up by the phagocytes. The practical value of this demonstration is self-evident. If we accept the view that the leucocytes are the most important agent in combating streptococcus infections, we see at once that the destruction of these cells by the toxin, as they collect about the focus of infection, robs the body of its strongest defence against these organisms.

The Lancet, January 7, 1905.

Recurrent Effusion into the Knee-Joint after Injury.—W. H. Bennett's paper is based on a series of 750 cases. Of these, the symptoms of internal derangement were precise in 428, the symptoms from lesions of the outer side of the joint being less acute than those from lesions of the inner side. In the former instance, when the semilunar cartilage was at fault, pain and locking were referred in half the cases to popliteal space; 56 cases presented no other symptoms than mere recurrence of the effusion, without noticeable further injury; 24 presented loose bodies in the joint; 4 were cases of genu valgum. Two hundred and forty-one cases were influenced by constitutional conditions. Of these, 107 presented conditions of osteoarthritis, 30 of rheumatism and gout, 42 of syphilis, 28 of gonorrheal rheumatism, 18 of malaria, 3 of hemaphilia, and 13 of what the author calls "quiet effusion in young people." He finds this condition in the knee (and ankle) joints in young girls during adolescence if menstruation is irregular, and especially when its onset is delayed. Its regular establishment is generally followed by a disappearance of the joint trouble. Operation was called for in 87 instances. In case both semilunar cartilages are detached as a result of injury, the author advocates the making of the exploratory incision on the inner side.

The Cultivation of Trypanosoma Out of the Leishman-Donovan Body after Rogers' Method.—The patient whose blood was examined by G. C. Chatterjee was a man who had had fever for six months, with enlarged spleen, the blood being taken by puncture from the latter organ. Three or four of the L.-D. bodies were found in each microscopic field, and on culture they reproduced rapidly. On the third day all stages of transition were seen from an L.-D. body to a fully trypanosoma-like body. The fully developed organisms of the latter type were characterized by the following peculiarities: (1) The position of the micronucleus at the anterior end of the body of the parasites; (2) the long, thick anterior flagellum; (3) the absence of—or, if present, rudimentary—undulating membrane, and (4) the rudimentary posterior flagellum. On account of the presence of these characters, they would appear to be less closely allied to the class trypanosomidæ, such as trypanosoma Brucei and trypanosoma Evansi, than to the class of trypanopis described by Keysselitz, which is characterized by the possession of a micronucleus at the anterior end, a long, thick anterior flagellum taking its origin from the micronucleus, a rudimentary, undulating membrane, and a hardly discernible posterior flagellum, which takes no part in the movement of the parasite. A well-executed colored plate accompanies the article.

Child Study and the Treatment of Paralysis in Children.—A. A. Mumford notes that there are a number of crippled children with congenital spastic paraplegia who show an irregular or abnormal innervation which is very instructive in any analysis of the movements of the limbs. Owing to the disturbances in the motor brain areas, leg spasm occurs in the predominating muscular group, such as the abductors and internal rotators, while paralysis involves the abductors and external solators. Concomitant features are listlessness, apathy, defective speech and mental deficiency. If by the time the child is six or eight years old, he has of himself acquired sufficient muscular coordination to be able to get about on crutches some orthopedic procedure will provide a more or less satisfactory limb. The author analyzes the process of learning to walk, the child gradually exchanging spontaneous and amilers for voluntary and purposive movements. Their coordination is educated by kicking against the bed, etc., whereby the muscular and tactile senses are developed. By the sixth month the child exhibits sufficient pleasure in organized muscular action to enjoy pushing his feet against the floor when the attendant holds the body and allows the feet to dangle; and by the ninth or tenth month rhythmic movements of extension and flexion take place in the two legs alternately. These early movements, which are precursory to walking, seem to be partially reflex in character. Though the child cannot actually walk or stand he has already gained considerable control over the movements by which he will presently be able to do so. Another element is standing—viz., balancing of the head and trunk—is next acquired. At first the child calls to his aid the hands and arms and balances himself by grasping his mother's dress or some other object. This is half way to bi-pedal progression. The position of the feet at this stage of learning is very characteristic. The legs are separated and widely apart, the toes are turned inwards, and there is a vigorous flexion of the great toe and the digits so that the feet seem to be actually gripping the floor. This stage is generally acquired by the twelfth month. The author's main contention is that by very simple apparatus and muscular exercises intelligently performed on children, all based on the principles found to obtain in the normal development of the power to walk, will afford great benefit to the class of patients suggested by the title of his paper. Diagrams illustrate the various points made.

British Medical Journal, January 7, 1905.

Soft Fibroma of the Larynx and Neck, Removed by External Operation Without Opening the Cavity of the Larynx.—Felix Semon reports this unusual case. The patient was a married woman aged 40 years. The writer first saw her in 1898. Up to 1888 she had enjoyed good health, except that she had sometimes suffered from slight "spasms" in the throat. These seem to have preceded all objective phenomena related to the throat trouble. In 1888 she first observed a swelling in the left submaxillary region. This gradually grew, till in 1898 it was as large as an average walnut. At first it produced no discomfort, not causing any difficulty in breathing or any disturbance in the voice. In the spring and fall it used to swell, but always returned to its previous size. Little by little it became tender on pressure, and the patient's breath became permanently short. The "spasms" increased in severity. She consulted several physicians, and attempts were made to remove the growth, but without success. Finally, on account of difficulty in breathing, tracheotomy had to be performed. This gave great relief. Before this operation the patient had grown very thin, but after it was performed her general health improved. Shortly before the writer saw her the external swelling had increased in size, and there was a great deal of shooting pain in the throat, extending to the jaws and to both ears. Examination showed the external tumor to be tender to the touch, and any pressure on it, unless extremely gentle, caused immediate retching and coughing. It was not adherent to the skin and was somewhat mobile in various directions, although it seemed to be fixed to something very low down. The neighboring glands were not enlarged. Laryngoscopic examination revealed a surprising state of affairs. Although the voice was almost normal, there was present an enormous tumefaction of the left half of the larynx, which in front extended to nearly the free border of the epiglottis, and behind to the left arytenoid cartilage. All the corresponding parts of the larynx within that region seemed to have been absorbed into this smooth, round tumefaction, which was covered by apparently normal but very pale mucous membrane. Not much more than the free border of the epiglottis could be seen, and it was so twisted that the epiglottis looked towards the right. Neither of the vocal cords could be seen, and it could be concluded from the integrity of the voice that the left vocal cord itself could not be involved in the process. The right arytenoid cartilage moved well. The left half of the larynx was almost immovable. On touching the tumefaction with a probe there was a feeling of elastic resistance similar to that experienced on pressing upon the external tumor. The patient refused operation until in the early part of 1904, when her symptoms had become more severe. There was running from the eyes, inflammation of the conjunctiva, and very much increased salivation. The internal tumor had greatly increased in size, although the external one was not much larger. The writer, at operation, cut down upon the external tumor, dissected it out from its vicinity, and found at its distal end a thin, partly thread-like pedicle, which he followed up as far as possible. The tumor was extremely friable and broke into several pieces, which were removed without difficulty. The internal tumor was shelled out by means of the finger. The tracheal tube, which the patient had worn for nearly 13 years, was removed. The patient made a complete recovery. The structure of the tumor proved to be fairly uniform and typical of a soft fibroma. It was edematous in character. This explained the fact that the tumor varied in size from time to time. Whether the growth began in the larynx or in the tissues of the neck has not been determined. From this case it is clear that pure fibromata may simultaneously involve the larynx and the neighboring parts of the neck. The close proximity of the growth to the superior laryngeal nerve explains the coughing and retching. The epiphora and salivation were probably due to the irritation of the sympathetic.

Ambidexterity.—N. Bishop Harman first reviews a number of morphological facts in relation to visceral asymmetry in human beings. He then advances an hypothesis as to the presence of a general right-handedness in man. He suggests an incident in the life of primitive man in which two of these beings have a hand to hand conflict. One learns the secret of division of labor in the fore-limbs, and uses his left arm for a shield and his right for fighting. He is the victor in the fight, and his offspring, after he has captured the wife of the victim, would revert to the maternal custom of using the left hand. The writer then cites various examples to prove the real ambidexterity of ordinarily trained men. Instead of ambidexterity, it might better be called coordination of bimanual action. Most men brush the hair with a pair of brushes, using each hand equally and coincidently in the task. Women plait the hair using both hands; they also hold the hand-glass first with one hand, then with the other, while adjusting plaits, coils and pins with the free hand. The process shows extraordinary bimanual dexterity, with hand and eye cerebration. Violin playing illustrates in a most remarkable way the division of labor between the forelimbs. The use of the typewriter and the inscription of the Braille type by the blind all show a wonderful bimanual division of labor. The writer concludes that the aim of the Ambidextral Culture Society is futile, for Nature has already done the work which this society proposes. In a long course of evolution, Nature has shown that it is desirable to specialize in the use of the limbs.

The Value of Nitroglycerin in the Practice of Surgery.—Frank Elvy cites two cases in which the use of nitroglycerin proved most valuable. The first patient gave a history of a rough life, hard drinking, together with "bad kidneys." The pulse showed high tension. The dorsum of the hand was swollen and edematous, the result, so the patient stated, of three small spark wounds. The condition of the hand becoming worse, several incisions were made on the dorsum, followed by fomentations. Strychnine and stimulants were administered throughout. The patient steadily grew worse. The wounds gaped widely, revealing a dry surface covered with dirty-looking sloughs. The condition appeared to be a typical moist gangrene. The patient refused amputation. Nitroglycerin, 1-100 grain, was given at 9 P. M. Vast improvement was apparent on the following morning. The radial pulse, which could not be felt the day before, was now restored on the affected side. The wounds no longer gaped, and they discharged freely a healthy-looking pus. Recovery was complete. Another patient, a Chinaman, who was suffering with a carbuncle on his neck, was treated by crucial incision and scraping under ether. The wound did not heal and was covered with a dry, yellow slough, and the neighboring tissues were swollen and indurated. Nitroglycerin was followed by the same successful results in this case as in the last one described. The action of this drug can be measured by the finger at the radial pulse while one notes the local effect upon a diseased part. Not only in incipient senile gangrene, but in all cases of impaired circulation in which contracted arterial walls are present, nitroglycerin should be of great value to the surgeon.

Berliner klinische Wochenschrift, January 2, 1905.

Infantile Scurvy in Berlin.—Neumann attributes the increase in Berlow's disease that has been noted in Berlin during recent years to the fact that many of the large dairies are pasteurizing their milk before delivery. Formerly this was done only in the case of special milk supplied to the better classes, but of late it has been found advantageous to subject a large share of the general supply to this process. In consequence, as many mothers subject the milk to another boiling after receiving it, the milk is frequently exposed to so much heating that it becomes the cause of disorders of nutrition in infants. Milk, even though pasteurized, that is vended in the streets, is exposed to so much risk of contamination that it should be boiled before use, and it is then likely to be unfit food. If the milk has not been pasteurized there is no objection to boiling it, and pasteurized milk delivered in bottles does not require boiling. The consumers should therefore be informed whether or not the milk has been subjected to a preliminary heating, and if so, to what degree this has been carried. Without this knowledge the consumer cannot determine the treatment the product should receive before use, and there is more or less danger of malnutrition to the infant. The author recommends that it be made compulsory for milk producers to indicate the fact when milk has been pasteurized.

The Nature of Urticaria.—Baum found that the application of ethylen glykol to the healthy skin that had been deprived of its superficial epithelium by rubbing with sand paper, gave rise to a localized edematous swelling in all respects similar to that of urticaria and lasting from fifteen to thirty minutes. In order to gain a better insight into the nature of this swelling he applied the same substance to the web of the frog's foot and was able to watch the formation of the wheal under the microscope. The phenomenon appeared to be a rapidly appearing and subsiding localized edema following temporary dilatation of the capillaries. There was no constriction of the veins, so that Unna's hypothesis to the effect that the lesions of urticaria depend on a spasm of the veins which gives rise to a localized congestive edema does not seem justified. The similarity between this artificial lesion and that of urticaria is still further borne out by the fact that only certain frogs show the phenomenon. Freshly-caught animals do not react in this way to the application of ethylen glykol, whereas those that have been kept in captivity over the winter invariably do, which is in accord with the personal idiosyncrasy observed in urticaria patients.

Münchener medizinische Wochenschrift, January 3, 1905.

Endemic Occurrence of Myelogenous Leukemia.—Arnsperger observed three cases of typical myelogenous leukemia which all came from the same district, and on making an investigation of this region, found that eight others existed or had recently died in this neighborhood. Pforzheim is the largest town of the section in question, and the cases came from there or from adjoining villages scattered along the Enz valley. The endemic occurrence of leukemia in this manner has not yet been described, and the author was unable to discover any explanation of the pathogenesis of the present series of cases. The list of patients comprised five women, four men and two children. Heredity does not appear to enter into the question, but the hygienic conditions were all of the poorest and the water supply is bad. The same district has suffered from several epidemics of typhoid fever. The occurrence of a number of similar cases in a restricted section seems to the author to point somewhat to a parasitic origin of the disease.

The Treatment of Exophthalmic Goitre with Antithyroidin.—Thienger and Hempel both discuss this subject and each author comes to conclusions favorable to the mode of treatment. Thienger treated four patients with tablets of antithyroidin made of the serum of sheep from which the thyroid gland had been removed about six weeks before the first bleeding. The average dose was 5g. of the serum by the mouth, every other day. In one case the treatment was apparently without effect, but in the other three very marked subjective and objective improvement followed. The body weight increased, the pulse rate dropped and in one instance there was a marked decrease in the size of the goitre, and disappearance of the exophthalmos. Hempel's case was also greatly improved by the use of 90g. of serum given in sixteen doses. That the amelioration was due to the medication was shown by the fact that when the tablets were omitted for two weeks the pulse increased in frequency and dropped again when the drug was resumed. Both authors concur in stating that the value of this form of treatment is still undecided, but that it promises well and deserves investigation.

A Case of Traumatic Pulmonary Hernia.—Cahen observed in a patient under his care the gradual development of a pulmonary hernia following trauma. The patient, a man of forty, was hit by a falling packing case which struck his right shoulder and forced his chest against a wall. The immediate results of the accident were those incident to the contusion of the shoulder, but four weeks later it was discovered that when the patient stooped over, a swelling the size of a hen's egg made its appearance in the first interspace close to the sternum, and extended upward and downward over the clavicle and second rib. On assuming the erect position the swelling disappeared spontaneously. The hernia could also be protruded by forcible expiration, with closed glottis. The nature of the hernia was determined by its resonance, the fact that exploratory puncture was negative, and by the further observation of a tendency to incarceration which developed itself after a time. The mass could then be returned to the thoracic cavity by manipulation and the fingers could detect crepitation as this was done. After a while the hernia always became incarcerated if several violent expiratory efforts were made in succession. Eight months later the condition was still the same.

Deutsche medizinische Wochenschrift, January 5, 1905.

Bacteriological Observations in the Hot Water-Alcohol Method of Disinfection.—Sarwey discusses the technique by which Ahlfeld has endeavored to show that by his method of hot water-alcohol disinfection it is possible to render the hands sterile. Ahlfeld tests the hands for sterility by enclosing them for a certain length of time in a rubber globe filled with bouillon, and then incubating portions of this to detect possible bacterial growths, and he founds his claims on the results obtained in this way. The author repeated these experiments, but found that not one of the thirty-four different hands tested had been found sterile. Without exception it was demonstrated that the bacterial flora of the hands had been greatly reduced, but not wholly exterminated. The discrepancy is explained by the fact that Ahlfeld did not make a sufficient number of cultures from each hand, and that he used only bouillon as medium, whereas agar furnishes a much more suitable material for the growth of the hand bacteria The author, therefore, concludes that Ahlfeld's method does not possess the advantages claimed for it by its originator, and that it cannot bring about sterility of the hands.

The Treatment of Panaritium.—Riedel says that minor surgery has not kept pace with the advances of major surgery, and that because it usually has to do with infected tissues he dreads it more than he does major procedures. The infliction of apparently negligible slight lesions about the hand or fingers is usually disregarded by the laity and often by physicians also, yet the grave impairment of function, and even danger to life that follows neglected injuries of this sort renders them of the highest importance. The author treats such wounds of the skin as soon as noticed by leveling the surface of the epidermis around the lesion with a sharp knife and applying a piece of gauze coated with boric acid ointment, or vaseline. The flap of epidermis resulting from diagonal cuts should be trimmed down closely so as to expose the deepest part of the wound. If incision should be necessary in a case that has been allowed to go too long the finger or the wrist should be constricted with a rubber bandage and the part anesthetized by means of the old-fashioned ether spray. Ethyl chloride is too superficial in its action. Early incision is always advisable, for even though not so effective in causing the pain to abate as if performed later on, it nevertheless greatly shortens the course of the infection. Deep-seated inflammations with involvement of the tendon sheath require long incisions carried up the forearm and splitting the annular ligament at the wrist. The dissection in these cases is often a most difficult one, requiring the resources of an operating room, and for this reason such infections should not be treated by the general practitioner, but be at once referred to the nearest hospital. Secondary suture of the granulating incision is not advisable, but good cosmetic results are obtained by excising the scar after healing is complete and then suturing the skin edges, thus substituting a linear scar for the preceding broad one.

Antibacteriolytic Bodies in Normal Sera.—Pfeiffer and Friedberger describe experiments done to determine the presence of bodies antagonistic to bacteriolysis in normal serum. Cholera vibrios or typhoid bacilli were added to the normal serum in order to combine with the amboceptors, and were then removed by filtration or centrifugalization. When this prepared normal serum was added to a specific serum it was found that the bacteriolytic power of the latter was greatly inhibited. The normal serum of rabbits, goats and pigeons, but not that of the guinea pig, was so modified by temporary contact with these cholera or typhoid organisms that even when an excess of immune serum was added bacteriolysis of the corresponding organisms injected together with the serum into the guinea pig's peritoneal cavity did not take place. The bacteria multiplied freely and the animals died, whereas control animals were able to withstand the infection and got the better of the bacteria. It is possible to produce the effect not only *in vitro*, but also during during life. The serum of a rabbit that had received a heavy intravenous dose of cholera vibrios showed a marked inhibiting effect on cholera amboceptors a quarter of an hour after the injection. This inhibitory action is strictly specific, and serum treated with cholera vibrios is active only against typhoid amboceptors, and vice versa. The failure of bacteriolysis shortly before the close of a fatal infection may, in addition to the deficiency in amboceptors and complements, be to some extent due to the action of these antagonistic bodies.

French and Italian Journals.

Typhoid Bacilli in Relation to Vegetables.—Clauditz has made extensive researches to determine the external and internal infection of vegetables cultivated in soil infected with typhoid bacilli. He first made investigations under the direction of Rubner of Berlin, in order to determine the manner of growth of typhoid bacilli in earth. He found that the fresh bacilli adapt themselves with difficulty to new conditions. But he also discovered that when the typhoid bacilli are associated with native microorganisms of the soil, cultures can be obtained that are capable of living for months in the ground. Clauditz used these "adapted" typhoid bacilli for his experiments. With them he infected the soil in which he planted peas, radishes, cress, and other vegetables. When the plants had attained the height of from 5 to 8 cm., they were cut off level with the ground, and after being washed in sterilized water, they were bruised in bouillon. Out of four experiments, only one met with positive results—the development of a typhoid culture. Efforts were then made to discover whether the bacilli came from the surface or from the interior of the plants. The specimens were first washed in sublimate solution or dipped for ten or twenty seconds in hot water. The results were all negative. It would seem, then, that typhoid bacilli never penetrate to the interior of plants, even if the plants harbor these bacilli on their foliage or roots.—*Revue Française de Médecine et de Chirurgie,* December 19, 1904.

The Content of Glycogen in Each Lobe of the Liver in Relation to the Phases of Digestion.—Sérégé has performed certain experiments with dogs to determine the presence of glycogen in the liver. The dogs had first fasted for 48 hours. After the animals were fed, the writer found during gastric digestion a predominance of glycogen in the left lobe of the liver. During intestinal digestion, however, he found the greater quantity in the right lobe. But after the seventh hour and during the fasting, even when prolonged, the larger amount was found in the left lobe. The functional independence of the two lobes is clearly shown for the right, but is less manifest for the left, on account of the last unexpected result. The investigator will seek to clear up this question by a study of the subhepatic blood vessels.—*Journal de Médecine de Bordeaux,* December 18, 1904.

Biological Theory of Sleep.—Claparède considers as erroneous the usually accepted conception according to which sleep is thought to be the consequence of an arrest of functioning, by intoxication and by asphyxia. He believes, on the contrary, that sleep is a positive function, an instinct which has for its purpose arrest of functioning. It is not because we are intoxicated or exhausted that we sleep, but we sleep in order to avoid these conditions. The fact that sleep is not proportional to exhaustion is an argument in favor of this theory. Sleep may be partial. One sleeps through certain noises, but not through others. Finally, the curve of the profoundness of sleep, inexplicable by the toxic theory, is in harmony with the theory that regards this phenomenon as a positive nervous function. The instinct, the reflex is provoked by numerous excitants: endogenous (condition of the blood, sensation of fatigue), exogenous (images empirically associated with the idea of sleep). The phenomenon in itself is a reaction produced by these excitants and is an inhibition which manifests itself subjectively by a lack of interest in exterior things.—*La Presse Médicale,* December 21, 1904.

The Staphylococcus Pyogenes Aureus and Osteomyelitis.—J. Courmont and Ch. Lesieur report their experiments in which they infected rabbits by means of the yellow staphylococcus. These animals were attacked by acute osteomyelitis. The rabbits chosen for the experiments were 7 weeks old. The staphylococci which were injected into the blood were young and virulent cultures and were taken from furuncles. In these cases, pockets of purulent arthritis of the size of a nut were noted, subperiosteal spindles along the diaphyses, epiphyseal separations, osseus sequestra, little drops of pus in the bone marrow, and finally miliary abscesses in the renal pyramids. In all of these lesions the staphylococci existed in pure culture. The writers believe that, contrary to the assertions of Henke, the staphylococcus aureus, without the intervention of any other microbic agent, has a manifest tendency to localize itself in the neighborhood of epiphyses of bones in the process of growth, and can produce there lesions of suppuration and necrosis. The staphylococcus is always the microbe *par excellence* of the acute osteomyelitis of adolescents.—*Lyon Médical,* December 18, 1904.

The Influence of a Diet Poor in Chlorides on Metabolism.—Calabrese has studied the changes in oxidation in healthy persons on a diet of rich or poor in chlorides, and has found that as chloride of sodium is decreased there is a greater decomposition of albumins; he has studied the effect on the blood and found that it became poor in corpuscles and in hemoglobin. He concludes that chloride of sodium aids digestion not only as a condiment, but as an indispensable element for maintaining the normal condition of the organism. In some cases of hepatic cirrhosis he finds no fixed relation between the subtraction of chlorides and the presence of ascites. There is partial retention of the chlorides in this disease, but the amount of chlorides retained in the system is not the same as that execreted in the urine. He believes that the removal of chlorides from the diet is not beneficial in hepatic cirrhosis.—*Rivista Critica di Clinica Medica,* November 26, 1904.

Book Reviews.

Anatomie des Membres (Dissection, anatomic topographique). Par le docteur Ch. Dujarier, ancien prosecteur à l'Amphithéâtre de Clamart, chef de clinique chirurgicale à la Faculté. Avec 58 planches. Paris: G. Steinheil, 1905.

This work is a rather elaborate but practical guide to dissection; it tells the student both what to look for and where to look for it, and also gives instruction on the preparation of a finished dissection suitable for purposes of demonstration. The author having had several years' experience as prosector not only knows the requirements of students, but here more than supplies their needs. As will be seen from the title, this volume deals with the extremities only; but the work on this part is well done, and is illustrated with several colored plates, all prepared from the author's own dissections and eminently calculated to aid the student in his work in the dissection room. The whole book is of value; specially so are the chapters dealing with the axillary space, the bend of the elbow, the palm of the hand, the gluteal region, Scarpa's triangle, and the knee-joint; these, besides giving the ordinary anatomy, descriptive and topographical, go into considerable detail, so that those who use the book will not have to search elsewhere for further information.

Erste Aerztliche Hülfe bei plötzlichen Erkrankungen und Unfällen. Von Prof. Georg Meyer. Second Edition. Berlin: Aug. Hirschwald, 1905.

It is quite true, as stated in the editor's preface, that instruction in First Aid to the Injured is usually directed to the laity, although it must be acknowledged that the physician himself is equally in need of information of this kind. The importance and care spent in the preparation of the work becomes evident when the list of authors is cited. The text is in the form of lectures addressed to the medical student and the practising physician, and those on surgical aids are contributed by von Bergmann; on internal diseases, by Carl Gerhard; on poisoning, by Oscar Liebreich; on obstetrics, by Martin; and on apparent death and unconsciousness, by the editor. This material is very exhaustively treated and yet arranged in such a manner that it may be used as a work of ready reference. It seems more suitable, however, for continued reading and the colloquial style adopted lends interest to the book. The popularity of the work may be gauged by the fact that the second edition has appeared within a year and a half after the first, and a translation in another language has also been published.

The Diseases of the Uterine Cervix. By H. I. Ostrom, M.D., New York. Surgeon to the Metropolitan Hospital, etc. Philadelphia: Boericke & Tafel, 1904.

The author claims that the diseases of the cervix and the body of the uterus must be considered separately, because there is not only an anatomical, but also a physiological distinction between these two parts. It has apparently been a difficult matter to limit the discussion to this topic, however, and the author also takes up pelvic surgery in general. The surgical treatment does not vary much in its general features from that which we meet in books written by others than homeopaths, but the tenets of the latter school are nevertheless in strong evidence in this work. There is also an appendix on therapeutics, in which indications for various remedies are tabulated. Some of the statements are interesting, if nothing else. The "allopathic mind" may be puzzled to know why "Kali bich." should be "suited to fair, light-haired persons, who suffer from catarrh," why the "tissue characteristic of Conium mac. is induration and hardness," why graphites are adapted to women who are inclined to obesity and why they affect the left ovary. The book is devoid of illustrations and it is tinctured too much with the principles of homeopathy to be of value to any one not a disciple of Hahnemann.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc., assisted by H. R. M. Landis, M.D., Visiting Physician to the White Haven Sanatorium, etc. Volume IV. December, 1904. Philadelphia and New York: Lea Brothers & Company, 1904.

The present volume of this well-compiled conspectus of medical progress covers a wide range of subjects, which are interestingly annotated by the editors of the several departments. The principal sections are devoted to diseases of the digestive tract; anesthetics, surgery of the extremities and orthopedics; genitourinary disease; diseases of the kidneys; and a practical therapeutical referendum. Each of these is many times subdivided, and progress in the several departments is indicated by abstracts of the most important contributions which have appeared in native or foreign publications. The editors have shown much skill and discretion in welding these more or less disjointed fragments into a harmonious whole, which independently of its inherent interest makes agreeable reading, something of an anomaly in abstract literature. There is a liberal sprinkling of illustrations, including the inevitable brace of colored plates, which, as usual, are calculated to make the judicious grieve, but, no doubt, fulfill their purpose of enlivening the pages of a volume good enough not to require such brummagem embellishment.

Mechanical Vibration and Its Therapeutic Application. By M. L. H. Arnold Snow, M. D., Professor of Mechanical Vibration Therapy in the New York School of Physical Therapeutics; Associate Editor of the Journal of Advanced Therapeutics; Late Assistant in Electro-Therapeutics and Diseases of the Nervous System in the New York Post-graduate Medical School, etc.. New York: The Scientific Authors Publishing Co., 1904.

The growing popularity for physical methods in the treatment of disease here finds another work which describes the newer system of vibratory massage. The older, manual method, has gained a well deserved reputation but has the drawback of being too exhausting for the average therapeutist and if the perfection of mechanical means will make up for the lack of delicacy which the sense of touch affords we shall have a valuable addition to our system of treatment. The author herein describes the history and development of mechanical vibration, the different vibrating machines whether operated by hand, by compressed air, or by electricity, and the principles which underlie their different actions. The general physiological action is then considered in so far as we at present understand it. One chapter is given to the effects on the circulatory system, another to the nervous system, and another to the muscular system. The author also considers some of the general laws which are applicable to the methods in use, describing the points of application, the advantages of rapid and slow vibration, the amount of pressure to be used, and other points in technique such as would be valuable to those contemplating further investigation of the subject.

Quite a number of plates descriptive of the various instruments which are on the market with their different actions adds to the value of the work and will enable the reader to select such as would be best adapted to his special line of work.

A Laboratory Manual of Human Anatomy. By Lewellys F. Barker, M.B., Professor and Head of the Department of Anatomy in the University of Chicago and Rush Medical College. Assisted by Dean De Witt Lewis, A.B., M.D., and Daniel Graisberry Revell, A.B., M.B., Instructor in Anatomy in the University of Chicago. Illustrated. Philadelphia and London: J. B. Lippincott Company, 1904.

Here is a new laboratory manual of anatomy designed to take the place of what have been known in the past as dissection guides. From many of these it differs very considerably both in the quality and the quantity of the work which it exacts; to most of them it is superior, to the best of them it is equal. Students seeking short and easy methods will do well to avoid this book; but the earnest student will welcome it as a most serviceable guide in the dissecting room, and at the same time he will appreciate the conscientious and painstaking habits of study which will be inculcated by its use. The volume commences with an introduction containing sections on the instruments needed in dissecting, their care and use; preservation of the part; drawing; books, including textbooks, reference books, and atlases; and on anatomical terms. This is followed by the main body of the book, in which each portion of the cadaver is considered in turn, and the student is taken thoroughly and carefully over the upper extremity, lower extremity, head and neck, dorsum of trunk, thorax (walls and viscera), abdomen, and pelvis. Among the many points of excellence may be mentioned the repeated insistence on drawing the parts dissected; the constant reference to standard textbooks and large atlases; the entire absence of information to be found in the textbooks, such as descriptions, origin and insertion of muscles, etc.; the double system of nomenclature, viz., the scientific one formulated by the German Society of Anatomists, and the old one still used in the majority of books. The illustrations number nearly three hundred, and satisfactorily represent the most important structures of the body. There can be no doubt that the use of this book will do much to advance the practical study of anatomy; it will lighten the labors of the instructor and render the student such guidance as he requires.

Society Reports.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Thirty-second Annual Meeting, Held at Havana, Cuba, January 9, 10, 11, 12 and 13, 1905.

The Association met at the Athenaeum Club, under the Presidency of Dr. Carlos J. Finlay of Havana.

Following the transaction of routine business, such as the election of over a hundred new members, etc., the reading of papers was begun.

Purification of the St. Louis Water Supply by Using Ferrous Sulphate and Calcium Hydroxide as a Coagulant, Followed by Plain Sedimentation.—This paper was read by Dr. C. A. Snodgrass of St. Louis, and was of particular interest, for the reason that, according to the claims of the author, it set forth a simple, practical, and inexpensive method of handling large quantities of surface water. It called attention to the fact that from the year 1832, the time at which the first water works system of St. Louis was installed, until 1904, the water supply of St. Louis had been unsatisfactory, and that in a few months' time a complete transformation of the quality of the water had been secured. The comparative cost with other proposed methods was most striking. One of the proposed methods called for an original outlay of $31,000,000; another $2,700,000, while the present plant required only $10,000 for its construction. This plan of operation was shown to cost $4.50 less per million gallons than any other proposed plan. The exact and extensive chemical and bacteriological data added to the physical properties proved conclusively that a water of a high degree of potability was being secured. The removal of suspended matter was shown to average 96.9 per cent., whilst the bacteria removed averaged 95 per cent. in many weekly analyses, showing an efficiency of 99 per cent. Mineral analysis showed that there was nothing left in the water that could be inimical to health. The death rate from typhoid fever during the last year had been materially lowered, but owing to the limited time of operation of the present system, no deductions from this point of view were insisted on. Reports from engineers and manufacturers showed that the treatment given the St. Louis water supply was highly satisfactory to their interests. It was the opinion of the writer that little or nothing would be gained by adding mechanical filtration to this system. Attention was called to the difficulties which were unavoidable in the institution of this plan into the previously existing plant, and it was claimed that with contemplated changes of a minor character the expense of operation would be lowered and the efficiency increased.

Copper Sulphate Method for Removal of Germs From Water.—Mr. F. S. Hollis of New Haven, Conn., contributed a paper in which he described a practical test of the copper sulphate method for the removal of germs from water supplies.

Report on Purification and Preservation of Water Supplies.—Mr. Geo. W. Fuller of New York presented the report of the Committee on Purification and Preservation of water supplies. He stated that the principle of the use of sulphate of copper in treating water supplies was not a new one, as it had been used for thousands of years. With reference to filtration, he said the number of cities in the United States, with a population of 25,000, now using the filtration plan, was about 8 per cent., those which had filters under construction, 11 per cent., those in which filters had been authorized, 20 per cent., and those in which filters were being considered necessary, 31 per cent. Statistics and arguments were advanced in favor of filtration as a method of purifying water supplies of cities.

Dr. Frank Warner of Columbus, Ohio, stated that in considering the improvement of any public water supply, more attention should be given to the better protection of the watershed. This feature was either neglected or overlooked in connection with modern purification plants. This was especially true of pollution near the purification works, and the water should be delivered to the purificat plant in as pure a condition as possible.

Mr. H. W. Clark of Boston said that since the introd tion of filtration at Lawrence, Mass., the city had increa in population from 45,000 to 75,000, and the percenta of deaths from typhoid fever had been materially duced.

Mr. Robert S. Weston of Boston stated that other qu tions of purification of water must be settled before a one method could be universally used.

Disinfection and Desinfectants.—At the afternoon s sion the report of the Committee on Disinfection and D infectants was read by Professor F. C. Robinson of Bru wick, Maine. The report was a review of the more i portant literature on the subject during the past ye especially in the foreign journals. As to experiments disinfecting railway cars by formaldehyde, the resu showed that in case of passenger cars it was practically i possible to sterilize completely all parts by the vapor formalin, but still the experimenters think that it is t most practical thing to employ for that purpose. Th recommend 1,000 c.c. of the liquid formalin to each c but of course the cars are much smaller than those in u in the United States. As to chemical methods for ste lizing drinking water, V. B. Nesfield recommends the u of tablets made from 1½ grains bleaching powder and grain sodium bicarbonate. He claims that these will ea sterilize a pint of water in five minutes, or better, te He removes the paste of chlorin by adding a tablet sodium sulphite. He claims that by such use the most fo river water can be made free from disease germs ar palatable.

With regard to the disinfection of books, the report calle attention to the danger of the spread of infectious di eases through library and school books. It was recom mended that the danger should be met as far as po sible by notices in libraries calling attention to the ac visability of handling books with clean hands, of n putting the hands to the mouth after touching book until the hands are washed, and in addition submittin books much used to the action of formaldehyde vapo once in a while. Remarkable results had followed th occasional use of weak solutions of formaldehyde on th floors of school houses—solutions so weak that they gav no disagreeable odor. Infectious colds and other dust borne diseases were much lessened among the scholar The committee believes that the occasional use of such solu tions on floors and surfaces in dwelling houses as well a public buildings would do a great deal towards improvin public health.

The Use of Sulphate of Copper Alone or in Combinatio With Lime for the Destruction of Mosquito Larvæ as Deodorant and as a Disinfectant.—Dr. A. H. Doty o New York contributed a paper with this title. (Se page 90.)

The Disinfection of School Books.—Dr. Walter D Greene of Buffalo, N. Y., stated that the examination of the public school books early in 1902 revealed the fact that they were filthy, especially those used by the lower grades. These books were furnished gratuitously by the city, and consequently there existed a tendency to use them until they were literally in pieces—a period covering several years. It was thought that these filthy books, worn and handled by so many diminutive individuals, might be, and probably were, a source of contagion, and it was decided to disinfect them. The books were placed on their edges with covers widely separated upon tables and shelves in tightly sealed rooms. Formaldehyde gas was liberated in the room, six ounces of a comparatively fresh commercial formalin being used for every one thousand cubic feet of air space, the vaporization being induced by the use of wood alcohol burned in a receptacle containing the formalin. Bacteriological examinations were made of the soiled leaves of books both before and after disinfection, and it was found that about 85 per cent. of all organisms were killed. For the three years immediately preceding this schoolbook disinfection—that is, 1899, 1900, and 1901—the average number of cases of scarlet fever reported to the health department by physicians in Buffalo was 875 yearly, while the average yearly deaths for the same time was 36. For the three years following such disinfection, the average number of cases reported yearly was 528, and the number of deaths yearly for the same time was 18. He hoped the results of these investigations would stimulate health boards and health officers to disinfect the schoolbooks of their respective municipalities.

The Sources of Infection.—Dr. Charles V. Chapin of Providence, R. I., after pointing out various sources of infection, directed attention to isolation and disinfection. He said that it was perfectly plain, if we could isolate every case of a given contagious disease until all infection had disappeared, the disease would not merely decrease, but it would be exterminated. If we could control only one-half, one-quarter, or one-tenth of the foci of infection, it was equally clear that the disease would never be exterminated, and it was not even certain that it would diminish. The relation of probable success to the efforts made must decide the extent of those efforts. It was the writer's opinion that for most of the diseases, and for most localities, restrictive measures were either carried too far or were not carried far enough.

The Actual Sanitary Conditions of Havana and the Further Requirements for Their Improvement.—Dr. Erastus Wilson of Havana said that the prevailing annual mortality in the city of Havana previous to American intervention—1898-1902—approximated 40 per thousand. The general cleaning up of public places and rigid house-to-house inspection and abatement of unsanitary domestic conditions, together with filling the puddle holes and irregularities in the macadamized streets, with the prohibiting of the ejection of domestic wastes into the by-ways, obtained immediate and notable reduction in the mortality rate in the city. The continuation of the sanitary measures introduced by that intervention and the continued improvements of the pavements of streets had reduced the mortality and morbidity to about 50 per cent. of their former rate, besides beautifying the city and making it infinitely more attractive for residents who were interested in health and general culture.

The author called attention to a further requirement of sanitary science, which was radical and indispensable, namely, a modern system of sewers of proper section, regularly graduated in size and declivity from their incipience to outfall, impermeable throughout and connected with the closets of every house by lead-jointed, cast-iron pipes, uniting them to the sewer outside the domicile.

Following Dr. Wilson's paper, a resolution was offered and adopted: "That the Association congratulates the civic authorities, the physicians, and the people of Havana in general upon the gratifying improvement made in its sanitary condition, and especially upon their work in freeing their beautiful city from any danger from that once dreaded scourge—yellow fever—by their persistent and skilful campaign against the yellow fever mosquito. We are especially gratified also that they do not propose to rest contented with what has been done, great as it is, but have already planned other sanitary improvements of great importance, including an efficient system of sewerage, which we wish them Godspeed in carrying out at the earliest practicable moment."

Addresses of welcome were delivered by Dr. Cancio, Secretary of Public Instruction to President Palma, representing the Cuban government, and by Dr. Lincoln de Zayas, representing the medical profession of Havana.

President's Address.—The President, Dr. Carlos J. Finlay, after thanking the Association for the great honor that had been conferred upon him in electing him President, referred to the first Havana yellow fever commission, which was established a quarter of a century ago, and came from Washington to prepare the ground upon which a common enemy would be subsequently challenged and decisive battle fought. This enemy was the yellow fever. So well did this commission accomplish its object, that he could readily trace back to its immediate influence the discoveries which led the way to ultimate success. After referring to the deaths of several prominent members that had occurred during the year, he stated that the sanitary experience in Cuba during the last twelve months, with regard both to yellow fever and to smallpox, had been somewhat more eventful and at the same time more instructive than in the preceding two years. In the district of Havana, notwithstanding the admission of imported cases of yellow fever from foreign ports, not a single case, originating on the island, had been recorded.

The fight against tuberculosis must be maintained at all costs, as that was the most important factor in mortuary statistics of large towns, almost all over the world. The study of causes and prevention of infant mortality was one which affected Cuba not only with reference to infantile enteritis, but with regard to tetanus neonatorum, the occurrence of which was coupled with unpardonable ignorance or neglect on the part both of parents and of the attendants at the birth of children. The control of milk supplies in large cities was closely connected with infantile mortality, for the methods best calculated to carry the former into effect should undoubtedly lessen the latter. Finally, the subject of sanitary agreement between adjoining nations had become of paramount importance since the recent advance made in our knowledge of the etiology of certain quarantinable diseases, of yellow fever in particular. Hence the advisability, that European nations holding possessions in the American yellow fever zone, be represented at the meetings of the Association.

Dr. Benjamin Lee of Philadelphia read a tribute to Dr. Carlos J. Finlay for his distinguished services to science and humanity in the discovery of the mode of propagation of yellow fever.

Bacillus Tuberculosis in Man and Animals.—In the absence of Dr. M. P. Ravenel, Chairman of this Comtee, the report was read by Dr. V. C. Moore. Since the last meeting, several important pieces of work had been reported. These were detailed in the report. The Committee carefully compared the disease set up in the bovine animal by material of bovine origin, and so far it had found the one, both in its broad general features and in its wider historical details, to be identical with the other. It had so far failed to discover any character by which it could distinguish one from the other; and its records contained accounts of the post-mortem examinations of bovine animals infected with tuberculous material of human origin which might be used as typical descriptions of ordinary bovine tuberculosis. At the laboratory of the State Live Stock Sanitary Board of Pennsylvania, a third instance of infection with the bovine bacillus had been found. The case was that of a child not quite two years old, who had been nourished the greater part of its short life on cow's milk, bought from the most convenient store. It developed a large abdominal tumor, which proved on autopsy to be a tuberculous new growth, involving the mesenteric glands and intestines. The lungs were not involved. Cultures were obtained from this tumor, which had the cultural and miscroscopic characteristics of the bovine bacillus, and proved fatal to a calf weighing 211 pounds, in thirty-five days. The Committee did not yet feel able to say with what frequency bovine infection of man took place, but it was evidently not a rare occurrence. The Committee considered that the evidence going to show that such infection did take place was absolutely conclusive, and that it not only justified, but made imperative, the passage of stringent laws by municipal and

State authorities for the suppression of tuberculosis in cattle, and the prohibition of the sale of meat and milk from tuberculous animals.

Dr. **Jesús E. Monjaras** of Mexico City contributed a paper entitled, "Measures Proposed in the Struggle Against Tuberculosis."

Report of the Committee on Tuberculosis.—In the absence of the Chairman of the Committee, Dr. **Lawrence F. Flick** of Philadelphia the secretary read this report: The practical measures recommended years ago had since been tested in part, and so far as tested had been found of use. These recommendations were: "(1) The notification to and registration by health authorities of all cases of tuberculosis which have arrived at the infectious stage. (2) The thorough disinfection of all houses in which tuberculosis has occurred, and the recording of such action in an open record. (3) The establishment of special hospitals for the treatment of tuberculosis. (4) The organization of societies for the prevention of tuberculosis. (5) Government inspection of dairies and slaughter houses and the extermination of tuberculosis among dairy cattle. (6) Appropriate legislation against spitting into places where the sputum is likely to infect others and against the sale or donation of objects which have been in use by consumptives unless they have been thoroughly disinfected. (7) Compulsory disinfection of hotel rooms, sleeping car berths, and steamer cabins, which have been occupied by consumptives before other persons are allowed to occupy them." In addition to the specific recommendations here given, the committee urged upon the public the importance of better housing of the poor in their places of abode and in their places of occupation; better control of the food supply at large, and more definite instructions in the schools and on the platform regarding diet for the working people. The home and workshop were really the centers from which the disease was distributed, and they at the same time were strong predisposing causes of the disease by reason of their unhealthfulness. Bad and adulterated food and improper selection of food by the individual were also strong predisposing causes by lowering vitality. The committee suggested that every member act as a committee of one in his own home to help organize a campaign against this disease.

Dr. **Walter D. Greene** of Buffalo, N. Y., said that tuberculosis was a subject of vital interest, inasmuch as one-tenth of all deaths occurred from this disease. There were two things of special interest in combating the disease, one of which was notification of cases, and the other thorough disinfection of houses in which the disease had occurred. In the city of Buffalo every house in which a case of tuberculosis had developed was thoroughly disinfected. This had been the practice in that city for the last five years. A card index was of vital importance in keeping track of cases of the disease. The people should be educated in regard to the prevention and control of the disease. Pamphlets giving directions how to keep from getting the disease were printed in Buffalo in the German, English, Polish, and Italian languages. Directions were also given as to what to do when people contracted the disease.

Dr. **Frank Warner** of Columbus, Ohio, said the reporting of cases of tuberculosis was an important factor in the prevention of the disease, but it was only the first step. This should be followed with literature placed in the hands of families in which the disease had developed. Information regarding the disease should also be published and put into the hands of men working in stores and shops. Articles relating to the disease should be published in the daily newspapers for the edification of the public. He pointed out the importance of educating the people through the press and other agencies. The disinfection of houses after deaths had occurred was of great importance in order to destroy the germs of the disease. Testing for tuberculosis in cattle by tuberculin had proven a very important thing. At the Ohio State University there w an agricultural and dairy department, so that every co was constantly tested with tuberculin for tuberculosis, a whenever the disease was found in a cow, that animal w withdrawn from the herd.

Dr. **R. H. Lewis** of Raleigh, N. C., endorsed the positi taken by the previous speaker. In his State pamphle concerning the disease and its prevention were plac in the hands of the superintendents of public instructi and of school teachers for distribution. The active c operation of the family doctor should be enlisted.

Dr. **Marcus Haas** of Memphis, Tenn., agreed with t speakers in regard to educating the public as to the pr vention and control of the disease. Negroes in the Sou were more susceptible to the disease than whites. H referred to the thorough system of dairy and milk i spection in Memphis, saying that gratifying results ha been obtained by it.

Dr. **W. C. Chapman** of Toledo, Ohio, said that san tarians should not demand too much of the physician, f in doing so they would undo the benefit which they mig otherwise receive. Physicians were reluctant in reportin cases of tuberculosis to city health departments, on a count of the protests of families in which the disease ha developed.

Dr. **Manuel S. Iglesia** of Vera Cruz, Mexico, describe the present hygienic conditions of that city, and expresse the hope that at no distant day this port would be one o the healthiest to be found.

Dr. **Arístides Agramonte** of Havana pointed out th practical utility of a medical board to aid local sanitar authorities in the investigation of infectious disease.

Diphtheria Infection in Minnesota, Especially in School Children, and Institutional Epidemics.—Dr. **F. F. Wesbrook** of Minneapolis stated that in the work of the Minnesota State Board of Health the problems had naturally arranged themselves into three main groups: First, the work of dealing with diphtheria as it occurred in family life, where one or more cases appeared in a household. Second, when infection was widespread and the day schools had to be closed. Third, when infection gained entrance into institutions in which children or other inmates were housed, employed, taught, or confined, and where great opportunity for the spread of infection was present. In summing up the work, he said it was apparent (1) that an adequate laboratory staff and equipment were essential since only by thorough laboratory examination could the presence of possible danger be determined. (2) It had been found convenient to utilize institutional laboratories when available, as the members of the laboratory staff of the State Board of Health could examine cultures on the spot when there was urgent need of haste. (3) The repetition of examination of both nose and throat specimens was advisable in all cases, and especially when suspicious bacilli were found. (4) Every effort should be made to prevent the exchange of nose and throat bacteria between individuals until it was definitely known whether they were infected or not. In infected individuals the bacilli would be eliminated more quickly the greater the approximation to individual isolation. (5) It was unsafe to place hitherto uninfected individuals who developed sore throat with clinical cases of diphtheria. (6) Executive action must be taken on the basis afforded by the laboratory; therefore, it was essential that these two branches be kept in the closest touch, or that in the work of inauguration and supervision of methods a laboratory trained man be placed in charge. (7) That such methods give satisfactory results and were entirely practicable, had been shown in the experience of the Minnesota State Board of Health under conditions which presented the greatest possible variation. Three epidemics had thus been suppressed in a lying-in hospital in Minneapolis where there was no adequate nursing force, where the women before and after confinement were employed in the lent one, and empyema results. The physician should never forget the possibility of the development of this complication in cases of lobar pneumonia in the young especially, and whenever the pleura is extensively involved, and the pain unusually severe and prolonged. Another irregularity of lobar pneumonia is the so-called central pneumonia, or pneumonia with late localization. The chest symptoms develop so late that in some cases the crisis is passed before a slight pleuritic friction sound is detected, which conclusively establishes the diagnosis. The amount of involvement of the lung in any case does not seem to influence the temperature. Another irregularity is called migratory pneumonia. It begins in a certain lobe, and while it runs its course there, extends to one or more other lobes. There may be a crisis for each lobe involved. Tympanites is a serious feature of pneumonia. It is due to a partial paralysis of the stomach and bowel, accompanied by fermentation of their contents. This condition is doubtless often aggravated by too much opiate and a too copious diet of milk. The effects are mechanical and toxic. The lungs and overworked heart are pressed upon, and the fermented intestinal products are absorbed and added to the toxemia of the disease. Unless the condition can be relieved in time, the end is without doubt fatal. The reflex pain in the initial stages of pneumonia has attracted much attention of late. It sometimes leads the physician to suspect the existence of gall-stones, peritonitis, or appendicitis. Usually, a thorough examination of the chest will reveal the existing conditions. A central pneumonia rarely gives rise to such pain. In every case of abdominal pain, the lungs should be examined, and then but few mistakes will be made.

Diagnosis of Diseases of the Upper Abdominal Region. A Plea for Earlier Surgical Interference.—C. D. Hill in speaking of this region, looks upon the stomach as the organ of greatest interest, for it is the one most apt to give rise to prominent symptoms, not only when the disease is located there, but often when the disease has its origin in another organ it affects the stomach both directly and indirectly. This special group of organs includes the pylorus, gall-bladder and ducts, pancreas, and transverse colon, all of which lie below the right lobe of the liver, and are very close one to the other. It is often very difficult to correctly localize pain or tenderness, or resistance, or even a tumor. Patients suffering with "indigestion," "stomach troubles," "liver troubles," "biliousness," and so on, are often given as many remedies as the number of physicians whom they consult. If it were realized that an accurate diagnosis is not possible, and that pathological changes of some importance are taking place in the patient's abdomen, an exploratory laparotomy would often be made to clear up the diagnosis, and it would besides be the preliminary step in relieving some mechanical condition or in removing a new growth. Of two cases of ulcer of the stomach, one will give the characteristic signs, while the other will lie dormant for years. Again, in the same patient, the symptoms vary at different periods. It is often impossible, too, to differentiate ulcer from cancer. In waiting for the classical symptoms of cancer, the opportunity for staying the progress of the disease passes by in many cases. Many investigators now believe that carcinoma of the stomach cannot be diagnosed without an exploration, at least in time to offer any relief. As to diseases of the pancreas, the diagnosis can be made only by a resort to surgery. When there exists disease of the pancreas, it is almost always secondary to disease elsewhere, especially to cholelithiasis. A short delay is sometimes grave in its results. The writer believes that a much earlier diagnosis can be made now than formerly if all of the means at our command are used. Thorough and systematic histories should be taken, noting all of the subjective symptoms, making repeated and careful physical examinations, and when practicable, using the stomach tube, and making chemical and physical examinations of the stomach contents. If after exhausting all of these methods, the diagnosis is still obscure, the time has come for surgical intervention, and surgical relief should be attempted.

American Medicine, January 28, 1905.

Feeding in Infancy.—W. P. Northrup discusses the methods of feeding a baby deprived of breast milk. The best substitute food is prepared from cow's milk from healthy herds, the milk collected clean, modified in clean surroundings, and used fresh. The laboratory method of exact modification of milk has been called the American method. Modified milk is not a patent food, but nourishment as near as possible such as the human breast furnishes, and capable of being modified or changed to fit the changing needs of the infant. The proper modification can be made only by skilled persons in a proper laboratory. The cost of laboratory milk is within the reach of all who are willing to do part of the work of dividing the quart bottles of milk into separate feeding bottles. The prescriber has responsibilities in feeding a baby. The feeding of infants is an expert's work. Three prescriptions may serve as points of departure: (1) For the new-born—to begin after the fifth or seventh day: Fats 2 per cent., sugar 5 per cent., proteids 0.5 per cent., feedings 10, amount in each feeding 1 oz., alkalinity 5 per cent. Heated to 155°. F. for 20 minutes or raw if preferred. Feed every two hours, twice at night. (2) "Low average" breast milk: Fats 3 per cent., sugar 6 per cent., proteids 1 per cent. (3) "High average" breast milk: Fats 4 per cent., sugar 7 per cent., proteids 2 per cent.

Foreign Bodies in the Esophagus.—Carl E. Black reports two interesting cases of foreign bodies in the esophagus. The location of the foreign bodies was discovered by the Röntgen ray, and this agent was used to assist in their removal. Especial attention is called to the use of the Röntgen ray in assisting in the use of instruments under its guidance. The forceps could be introduced into the esophagus, and the foreign body grasped under fluoroscopic observation. This is of great assistance, and makes the use of the forceps or other instruments of extraction much more precise. In the first case, that of a young woman who had swallowed a pin, the bristle probang was used by several physicians, who concluded the pin was not in the esophagus, and that the symptoms were due to the irritation caused by the probang. After six days Black made an *x*-ray plate which plainly showed the pin in the esophagus, and it was removed by forceps under the direct observation of the fluoroscope. In the second case, that of a boy of 10, a ½-inch iron washer was impacked in the esophagus, about the level of the second rib. It could be grasped by the forceps or hook under fluoroscopic observation, but could not be dislodged. This patient died before any radical operative procedure could be undertaken.

Strabismus and Its Treatment.—C. M. Harris holds that strabismus is generally of the convergent variety, and in the vast majority of cases appears during the third and fourth years of life. These cases are as a rule monolateral and almost always associated in the deviating eye with poor vision; which may be primary or secondary to the deviation. Those occurring after five years are often of the alternating type, *i.e.* one or the other eye will fix indifferently. Good vision in both eyes is the rule, though the deformity is of course as great. Treatment should be instituted as soon as the deformity is detected, and should be carried out with patience and intelligence, or failure will result.

Journal of the American Medical Association, January 28, 1905.

Fifty Consecutive Cases of Pneumonia Without a Death.—The cases treated by W. J. Galbraith occurred in Mexico. His main reliance was upon quinine and tincture of iron. To the objection that the pneumonias were of a special type or with a malarial complication, he replies that he has never seen the latter infection in his district. The remedies named were given in large and frequent doses. In one instance 115 grains of quinine were given within a single hour. He strongly maintains that the use of alcohol and strychnine prior to resolution is harmful, as it increases the mechanical conditions distressing the patient. For controlling the nervousness and delirium of the disease he prefers bromide of lithium with chloral. He has discarded all external applications, and dresses his patients very lightly. Expectorant mixtures are seldom used except as vehicles. Syrup of liquorice and yerba santa makes an excellent vehicle for the quinine, and is also laxative. Carbonated waters should be avoided prior to resolution, as distention of the stomach interferes with respiration and embarrasses the heart. The cases referred to showed age limits of 7 and 56 years, respectively. The right lung (principally the lower lobe) was the seat of the trouble in 80 per cent. of the cases. He insists that such results as he has secured do not follow small or broken doses of the two remedies on which he pins his faith.

Chronic Arterial Hypertension.—H. W. Cook gives a general description of this condition, which he defines as an affection in which a persistent increase in arterial tension gives rise to certain symptoms, preceding the development of any discoverable organic disease, unassociated with any constant pathologic lesion, and which finally produces organic changes, particularly in the heart, blood vessels and kidneys. The most frequent pathological findings are cardiac hypertrophy and dilatation, hyperplasia of the media in the systemic arteries, thinning of the cerebral arteries, and either the arterio-sclerotic or small granular kidney. The symptoms, methods of examination, complications and diagnosis are considered in due order, and finally treatment is considered under the two headings of early and late. In early cases diet and hygiene may correct the tension. Meat should be cut down to a minimum. The great specific in the later stages is the group of nitrites, and the author considers that the nitrite of sodium has age. Mr. George W. Fuller of New York, Chairman of the Committee on "Standard Methods of Water Analysis," submitted an exhaustive report on the changes and improvements in the methods that are being used in bacteriological tests of water. The report was ordered to be tributed to bacteriologists, both in this country and in Europe.

Reports of committees on a variety of technical subjects and several papers on bacteriological topics were read.

The Persistence of Agglutinability in Typhoid Bacilli in Water.—Prof. Edwin O. Jordan of Chicago contributed a paper on this subject. Both the theoretical and practical problems involved in either a positive or a negative result from experiments upon the agglutinability of typhoid bacilli in water were of considerable interest and importance. This work had dealt chiefly with two aspects, that of the separation of bacillus typhosus and bacillus coli from mixtures of various ages in both tap water and previously sterilized sewage, and also the persistence of the agglutinability of the former after association with the latter for similar periods. The conclusions drawn were (1) that the typhoid bacillus may be isolated without special difficulty after association with bacillus coli in tap water and sewage for from at least twelve to twenty days; (2) that some strains of bacillus typhosus retain their property of agglutinability absolutely intact under these conditions.

A Cause of the Formation of Gas in Cans of Condensed Milk.—Mr. Chas. W. Dodge of Rochester, N. Y., stated that bacteriological investigations of the condensed milk in cans, which were found to bulge shortly after their preparation, failed to find any microorganisms which, either singly or in combination, would cause the fermentation of either dextrose or lactose under a variety of conditions usually favorable to such fermentations. Neither would the milk itself from such cans cause fermentation in fresh milk. It was found, however, that when dilute solutions of butyric or lactic acid, varying from 1:200 to 1:500 in distilled water, were allowed to act upon the metal of which the cans were made, a slow evolution of gas took place, its rapidity being inversely as the dilution of the acid. It was probable that in the instance cited the gas was formed not by the bacteria directly, but the electrolytic action between the metal of which the cans were composed and the acids generated by the growth of bacteria in the milk before the latter was condensed.

An Unusual Channel of Infection With the Bacillus Shiga.—Mr. Dodge stated that a laboratory worker accidentally broke a test tube containing a culture of the Shiga bacillus, and some of the fluid was carried to his eye, and was probably washed down into the pharynx. Twenty-four hours later typical clinical symptoms of acute dysentery appeared, and lasted for several days. This occurrence of the accident and the infection might be merely a coincidence, but, if not, the occurrence threw light on the rapidity of infection in dysentery in man.

An Improvement in the Technic of the Indol Test.—Drs. Joseph McFarland and J. Hamilton Small of Philadelphia contributed a joint paper on this subject. In order to render it possible to determine the presence of small quantities of indol in bouillon cultures, the following improved technic was devised: The culture to be tested received an addition of one drop of chemically pure sulphuric acid for each cubic centimeter of fluid, this being well shaken. In case the microorganisms produced both indol and nitrites, the red color now made its appearance. When, however, the organisms produced no nitrites, the usual dilute solution of potassium nitrite was allowed to trickle slowly down the side of the tube and form a layer on the surface of the fluid it already contained. The red color of the nitroso-indol now made its appearance at the line of contact of the two fluids. Tests on artificially prepared solutions of indol of upwards of 1:750,000 gave positive results. The authors stated that this improved method was applicable for showing the presence of indol in melted gelatin cultures. After the gelatin had hardened, the color ring was fixed for a period of from twelv twenty-four hours, when the color became diffused.

Mr. Freeland Howe, Jr., detailed some results in use of different kinds of nutrient media with diffe periods of incubation, and gave the results of observat on the water of the Susquehanna River at Harrisburg,

Dr. F. C. Harrison of Guelph, Ont., gave the result an examination of the water supply of Fredericton, N He discussed briefly the sewerage and water supply syst of that city.

Mr. Earl B. Phelps of Boston contributed some note the determination of the organic nitrogen in sewage by Kjeldahl process.

Officers.—The election of officers resulted as follo *Chairman,* Dr. Wm. H. Park, New York; *Vice-Chairn* Mr. H. W. Clark, Boston; *Secretary,* Dr. John S. Ful Baltimore; *Recorder,* Dr. H. D. Pease, Albany.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, Held January 19, 1905.

Dr. Charles A. Dana, President, in the Chair.

Presentation of a Portrait of the Late Geheimrath Pe Dettweiler on the Anniversary of His Death.—Dr. S. Knopf made this presentation. (See page 136.)

Note on Wood Alcohol Neuritis.—Dr. Smith Ely J liffe read this paper. He said that in view of the rec bringing to light of the fact that many deaths had b caused by the use of methyl alcohol used as an adulterant strong liquors, and by reason of the renewed inter taken in the subject of methyl alcohol optic neuritis, seemed pertinent to inquire if types of neuritis ot than that affecting the optic nerve might be caused by t use of methyl alcohol taken internally either as a liquid as a vapor. His communication was limited to some p sonal observations on peripheral neuritis resulting fr the use of wood alcohol. Of this affection three patie had come under his observation. The first was a busine man, 34 years old and a constant drinker, particularly night before going to bed. He drank a special brand whiskey which, on analysis, was found to contain 35 p cent. columbian spirits whiskey with suitable flavors make a "richly blended article." The patient had be indulging in this and other brands of whiskey for at lea three months, if not six. He began to suffer from seve gastric irritability and marked hyperesthesia in the upp extremities, particularly in both arms and hands. Th was followed by complete paralysis of the extensors an typical wrist drop. He also had a mild grade of ptosi He was partially amblyopic. The patient recovered afte four months of treatment, but still complained of som blurring of vision. Dr. Jelliffe was able to exclude practi cally all other causes for the neuritis, which did not diffe in any particular from neuritis due to ethyl alcohol. Th two other cases showed a much lighter grade of the affec tion, and a different mode of ingress of the poison. Bot patients were painters, particularly varnishers, doing noth ing but shellac work on furniture, working long hours an in comparatively small rooms. The shellacs used wer dissolved in wood alcohol, and the patients were expose to the evaporating fumes. Both suffered from the hyperesthetic forms of the disease, the upper extremities alone being involved. There were the familiar paresthesia, numbing, pricking, and shooting pains in the backs of the hands and forearms. The pains were at times severe, and there was intense pain on pressure over the nerve trunks. The joints were involved to a slight extent. There was marked degree of edema or puffiness. There was distinct motor weakness in both patients. These were instances, Dr. Jelliffe believed, of beginning peripheral neuritis due to the fumes of wood alcohol. He then reviewed briefly what we as yet know regarding the comparative toxicity of the different alcohols, particularly the peculiar characteristics of wood alcohol.

Dr. Alexander Lambert said that the adulteration of whiskey by wood alcohol was of recent date. His experience in the alcoholic cells dated back ten years; during that time there had been as many as 50,000 to 60,000 cases of which he had personally observed 15,000. He never remembered seeing a single case of poisoning that he was willing to state was due to wood alcohol. He had never seen a single case of blindness coming on. During recent years he had been struck by the differences in effects upon individuals when they had ingested good and bad cheap whiskeys. He thought for a long time that the bad effects were due largely to the fusel oil, but he found that he was mistaken. Those individuals who took what appeared to be an ordinary drink of whiskey, made up largely of methyl alcohol, would come in thoroughly drunk, and many hours would be spent in attempts to keep them from dying. Then again there would appear another kind of drunk with delirium, and who would fight furiously, far beyond what an ordinary subject of alcoholic poisoning would do. It would last a long time and come on very rapidly. Dr. Lambert believed that the tendency to dilute these cheap whiskeys with methyl alcohol had much to do with it.

The Fresh Air Treatment of Surgical Tuberculosis.—Dr. Linsly R. Williams read this paper. He said he would confine his remarks to a consideration of the fresh air treatment of surgical tuberculosis in children, and called especial attention to the work that was being done by the New York Association for Improving the Condition of the Poor at Coney Island. In these cases it had been recognized that country air was needed, and that sea air was the better. There were a very few hospitals in this city that had country homes to which to send these cases of surgical tuberculosis. He said that in the summer of 1903 Mr John Seely Ward, Jr., of the Board of Managers, during a visit to Europe, undertook, at the request of the Board, to inspect various French hospitals for the treatment of tuberculosis. Upon his return he reported that while in the treatment of children suffering from tuberculosis of the lungs, American methods were quite as advanced as those in France, the same could not be said of our treatment of children suffering from non-pulmonary forms of tuberculosis. This seemed all the more remarkable if it was remembered that when tuberculosis attacked children it was more frequently in the bones or lymph glands or skin or abdominal organs, etc., rarely in the lungs. The American treatment of these cases differed from that of French seaside hospitals, in that here we attempted to arrest the tuberculous process by operations, braces, and indoor treatment. The French seaside sanatoria, on the other hand, treated by salt air, ample nourishment, and outdoor life. French experts maintained that for this treatment there should be one bed at the seashore for every thousand population. America had none. New York should have at least 3,500. The Board of Managers was strongly urged to undertake to demonstrate for American hospitals, and more particularly for American city and state governments, the healing powers of outdoor treatment in the salt air for non-pulmonary forms of tuberculosis in children. On June 6, 1904, with the cooperation of the Medical Advisory Board, composed of Drs. Walter B. James, Herman M. Biggs, John Winters Brannan, Lawrence F. Flick, V. P. Gibney, E. G. Janeway, Newton M. Shaffer, and E. L. Trudeau, for hospitals, settlements, and dispensaries, they had conducted on rented land only one hundred yards from Sea Breeze, an experimental Seaside Tent Camp for the Salt Air Treatment of Children suffering from Tuberculosis of the Bones and Glands. The character of the place and the advantages of the ocean and beach were indicated by photographs and stereopticon views. During the summer the tents were always open. The children took daily baths in the ocean when the weather permitted. The children were kept outdoors except at meal time. A teacher had been employed who gave them instruction for two hours five days a week in a bright and airy room. In winter the children were warmly clad. Much stress was laid upon the care of the teeth and the mouth, and cleanliness of the skin. The food was of the best. During the cold winter nights the heads of the children were hooded and they slept in rooms with flaps of the tents raised. Sufficient time had not yet elapsed since beginning this work to enable him to give any definite or detailed reports, but some of the results obtained had been remarkable.

Dr. John Winters Brannan said he had watched these cases very carefully during the past summer, and that anyone who had visited and seen what he had would never question the results that had been obtained during the past eight months in the tent camp and hospital of the Association at Coney Island. The Association did not intend to maintain the hospital permanently, but it was the intention to show the profession and the city and state authorities what could be done with cases of surgical tuberculosis. The wonder was that this work had never been done before, and France should be greatly praised for having had such institutions for over forty years. He said that the windows at Sea Breeze were wide open at night; these patients developed such a powerful resistance from the exposure to the fresh air that they could stand such exposures even better than we could. He was unable as yet to speak of final results. The French surgeons did not expect cures within three years. He said that Mr. R. Fulton Cutting had raised the question whether we could say that the sea air was better for these cases than land air. The French had answered this in the affirmative, although the members of the Association were not able to state positively that it was so. There was one thing very important regarding the seashore for such hospitals, and that was the opportunity given for amusements; all the children there were occupied on the beach, were interested in passing ships, played in the sand and in the snow.

Dr. Virgil P. Gibney said he was convinced that the seashore was the place for these children who were suffering from non-pulmonary tuberculosis.

Dr. Charlton Wallace, Visiting Orthopedist to the Experimental Seaside Tent Camp for Tuberculous Children, spoke of his experience in attending to the orthopedic cases, and of the many instances of remarkable improvement. He said he had taken ten weights of ten children at the Hospital for Ruptured and Crippled, with similar lesions, and who remained in that hospital the same length of time as ten children at the Seaside Camp. In making his comparisons he found that the average difference in weight was seven and a half pounds. This proved that the children at the seashore had a greater chance for an ultimate recovery than those at the inland hospital, although at the latter they had the best care and food that could be obtained.

Dr. A. Jacobi said that he believed all appreciated what could be done in tuberculosis by fresh air, exercise, good food, and proper sanitary treatment. He said he did not belong to those who thought that tuberculosis of the lungs, bones, or glands, or general tuberculosis, should be left alone and treated only by the means spoken of. For thirty years or more he had one treatment which was of much service to him, and for fifteen years he had an internal treatment which he added. In 1869 and 1870 Wagner of Berlin proved that fractures of the limbs would unite in a shorter time if the animals upon which he was experimenting were given phosphorus (not the phosphates which were inert). Therefore, in cases of subacute or chronic osteitis, *i.e.* of tuberculous character, he always gave phosphorus, and they all got better and showed a marked improvement. The cases not so treated did not improve so rapidly. For the last fourteen or fifteen years he had given guaiacol as a routine measure in tuberculosis of any kind.

Intramuscular Injection of Insoluble Preparations of Mercury in Syphilis.—Dr. Hermann G. Klotz read this paper. He said that injections of insoluble preparations of mercury within the last fifteen years had become one of the most popular methods of treating syphilis on the European continent, and had largely supplanted inunctions and soluble injections. In this country, up to within the last two or three years, very few publications on the subject had appeared in the literature, although quite lately they had become more frequent. As a result the profession at large was in ignorance of the progress made by this method. He said he would restrict himself to a general report of his experience with insoluble injections since 1886, and to a consideration of the criticism of the method as found in American literature. The claims made by some enthusiasts, that insoluble preparations when injected were likely to effect a cure of syphilis in the shortest time, and with a minimum amount of mercury, he wished to repudiate. But he believed and expected to prove that in the insoluble injections we possessed one of the most effective methods of bringing the organism infected with syphilis under the influence of mercury, a method, however, destined to supplement rather than to exclude the older methods. Therefore, he had been using and expected to use, the latter in the future, ingestion by the mouth, inunctions, insoluble injections, baths, fumigations, as well as the iodides and even sarsaparilla, besides the insoluble injections according to the conditions of the patients and often depending on external circumstances. Up to the end of 1904 he had records of 2,500 injections made on 204 patients, all made but six, 2,112 of the salicylate, 150 of the yellow oxide, 216 of calomel, and three of gray oil. He included 19 injections of a 5 per cent. solution of bichloride, but the severe local symptoms and greater tendency to salivation caused their early discontinuance. The ages of the patients ranged from 18 to 60 years, and the number of injections from one to forty-two, sometimes distributed over three or four years. The usual dose was one c.c., which represented 10 cg. of the salt suspended in oil or liquid or liquid vaselin. The injections were given at intervals of one week, whenever symptoms of syphilis were present, up to their disappearance; thereafter two to four injections were added at intervals of ten to fourteen days. Ordinarily not more than ten injections were given continuously, except when the intervals had been longer. As the salicylate represented 59 per cent. of mercury, ten injections of 10 cg. within ten weeks were equal to 59 cg., *i.e.* approximately 8 grains of mercury, equal to the maximal dose of 8 blue pills. He did not consider it wise to continue insoluble injections whenever after three or four no impression on the manifestations was made; an intermission of several weeks or months, with iodides or quinine and other tonics, would render the patient much better prepared for the renewal of this treatment. He believed that the lack of success in treatment of those late forms had been due to the insufficiency of the means employed. In his own experience no pain had resulted from the injection nor any flush around the needle puncture nor inflammation of the skin. Among his 2,500 injections he had seen but four abscesses result. Stomatitis was never seen after injections of the salicylate; after calomel injections it sometimes did appear. In a small number of cases enteritis and colitis appeared after insoluble injections. Embolism into the lungs he had observed altogether twelve times; eight occurred up to the end of 1897 out of 1,072 injections, and were published in Professor Pick's *Festschrift* in 1898. Several deaths had been reported among thousands of injections in Europe, and in some he believed them to be due to faulty technique. Among the advantages accruing to the patient, besides the therapeutic effects, were the following: The stomach and mouth were not exposed to the influence of the mercury; the patient was able to attend to his business without interruption, to avoid detection, uncleanliness, and frequent visits to the physician, and he enjoyed long intervals free from treatment.

Dr. Edward L. Keyes believed that the intramuscular injection of insoluble salts of mercury was a distinct advance over the older methods that had been employed, and that as prompt an effect could be gotten as with fumigations with the black oxide of mercury. He had given as much as three and a half grains, three times a week, for two weeks in succession, with distinct effects and without salivation. He was in the habit of using a veterinary syring with an extra·large needle which could suck up the mat rial. He always tried to educate the patient to keep him self constantly in mind, and the advice to continue the u of mercury for at least two and a half years was not to b left out. He believed in starting the patients by gettin control of the symptoms early by an injection or two, an then to entrust the patients with the use of some mil form of mercury, having him appear from time to time f observation. He emphasized the fact that it was necessa to obtain the cooperation of the patient. The discomfor of the treatment were far overbalanced by the advantag obtained.

Dr. Prince A. Morrow said he had used only the salic late of mercury for many years, because this insolub preparation gave the greatest freedom from irritation, an surely was the preparation of choice. He referred to paper he had read before the New York Academy of Med cine nearly twenty years ago on the hypodermic use of th mercurial preparations in the treatment of syphilis, takin up both the soluble and the insoluble preparations, and h was struck to-day not only with the advance that had bee made in this mode of treatment, but also in the confiden the profession now had in it. Then it was a tentati method, and in the experimental state. To-day the tendency was to attenuate the treatment, and better resul were had by so doing. It was his custom to give ten o twelve injections, and he had given as many as one hundre injections in a single case. It was not, however, his custo to use it methodically in the treatment of syphillis, and h looked upon it rather as a reserve treatment. He also use it in those late cases of syphilis where idiosyncrasies extste for iodides or iodide of potassium; then the substitutio of salicylate of mercury by injection was of great adva tage. He also used this method of treatment in la syphilis when the patients had not received sufficient trea ment in the early secondary stages. Although salicylate o mercury was the agent of choice, there were some cases o late lesions, especially about the mouth, where calom seemed to do better, having a more marked and promp effect.

Dr. Eugene Fuller said there was no doubt about th value of the salicylate of mercury used by intramuscula injection in the treatment of syphilis, and he was using more and more. In some cases mercury by the stomac did not appear to be absorbed at all, and then this metho of course, was very useful. If quick results were desire there was no method that equaled it in bringing the patien under the influence of mercury. He had had but on case in which he had done any damage by the hypodermi method; in this case, with a very marked tuberculous history, he got an embolic effect in the lung, which he believe caused a subsequent outbreak of tuberculosis by its irritating effect. Nowadays if a patient gave a marked tuberculous history he avoided the hypodermic injection of thi agent. The profession, as a rule, did not understand th method of giving injections of mercury in syphilis.

Dr. William S. Gottheil said that the most arden advocates of this form of treatment that we now had wer the patients themselves. He said he had never seen an embolic results from these injections.

Rhinoscleroma; With Presentation of Case, Specimen and Stereopticon Views.—Dr. Max Toeplitz and D Henry Kreuder (by invitation) contributed these communications. Dr. Toeplitz said that the disease, rhinoscleroma was looked upon more as a curiosity, and at present but 60 cases were known to exist. The patient he presented wa a woman, 27 years old, two and three-quarter years i this country. For twelve years she had protracted headaches, which ceased about one year ago. She said she ha always suffered more or less from "colds." Eight year ago her nasal breathing became much impaired. She neve had any pain in the nose, and her sense of smell was normal. Another member of her family had the same trouble Four months ago she spat out a piece of flesh There wa no change in the outer nose. Upon examination of the patient, the left nostril was found to be obstructed by a whitish-gray and exceedingly hard mass. The nasopharynx was the seat of nodular swellings. The uvula was missing. The larynx was free. Dr. Toeplitz gave a brief description of the disease, and said that the spread of the disease, in Europe especially, made it necessary to watch these cases more carefully.

Dr. Henry Kreuder told of the microscopical findings, illustrating his remarks by stereopticon views.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, held December 27, 1904.

Dr. Henry S. Stearns in the Chair.

Limitations of Office Practice in Rectal Diseases.—Dr. Charles B. Kelsey read this paper (see p. 129).

Local Versus General Anesthesia in Rectal Diseases.—Dr. James P. Tuttle said that the two most important features which distinguished good surgery to-day had to do with anesthesia and asepsis, and that the question he had to consider in his remarks dealt with the comparative merits of local or general anesthesia as applied to rectal surgery. The anus and lower rectum were endowed with an abundance of sensory nerves, and the sensitiveness there was more marked than in almost any other part. The question of analgesia and anesthesia was more important in this region then than elsewhere. The analgesics were local and constitutional, the anesthetics local and general. Among the chief types of analgesics were cocaine, eucaine, carbolic acid, sodium bicarbonate, etc. He was inclined to be rather cautious in the use of opium and cocaine for relieving pain in rectal disease, because of the danger of these patients becoming habitués. After operations opium constipated and tended to make the movement of the bowels more painful. Among the local anesthetics he mentioned carbolic acid, ice, ethyl chloride, cocaine, eucaine, sterilized water injected into the parts, etc. The first three were useful in small operations, but carbolic acid was really the only valuable one among them, giving the most satisfactory results. Experience had taught him that the chief pain from hypodermic injections was produced by the distention of the parts with the fluid used; everything else being equal, the substances which produced the greatest anesthesia per minim in the parts would be the most satisfactory. The great objection to the use of sterilized water for local anesthesia was that the method itself was painful. Again, punctures through tissues which could not be sterilized thoroughly invited infections; punctures and the subsequent distention might cause rupture of blood-vessels and extravasation of blood and interfere with the proper circulation in the parts, causing later sloughing and possibly perirectal abscess. When the parts were distended one was unable to tell how much tissue was to be removed. This method, too, was absolutely unreliable. In any form of local anesthesia one might get outside the anesthetized area and then would be compelled to stop work to give more of the injection. Another objection to this method was that both surgeons and patients had learned to underestimate the importance of the operation, the importance of aseptic technique, and the advantages of rest in bed, as after all operations upon the rectum. Among the possible advantages of this method was that one was enabled to do this work in the office when otherwise it must be done in the hospital or at the patient's home; again it could be used when ether or chloroform was contraindicated; it could also be used in those patients who were afraid to take general anesthetics and who would refuse to be operated upon if this was exacted of them. It was a well-known fact that the pain following the use of local anesthesia in rectal work was greater than that following the use of a general anesthetic. If small hemorrhoids, fistulas, or fissures were to be operated upon, ethyl chloride could be used and the operation completed without having to resort to ether or chloroform; this was especially true if the patient were given a hypodermic injection of morphine five or ten minutes before the anesthesia was begun. If the ethyl chloride was given drop by drop and not sprayed, getting it in concentrated form, the anesthesia would be more complete and be produced more quickly. By the drop method only about 4 c.c. need be used; whereas, by spray one frequently required 20 to 25 c.c. By the use of ethyl chloride one got a greater relaxation of the muscles. By this method he believed that one could do in office practice any operation that was justifiable without pain, and do it unimpeded by any restlessness of the patient. After all had been said ether was the most satisfactory in extensive operations about the rectum; it relieved the pain, caused muscular relaxation, and quieted the patient, all of which contributed to perfect surgical work. In all operations upon the rectum, Dr. Tuttle said, one should bear in mind the intimate reflexes connected with the pneumogastric nerve. Whenever the rectum was stretched the anesthetist should always be advised to remove the mask because of the inspiration produced at the time.

Chronic Constipation; A Rational Treatment.—Dr. Dwight H. Murray, of Syracuse, N. Y., read this paper and referred to the pathological changes that occurred in the rectum, particularly the anal canal, and also to proctitis, sigmoiditis, and colitis. As a rule the pathological changes that were associated with chronic constipation were to be found below the entrance to the sigmoid. His plan of treatment of chronic constipation had not been used by others, and he said it gave him much pleasure to be able to present it to the profession. In taking the patient's history the most careful routine should be followed and certain symptoms should be elicited that would aid in classifying the cases. A thorough examination was necessary; if patients declined to allow such an examination they should be refused treatment. The treatment was given every fourth day, until the patient had daily normal stools; after that time the length between treatments should be increased, until the patient could get along on his own resources. The treatment occupied about one hour. The patient was placed in the Sims position, and an electrode with a perforated soft rubber shield was passed into the sigmoid. This was connected with the positive pole of a battery and also with an irrigator containing decinormal salt solution held three and a half feet above the patient; the flow was readily controlled by a stop-cock. Before treatment was begun, the mucosa should be thoroughly cleansed. The effect of the treatment seemed to be soothing and quieting to the mucous membrane. As a result of treatment the patients had a better power of expulsion than was possible before the treatment was begun. The temperature of the fluid used should be 100° F., and from 5 to 20 milliampères should be used. When the first part of the treatment was finished, the skin would be found to be reddened. No electricity reached the part except through the saline solution. The electricity was applied about ten to fifteen minutes, and from thirty-two to thirty-six ounces of fluid flowed through into the sigmoid. Then the patient was instructed to go to the toilet. Later he returned to the table for the second part of the treatment, when a special tube was utilized to insert into the colon bismuth subnitrate, iodoform, and oil. This was followed by the use of a solution of ichthyol or hydrastis. The patients were kept on the table with the hips elevated for ten minutes. When the treatment was begun they were instructed to discontinue the use of all laxatives, to go to the toilet at certain hours every day, and never to strain. If the bowels at first failed to move, then an enema of plain water and oil was given. The patients were allowed a liberal diet and were told to drink six glasses of water daily. The results of this treatment were that daily and normal movements were produced. Nearly 75 per cent. were cured, while almost all of the remaining 25 per cent. were improved. Four and a half years was the longest time required in the treatment. Dr. Murray closed his paper by stating that the three greatest causes of constipation were ignorance, carelessness, and laziness, and he believed that a great many people to-day in the insane hospitals were brought there by the results of chronic constipation.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 20, 1905:

	Cases.	Deaths.
Measles	194	4
Diphtheria and Croup	360	40
Scarlet Fever	289	14
Smallpox		
Chickenpox	179	..
Tuberculosis	404	153
Typhoid Fever	50	12
Cerebrospinal Meningitis		30
Typhus Fever		
Yellow Fever		
Cholera		
Totals	1,476	253

Two Cases of Weil's Disease Complicated by the Temporary Appearance of Small Tumors in the Liver.—Max Einhorn sums up the main features of these cases as follows: In both the diseases began, after a short prodromal stage, with fever, severe gastric disturbances, and general weakness. During the period of fever, which lasted about a week, a marked enlargement of the spleen as well as of the liver was found. Albumin in the urine and the diazo reaction, and a trace of bile pigment, were present in both, whereas sugar was found in one case only. Both had bronchitis. Cerebral symptoms, insomnia, severe headache, and disturbances of speech (some stuttering) were present in one case but not in the other. Widal's test was negative in both, and no plasmodia were found in the blood. Convalescence took place after about a week's illness. In the course of a few days the stomach, kidneys, spleen, and liver appeared to be perfectly normal. Weakness persisted for a time, but passed off in a few weeks, and the patients were perfectly well. The most remarkable fact in connection with these cases was the appearance at the height of the disease of small hard tumors on the hepatic surface and their disappearance with the abatement of the fever. The clinical picture corresponds in the main to the symptom-complex of Weil, with the exception of these transient hepatic nodes. These were probably the result of an acute hepatitis. The nodes may have been caused by an accumulation of exudative products which disappeared with the subsidence of the inflammation. The writer states that in the presence of such tumors in a patient suffering from fever it is better to withhold the diagnosis of cancer or gumma of the liver until further observation permits a definite conclusion to be formed.—*American Journal of the Medical Sciences.*

Orthostatic Albuminuria.—Teissier believes that the othostatic albuminurias should be classified in three different groups: (1) Symptomatic or mixed albuminuria. This constitutes a particular type of residual albuminuria consecutive to infections. (2) Associated orthostatic albuminuria in which to the upright position there are added other causes such as cerebral disturbance and digestive troubles. To this category belongs the syndrome of Pavy. (3) True orthostatic albuminuria, of which there exist scarcely 20 clearly defined observations. This type is seen in subjects of infantilism, with evident nervous here and presenting a small heart, and hypotension with hy plasia of the arterial system. As soon as the pat changes from the horizontal to the vertical position, voids a cloudy urine, containing mucus, rich in phosph and showing on analysis 50 centigrams to 7 gram of albumin. There are no casts and no excess of urea c chlorides. According to the writer, when the patient st upright, a sudden anæmia of the kidney is produced, w favors a narrowing of arterial caliber. Intense conges from vasodilation follows this anæmia. Albumin filters easily through an incompletely developed glom lar apparatus. These distinctions have not alone a t retical importance, for true orthostatic albuminuria tend disappear spontaneously in proportion to the developm of the organism. Its disappearance will be facilitated by use of hydrotherapy, aërotherapy, and exercise.—*Ga des Hôpitaux Civils et Militaires.*

Health Reports.—The following cases of smallpox, low fever, cholera, and plague, have been reported to Surgeon General, Public Health and Marine Hospital vice, during the week ended January 20, 1905:

SMALLPOX—UNITED STATES.

			CASES.	DE.
Alabama, Mobile	Dec.	19–Jan. 9 sels in port.	3	From
Arkansas, Fort Smith	Dec.	10–17	1	
Illinois, Chicago	Jan.	8–14	16	
Danville	Jan.	8–14	2	
Peoria	Dec.	1–31	7	
Kansas, Topeka	Jan.	8–14	1	
Louisiana, New Orleans	Jan.	8–14	7	
Massachusetts, Everett	Jan.	8–14	3	
[illegible] Hyde Park	Jan.	8–14	1	From
[illegible]		*Cymric.*		
Michigan, Detroit	Jan.	8–14	4	
Grand Traverse Co	Dec.	1–31	..	
Jackson County	Dec.	1–31	..	
Minnesota, Clay County	Jan.	3–9	1	
Morrison County	Jan.	3–9	1	
Otter Tail County	Jan.	3–9	8	
Rice County	Jan.	3–9	2	
SaintLouis County	Jan.	3–9	3	
Todd County	Jan.	3–9	3	
Wadana County	Jan.	3–9	5	
Missouri, St. Louis	Jan.	8–14	17	
New York, New York	Jan.	8–14	2	
Ohio, Toledo	Jan.	10–17	2	
Pennsylvania, Homestead	Jan.	9–15	1	
South Carolina, Georgetown	Jan.	1–14	10	
Tennessee, Memphis	Jan.	8–14	2	
Nashville	Jan.	8–14	4	
Wisconsin, Milwaukee	Jan.	8 –14	8	

SMALLPOX—FOREIGN.

Brazil, Para	Dec.	1–14	..
Rio de Janeiro	Dec.	12–18	102
France, Lyons	Dec.	18–24	1
Paris	Dec.	25–31	14
Great Britain, Hull	Dec.	25–31	1
London	Dec.	25–31	5
Manchester	Dec.	25–31	2
New Castle-on-Tyne	Dec.	25–31	3
Nottingham	Dec.	25–31	2
India, Bombay	Dec.	14–20	..
Calcutta	Dec.	10–16	..
Karachi	Dec.	12–18	4
Italy, Catania	Dec.	23–29	..
Palermo	Dec.	18–24	14
Panama, Colon	Jan.	1–8	1
Spain, Barcelona	Dec.	21–31	..

YELLOW FEVER.

Brazil, Para	Dec	1–14	..
Mexico, Coatzacoalcos	Dec.	25–31	2
Juchitan	Jan.	1–7	1
Venezuela, Maracaibo	Dec.	4–11	1

CHOLERA.

India, Bombay	Dec.	14–20	..
Calcutta	Dec.	10–17	..
Russia, Dshewat	Dec.	8–14	264
Lenkoran	Dec.	8–14	177

PLAGUE.

Arabia, Crater	Dec.	17–24	43
Hedjuff (Plague hospitals)	Dec.	17–24	5
Shaikh Othman	Dec.	17–24	7
Brazil, Rio de Janeiro	Dec.	12–18	35
Chile, Iquique	Dec.	4–17	2
Santiago	Dec.	2	1
Egypt, Port Said	Dec.	10–17	1
Suez	Dec.	10–17	1
Tukh district	Dec.	10–17	1
India, Bombay	Dec.	14–20	..
Calcutta	Dec.	10–17	..
Karachi	Dec.	12–18	56
Japan, Kobe	Dec.	16	1
Mauritius	Oct.	14–Nov. 3	63

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Original Articles.

SANITARY CONDITIONS AS ENCOUNTERED IN CUBA AND PANAMA, AND WHAT IS BEING DONE TO RENDER THE CANAL ZONE HEALTHY.*

By WILLIAM C. GORGAS, M.D.,
COLONEL AND SURGEON UNITED STATES ARMY.

I WILL not dwell, to any great extent, upon the sanitary conditions of Cuba. They are pretty well known, and I do not think they would interest this audience as much as conditions at Panama; and the cause of our interest in Cuba was entirely different from those that now arouse our interest at Panama.

For two centuries the United States had been more or less scourged with yellow fever, which had generally been imported from Havana. Besides the loss of life, the commercial losses had been enormous. At the time of our occupation of Cuba, there was a perfectly cast iron commercial quarantine against the West Indies, in all the Gulf ports, during every summer; and every few years, when yellow fever, in spite of these precautions, would get into the United States, there would be the same inflexible quarantines between the various States along the Gulf coast and the various cities of that section. We had believed, for a generation or two, that if, in any way, we could get rid of yellow fever in Havana, yellow fever would cease to be a menace to our Southern States. So that, practically, the sanitation of Cuba centered about the sanitation of Havana; and the sanitation of Havana, in our mind, consisted almost entirely in sanitation with regard to yellow fever. We then believed that if any disease was caused by filth yellow fever was that disease; and all our thoughts and all our efforts were centered about cleaning up.

For over two years we cleaned most industriously. I do not think there ever was a city in the history of the world that for two years and a half was so industriously swept, scrubbed, and cleaned from one end to the other, and from top to bottom, as Havana was. As I look back upon it now, I am inclined to agree with the estimate that the natives put upon us.

I one day went into the patio of a large tenement house that was being fumigated, scrubbed, cleaned, and whitewashed from top to bottom. Some thirty or forty men were hard at work doing this in the most industrious manner. The poor people had all their belongings placed out in the patio, and were themselves sitting about in the most uncomfortable and disconsolate way. As I was standing looking on, a man who had evidently just come in and did not understand what was going on, asked his wife what it all meant. She replied, in a good-natured way, that she did not know, but that it was "just one of the ways of those crazy Americans." Her good nature made quite an impression upon me. She evidently had no particular sympathy with what we were doing, but had a general idea that we were trying to do it for their good, notwithstanding that she considered it as one of our extreme and crazy ideas; and, as things turned out, she was nearer right than we were.

In time, Reed's Army Medical Board came along and made the astounding discovery that the mosquito alone conveyed yellow fever, and that dirt and filth had very little, if anything, to do with the question.

My good friend Dr. Finlay, whom I am glad to see here with us to-night, some twenty years before had advanced this same theory, and during the twenty years preceding our occupation of the island had written and advocated the theory continuously. I had often heard him expound his views on the subject, but, like the Cuban woman, I smiled in a superior way at the "crazy Cuban doctor." But Dr. Finlay has had the good fortune (such as has fallen to few great men) to live to see his theories recognized and adopted by all the world.

Even after the discovery of the cause of yellow fever, it did not seem that we were any nearer the prevention of the disease. Though we knew that the mosquito was the cause of the disease, no feasible way of putting this knowledge to practical application was evident.

It is not generally known that our first practical tests were in the way of inoculation and not a mosquito destruction. We thought that the most successful thing would be to give people mild attacks of yellow fever by biting them with infected mosquitos, and thus, gradually and safely, make all newcomers immunes by giving them the disease. We attempted it on a large scale, established an inoculation station and went to work; but three fatal cases early in our operations showed us that the method was exceedingly dangerous and that we would have to give it up.

We then turned our attention to mosquito destruction in its various forms, and screened those suffering from yellow fever and suspects of all kinds; and in this we had the most unexpected and remarkable success. In less than a year, the city was entirely free from yellow fever; and since September, 1901, now more than three years ago, not a single case of yellow fever has originated in Havana. Since May, 1902, the Cubans themselves have carried on this work, under the able direction of Dr. Finlay, who is at present the Chief Sanitary Officer of the island; and it is due to their excellent care and management that the disease has not been reintroduced. Dr. Finlay can tell you that almost every month they get a case or two of yellow fever coming by ship from some one of the infected ports around them, and that they bring the patients to the yellow fever hospital, right in the heart of the city, and there care for them. They simply screen the sick person so that no Havana mosquito can bite him, and, with this simple protection, they take care of the patient exactly as we in the United States would no constitutional disturbance. Various local applications were tried without much resulting benefit. The pain disappeared, however, under the use of the electric pad applied in connection with a moist bandage. It was found that moist heat proved far more efficacious than dry heat.

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*Read before the Fourth Pan-American Medical Congress, Panama, January 3-6, 1905.

Dr. **Peabody** said that in the treatment of these superficial pains he had seen much benefit follow the use of alcohol applications. About half a dozen layers of cheesecloth were impregnated with alcohol and kept in contact with the skin for hours. Sometimes he covered the cheesecloth with an impervious rubber-tissue dressing. By this method, he had relieved superficial neuralgic and neuritic pains, and even those due to phlebitis. Alcohol was very volatile; it was absorbed to a certain extent, and produced a local paralysis and therefore dilatation of the blood vessels, and in this way probably increased the activity of the circulation locally. In only one instance, Dr. Peabody said, had he seen this application result in harm. In that case the patient was the wife of a surgeon. She had a rather severe coxalgia, to which the alcohol was applied in the usual manner. The impervious dressing covering the cheese-cloth, however, was applied too hermetically, and a superficial slough over the coccyx resulted, which was rather slow in healing. In regions where the epidermis was very thin, for example, over the scrotum, the alcohol should be applied with great caution, if at all.

Some Unusual Features Observed in the Recent Outbreak of Typhoid Fever.—Dr. A. **Alexander Smith** said that during his hospital service last autumn he was very much struck by some unusual features observed in the course of his cases of typhoid fever. The first of these was in connection with the temperature, the variability of which was very marked. In some of the early cases, without any treatment whatever, the temperature would go down to normal, or nearly so, remain thus for a day or two, and then again go up. This unusual variability occurred in many of the cases under observation, and was apparently entirely independent of treatment. It was not exceptional to see a temperature of 103° suddenly drop to normal, remain so for two days, and then rise again. Another unusual feature of the temperature was its rapid decline. In a large proportion of the cases, it was almost by crisis, without hemorrhage or any other feature to account for it.

Out of 35 cases of typhoid fever recently observed by Dr. Smith, bronchitis was a prominent feature in thirteen. This was an unusually large proportion. Two of the patients had been sent to the hospital from the dispensary with the diagnosis of probable acute tuberculosis, because of the pulmonary symptoms and the high temperature. Only after careful investigation and making every possible test was it determined that the patients were suffering from early typhoid fever in connection with a severe bronchitis. Another unusual feature of his series of cases was the number of relapses. Out of thirty-five cases, ten had relapses. Dr. Smith said this was the highest percentage of relapses he had ever observed. In two of the cases there were two relapses. In four of the cases there were intestinal hemorrhages—also a large proportion. Another unusual feature was that the Widal reaction was only obtained very late in the course of the disease. The earliest it was observed was on the fourteenth day, and there were cases in which repeated examinations of the blood gave no reaction.

Dr. Smith said he had learned to have great confidence in the leucocyte count in cases of continued fever. In one of the cases, where the leucocyte count was 17,000, the patient died, and at the autopsy, enormous ulcers were found throughout the ileum and colon. The mortality of his 35 cases was two per cent. One of the fatal cases had a perforation, and was moribund when brought to the hospital. The other fatal case was the one with the numerous ulcers. In many of the cases blood cultures were made, but only two showed anything positive.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Stated Meeting, Held January 31, February 1 and 2, 1905.

The President, Dr. Hamilton D. Wey of Elmira in the Chair.

(Special Report to the Medical Record.)

First Day, January 31, 1905.

The ninety-ninth annual meeting of this Society was held in the Common Council Chamber, City Hall, Albany, New York. The proceedings were opened with prayer by the Rev. T. St. George McLean, Rector of Trinity Church, Albany.

President's Inaugural Address.—Dr. **Hamilton** D. **Wey** of Elmira said that whatever of success attached to this meeting was to be credited to loyal, devoted and self-sacrificing members of this society imbued with its traditions and solicitous for its welfare. He said that the report of the Joint Committee of Conference representing the Medical Society of the State of New York and the New York State Medical Association, appointed to facilitate and expedite the unification of the medical profession of this State, merited their earnest, thoughtful consideration. He said the recommendations carried with the report should receive their adoption and indorsement. One year ago it was confidently expected that at this meeting existing medical division would be obliterated, the differences and dissensions of former years would become as the indistinctness of a dream, and the profession united and unified to consider the higher problem of the hour and day without the distraction of academic discussions. The objections based upon legal grounds and conceded by counsel to be good and sufficient, acted as an estoppel and prevented the Association proceeding at that time with the merger. It was the intention at the present meeting to correct errors of procedure so that what might be done in the future would be unquestioned from a legal standpoint. Reference was made to the State Hospital for the treatment of incipient pulmonary tuberculosis at Ray Brook, Essex County. He hoped the results obtained would serve an educational purpose in directing public attention to the importance of the early treatment of pulmonary tuberculosis, and the amenability of the disease during its initial period to appropriate measures. He said that approximately 10 per cent. of the yearly mortality in this State was occasioned by this disease, from 13,000 to 14,000 lives being annually lost from this cause alone. He said that next year would occur the one hundredth annual meeting of this society, and it was incumbent upon them that it should be observed and celebrated in fitting and appropriate manner. According to the *Transactions* for 1904 it was stated eight counties were not in affiliation with and represented in the society. It was the duty of the State society to strengthen local societies having representation, so far as lay in its power. He believed the present to be a favorable time for the abolition of the delegate system, and recommended eligibility for membership of all members in good standing of county societies. Since the last meeting there had passed beyond three honorary and eleven permanent members. After welcoming all, he declared the ninety-ninth meeting open for business.

Report of Committee on Conference.—Dr. H. L. **Elsner** of Syracuse, chairman of this committee, reviewed the work done towards amalgamation since January, 1902, and the progress that had been made. It was interesting to note that there were 694 active members of the county medical associations and 6,655 of the county medical societies desirous of amalgamation, making a total of 7,349 active members from both bodies, leaving but 77 members of the association who failed to ratify the agreement. If amalgamation was effected it recommended that there be a clear title, without a single flaw, and that it should rest upon a firm foundation; therefore, they indorsed the recommendation of the president that the delegate system be abolished, and all members in good standing in their respective societies be admitted to membership.

The following resolution was then offered by Dr. D. B. St. John Roosa of New York, and passed unanimously: That the Committee of the Society heretofore appointed for the purpose of bringing about consolidation, namely, Drs. Henry L. Elsner, Abraham Jacobi, Albert Vanderveer, George Ryerson Fowler, and Frank Van Fleet be and they are continued as such committee with full power and authority to do whatever may be necessary to carry the agreement into effect.

Committee on Hygiene.—Dr. John L. Heffron of Syracuse, chairman of this committee, reported that they advised some national law to be passed to provide for the procuring of pure food. Also, because wood alcohol was being so much used in blending alcoholic beverages, they recommended that the society attempt to secure the passage of a law forbidding this practise, and that if the law was violated the same penalty should be inflicted as for manslaughter. With regard to railway sanitation, they recommended that the governor appoint a committee whose duty it would be to see that proper sanitary measures were carried out on cars at both ends of runs.

Report of Committee of State Board of Medical Examiners.—Dr. Lewi reported the total number of candidates for license since the board was established, 8,583; of these there were successful 6,828, or 79.5 per cent.; unsuccessful, 1,755, or 20 per cent. The total number of candidates from July 31, 1903, to August 1, 1904, was 922; appearing for full license, 471; successful, 360; unsuccessful, 111. There had appeared before the Homeopathic board, 223; successful, 21; unsuccessful, 2. There had appeared before the Eclectic board, 21; successful, 12; unsuccessful, 9. The men who were elected to serve until August 1, 1906, were Dr. William Warren Potter, president; Dr. M. J. Lewi, secretary.

Report of Treasurer.—Dr. O. D. Ball of Albany reported that the amount on hand was $2,707.52.

Dermatitis Seborrhoica and Its Relation to Alopecia, and Other Conditions.—Dr. L. Duncan Bulkley of New York read this paper, and gave his clinical experience with the disease and a study of its true character, giving an analysis of 755 cases of dermatitis seborrhoica and 608 cases of alopecia. He also referred to its simulation to other conditions, such as psoriasis, pitiriasis rosea and ringworm. Alopecia he considered to be of parasitic origin, although the microorganism causing the disease had not yet been agreed upon by most observers. In the treatment of dermatitis seborrhoica he stated that most writers laid great stress upon the local treatment. The internal treatment had relatively little direct influence upon the eruption; there was no internal specific for the disease yet known. More attention should be paid to diet, and such internal medication along the lines as laid down in the treatment for eczema. There were many variations in the local treatment. If the scalp was involved lotions were better than ointments, and the one he preferred was composed of resorcin, alcohol, glycerin, and rose water. In some cases equal parts of resorcin and chloral hydrate gave better results than when resorcin was employed alone. Dermatitis seborrhoica made up one-tenth of all the cases that consulted the dermatologist. The condition was often mistaken for eczema, psoriasis, etc.

Dr. Ralph A. McDonnell of New Haven, Conn., said that it was utterly impossible to cure cases of acne rosacea or vulgaris without removing from the dietary such substances which were digested in the upper digestive tract, and which caused intestinal fermentation. In cases of incipient baldness advance should be made along the line of internal treatment if good results were to be had.

To What Extent are Cycloplegics Necessary in Determining the Refraction of the Eye and in the Prescribing of Lenses.—Dr. Frank Van Fleet of New York read this paper. In considering this subject he said it was necessary to know just what the conditions were that required the use of glasses, and what we expected to accomplish by their aid. He confined himself to the refraction of the eye including the ciliary muscle, on which depended, so he believed, the determination of the whole subject. He then considered the eye as an optical organ and, again, as an organ of vision. The eye being an active organ, a part of an active system, one could not eliminate one part and retain the normal sequence. So he believed that if one paralyzed the ciliary muscle when attempts were made to correct the defects of the eye with lenses, you were starting from an erroneous base, by placing the eye in an abnormal condition. There was no way in which one could determine the nature of the condition which you had to deal with from the character of the symptoms presented. Headaches were generally considered to result from hypermetropia and astigmatism rather than from myopia, yet there were many exceptions. It should be borne in mind that it was not a positive indication that glasses were not properly fitted because the symptoms for which they were prescribed, and which seemed to be referable to the eye, did not cease when the lenses were worn. He thought it would be admitted that cycloplegics were not necessary in making an ophthalmoscopic examination. If one desired to dilate the pupil for this purpose, cocaine could be used. Cycloplegics were used to allow one to estimate the amount of error. The bright light of the ophthalmoscopic mirror, thrown into the eye, at first caused a contraction of the pupil, which was followed by a dilatation of the iris and an accompanying relaxation of the ciliary muscle; and this, in the majority of the cases, was sufficient to enable one to estimate the amount of error, especially in hypermetropia, with sufficient accuracy for all practical purposes, and if one desired you could find that this was confirmed by examination under atropine. In determining the lens to prescribe in hypermetropia with asthenopic symptoms his plan was to correct the amount of manifest error and increase the strength of the lens as circumstances necessitated. To a person with asthenopia, who had never worn glasses, the correction of manifest hypermetropia would give relief and comfort. If the necessary relief was not obtained, or if the patient would not accept the lens, he believed a cycloplegic should be resorted to. What he said regarding hypermetropia applied to astigmatism, with certain modifications. Observations had demonstrated that astigmatism was generally corneal, and also that a certain amount of lenticular astigmatism was normal. He believed that, as a rule, in simple hypermetropia and in hypermetropic astigmatism it was only the amount which was uncompensated for, or which was compensated for with difficulty, and if this was corrected the trouble would cease. In simple myopic astigmatism the patient would generally accept the glass which represented the full amount of the error; whereas, in simple hypermetropic astigmatism this might or might not be the case. In mixed astigmatism he often used atropine. Extended experience tended to confirm the belief that children of tender years, afflicted with myopia, should have their accommodation paralyzed with atropine at least every six months, the eyes being protected with colored glasses, until you were confident that the tendency of the disease was not to increase. In children with intermittent strabismus convergence atropine would procure good results. In older people who had gone through years of agony from uncorrected eye-strain atropine would accomplish a great deal by enforcing rest. He believed that cycloplegics should be used but exceptionally in the refraction room.

Rheumatism and the Eye Muscles.—Dr. Francis Valk of New York read this paper, and stated that the uric acid diathesis might affect the ocular muscles, not a paresis, producing certain symptoms similar to those of muscular asthenopia. These symptoms could only be shown by the findings of the tests for the muscular rotation of the eyeballs under fusion and version, the latter by turning the eye under the influence of the will, which test was somewhat crude. In the uric acid diathesis one or both fields might be restricted in all directions of rotation of the eye. He then related two interesting cases.

Dr. A. Edward Davis of New York discussed the paper.

The Simulation of Appendicitis by Cholelithiasis.—Dr. Geo. G. Lempe of Albany read this paper.

Arteriosclerosis Affecting the Nervous System.—Dr. B. C. Loveland of Syracuse contributed this paper, and said that his attention had first been called to this subject ten or twelve years ago by Dr. Starr. The toxic etiology was admitted by all. Excessive exercise, mental or physical, was thought to be a cause by some. The ingestion of food, tobacco and tea predisposed to the condition. He then entered into detail as to how arteriosclerosis affected the cerebral, spinal, peripheral, and sympathetic parts of the nervous system. An early diagnosis was of the utmost importance. Disordered function of the brain, heart, kidneys, and other organs should be considered before they became irreparably injured. The waste of the body should be minimized in order not to burden the circulation. Any strain, mental or physical, especially which required the use of stimulants, should be avoided. Several hours' sleep should be insisted upon. Among the remedies used, the iodides have the lead, especially the yellow iodide of mercury, which never seemed to disturb the stomach. Aconite in large doses, given for several months, was recommended by Thomson. Strychnine might be used when indicated without changing arterial tension. The mechanical and electrical treatment each had their place.

Loss of Vision from Disuse of the Eye, Amblyopia ex Anopsia.—Dr. D. B. St. John Roosa of New York read this paper. (To be published later.)

Drs. Frank Van Fleet of New York, Howe of Buffalo, Valk of New York, and Davis of New York discussed the paper.

Biliary Drainage in Operations on the Gall Bladder and Biliary Ducts.—Dr. Eugene A. Smith of Buffalo read this paper. He emphasized the importance of draining the biliary tracts in operations upon the gall-bladder and the ducts. He referred briefly to twenty-five operations he had performed, in which he had drained the gall-bladder and biliary ducts twenty times. It was interesting to note that in some cases the discharge of bile was excessive, sixteen to thirty ounces occurring in twenty-four hours during the first week. The hepatic function was restored partly or completely according as he was able to correct the pathological process. Cholecystectomy without drainage must be guardedly advised. Drainage in cholecystectomy was perfect, although it was stated by some that as the result of a prolonged fistula cure might only be obtained by resorting to cholecystectomy; that had not been his experience. In his series of twenty-five operations there had been but two deaths. Acute pyogenic infection demanded drainage at once.

Report of a Case of Vasomotor Disturbance Caused by Exposure to Sunlight.—Dr. Samuel B. Ward of Albany reported a case of erythema and urticaria, with a condition resembling angioneurotic edema caused only by exposure to the sun's rays. There was no purpura. There had been a history of muscular rheumatism for some years previous. There were digestive disturbances with much formation of gas, but no colics; there was no history of nephritis.

Dr. E. Wood Ruggles of Rochester, Dr. Kinnear and Dr. F. C. Curtis of Albany discussed this paper.

Pathology and Bacteriology.—Dr. W. T. Councilman of Boston said that the pia mater was a more or less lymphatic in nature. Strictly speaking all cases of meningitis deserved the term meningo-encephalitis because of the intimate connection between the blood vessels and the lymph channels. Infectious agents might gain access by way of the blood or from an extension from some foci of infection by means of the lymphatics. All cases of meningitis were really cerebrospinal. Acute meningitis could be produced by a number of bacteria of pyogenic nature, especially Diplococcus intracellularis meningitidis, the pneumococcus and the streptococcus, the first named, of course, deserving the greatest consideration. In 1897 this diplococcus was established to be the only cause of the disease, being found in thirty-one out of thirty-five cases coming to autopsy. It was found to be present in all acute cases, but rarely in those running a chronic course. The organism was possessed of feeble vitality. The cultures varied in virulence but was found to be constantly present in the epidemics occurring in Massachusetts. It was first described in 1806. Dr. Councilman stated that there had been four epidemics of cerebrospinal meningitis in Massachusetts, as follows: In 1809, 1864, 1874, and 1897. There was a great difference in mortality, ranging from 20 to 75 per cent. In the last epidemic it was 65 per cent. The edidemics were of short duration, but sporadic cases occurred between. Since 1898 there have been 61 autopsies in cases of meningitis occurring in the Boston City and Massachusetts General Hospital; in 13 the diplococcus meningitidis was found in culture, while in 8 cases the disease was considered due to the same etiology, although the organism was not obtained in culture. All cases were primary and did not differ in type from the disease studied in 1897. He said the diplococcus was difficult to cultivate, because of its feeble vitality. There was great need of accurate studies on this subject. Examination of the health statistics of Massachusetts showed a gradual decline 210 cases; in 1900, 165 cases; in 1901, 175 cases; in 1902, In 1897 there were 355 cases; in 1898, 259 cases; in 1899, 240 cases; in 1900, 165 cases; in 1901, 175 cases; in 1902, 165 cases. These cases were scattered over the State and did not occur in sufficient numbers in any one place to be considered epidemic. He believed the cause of the primary cases to be due to the diplococcus intercelluris. It could be concluded from autopsy and statistics that the sporadic cases due to the diplococcus intracellularis were not of frequent occurrence, but there was no way of determining how frequent, because often it was not diagnosed. Up to 1898 he could not find a case in which the culture from the fluid obtained by spinal puncture showed the streptococcus or pneumococcus, which recovered. Every case of meningitis in which the pneumococcus or streptococcus was found by spinal puncture was fatal according to the statistics of the Children's Hospital.

Symptomatology and Diagnosis.—Dr. H. L. Elsner of Syracuse read this paper, limiting himself to an experience of the disease in the central counties of New York State. He said there was not a single year in which cerebrospinal meningitis had not claimed its victims, and that it had occurred both as an epidemic and sporadically. In Syracuse there had been 175 deaths during the past eleven years due to cerebrospinal meningitis; 499 had been reported as being due to meningitis. The deaths during 1899 were 45, that being the greatest number in any epidemic. This disease was very rare after forty years of age. Mental worry and fatigue predisposed to it. The bacteria and culture tests could only give information that was reliable in diagnosis. One attack was supposed to give immunity. He called attention to the occasional occurrences of metastatic joint involvement. In many instances the pneumococcus was found in the joint. In almost all cases Kernig's phenomenon was present. It should be remembered that this sign was occasionally found in other diseases. Kernig himself believed its presence was an early manifestation of the disease, and that it was late in disappearing. In 90 per cent. of the cases of cerebrospinal meningitis seen in six years Kernig's sign was present, and he believed that its early presence, taken in conjunction with certain brain symptoms, permitted an early diagnosis of cerebrospinal meningitis. He did not wish to be understood as saying that Kernig's sign was pathognomonic. When taken as a link it greatly strengthens the chain. He wished to emphasize the fact that the pneumococcus certainly caused cerebrospinal meningitis as it did malignant endocarditis, and without pulmonary involvement. Also that cases of cerebrospinal meningitis caused by the pneumococcus which occurred in Central New York was uniformly fatal. Also that pneumococcus meningitis might follow distal infections.

The History of Cerebrospinal Meningitis in America.—Dr. Abraham Jacobi of New York contributed this communication. (Read by title.)

Treatment.—Dr. Charles G. Stockton of Buffalo read this paper. When he recollected the difference in virulence in different epidemics it was easy to understand how faulty notions as to the effects of measures of treatment might gain credence. Nevertheless, a timely review of the subject would seem to warrant the conclusion that benefits did follow certain of those measures, and from his own point of view he concluded that the most useful procedure was the bringing about of the best hygienic condition for the patient; that was to say: (1) absolute quiet in well-ventilated, darkened rooms, with the absence of all excitement and irritation; (2) giving the greatest attention to secure the proper performance of the various functions of the body; (3) the trial of the hot baths after the method of Aufrecht in all cases where they seemed to do good; (4) the practice of intraspinal puncture, with drainage where necessary to relieve severe pressure symptoms, to be repeated, if necessary, provided benefit followed the first puncture; (5) the use of antipyrin in cases in which the temperature was raised, not only for the relief of this symptom, but for the mitigation of headache and hyperesthesia. Personal experience had shown him that the drug was also useful in improving the mental state, and it had not been followed, in his hands, by the expected depression; (6) the use of opium or the bromides alone, or in connection with antipyrin, if necessary, for the relief of convulsions, pain, hyperesthesia and pressure symptoms generally, which were not relieved by the foregoing methods of treatment; (7) the use of mercury when needed for its laxative effect, or needed to assist in stimulating the organs of elimination.

The Eye Symptoms.—Dr. A. Edward Davis of New York contributed this paper, first considering all the eye symptoms which might occur in this disease, and then those which occurred prominently in the epidemic of 1904 in New York City. He took up both the motor and visual groups of eye sympoms.

Dr. Morris Manges of New York City opened the discussion. He wished to emphasize the fact that in cerebrospinal meningitis not alone were the spinal meninges involved, but the cerebral meninges and the cortex of the brain as well; bearing these facts in mind he said how hopeless a task it was to attempt much by treatment. The variations in mortality in different epidemics tended to put a damper upon one's enthusiasm regarding the various methods of treatment. If there was a closure of the foramen Magendie local treatment was absolutely hopeless; and yet in all cases we ought to make some attempt to cure the disease by local treatment. A great advance in diagnosis and aid in treatment had been the systematic use of lumbar puncture. In many cases cure had followed its use, and no harm, when done with proper technique, had ever been caused by it. It should be remembered in acquiring this technique one should be prepared for "dry taps." This was not always due to faulty technique. This might be explained by the thickness of membrane or a closure of the foramen Magendie. With regard to the use of antiseptics in the canal, he said it was surprising how tolerant the spinal canal was of foreign substances. In those cases in which we failed to get prompt results from lumbar puncture or injections of antiseptics, such as lysol, we should attempt to drain by making a counter opening above; this with the lumbar puncture below should be of some value in these cases. He referred to the observations made by Dr. Loomis, who made an injection of a silver salt in a severe case of cerebrospinal meningitis. The patient died, and at autopsy the silver salts were found deposited not only in the spinal canal, but also over the cortex and base of the brain.

Dr. Delancey Rochester of Buffalo said that we should bear in mind that in all cases of primary infection of serous membranes there was a certain amount of involvement of the underlying structure, as a rule. He called attention to the fact that recent epidemics occurred at a time when the people kept their houses shut up and away from the fresh air, and that, as a consequence, the vitality of the individual was lowered. In diagnosing cerebrospinal meningitis he said that too much stress should not be laid upon any one symptom or sign, but that they should be grouped together. He referred to the persistence of leucocytosis in this disease from the beginning to the end, and this was a specially valuable diagnostic sign when the polymorphoneutrophiles were in excess. In the treatment of this disease he questioned the value of the injection of antiseptics into the serous sacs, because he believed it could only act as an irritant there, in the same way that it would in the pleural or pericardial sacs. He advocated keeping the patient quiet and as much as possible away from irritation. It was his practice to give the bromides and antipyrins in combination, and to be persistent in its use, at three or four hour intervals and in considerable doses. Such treatment made it possible to move the patient comfortably when giving the baths. The local use of leeches about the base of the skull and along the spine caused much improvement.

Dr. E. Libman of New York said that one of the most important questions regarding cerebrospinal meningitis was the question of the method by which the disease spread. He believed that there was but one organism which caused epidemics of this disease, and that this diplococcus meningitiditis had been found in the nasopharyngeal secretion. He said that two cases had been reported in which meningococcus had been found in the conjunctival secretion. In one case the child had been treated for "pink eye" who later developed cerebrospinal meningitis, and he thought this case proved the possibility of entrance of the organism through the conjunctival sac. Sporadic cases were usually considered to be the milder, but he had in mind exceptions to this rule, one case in particular which died inside of twenty hours, and they recovered the pure cultures of the diplococcus intercelluris.

Dr. E. D. Fisher of New York referred to eighteen cases seen at Bellevue Hispital, in which the meningococcus was found in every case but two; in one the streptococcus and the other the pneumococcus being found. The diagnosis had never been difficult. Lumbar puncture was not necessary to make a diagnosis, but was used in the treatment with benefit. The results in the employment of the lysol injections were not promising. Kernig's sign was not present in such large proportion of cases as related by Dr. Elsner, and he did not place as much value on that sign as some others did.

Dr. E. S. Thomson of New York discussed the eye symptoms.

A Case of Splenic Anemia with Achylia Gastrica.—Dr. I. H. Levy of Syracuse reported two cases occurring in twin sisters.

The New Revision of the United States Pharmacopeia.—Dr. Reynold Webb Wilcox of New York presented this communication.

The evening session was held in the Senate Chamber.

Address.—Dr. Charles Harrington of Boston, Mass., secretary of the State Board of Health of Massachusetts, delivered an address in which he sketched the origin and the development of the various laboratories in the State of Massachusetts, and told what had been accomplished by them for the public good.

President's Address.—Dr. Hamilton D. Wey of Elmira said that along the skirmish line of medicine militant, in advance of the rank and file of the profession, occurred incidents and happenings surpassing in tragedy and emotion anything presented in mimic life. He referred to Dr. Ephraim McDowell in the performance of his ovariotomy in 1809; the knowledge of an excited crowd of men were without to do him violence, to the taking of his life in the event of Mrs. Crawford dying upon the table, did not deter him from the performance of his duty, nor rob his hand of its skill and cunning. The application by Ambroise Paré in 1552 of the ligature to vessel ends in amputation, the work of Jenner in connection with vaccination and preventive medicine, the association of the Chamberlains with the obstetrical forceps, the devising of the stethoscope by Laennec, the advancement made by Graves in the treatment of febrile diseases, the efforts of Pinel for the humane and merciful treatment of the insane, were all cited as instances of outposts of militant medicine. Coming down to more recent date, he said we found ourselves under the immediate influence of the achievements of Morton in the production of ether anesthesia, Sir James Y. Simpson's discovery of the anesthetic properties of chloroform and its applicability to the alleviations of pain during child-birth, Holmes' declaration of the contagiousness of puerperal fever, the efforts, researches and investigations of Wiehow and his pupils to render medicine into an exact science through the application of applied methods, the contributions to and labors of Sims and Emmet in the field of gynecology, materialness of Lister upon surgery and surgical technique, and the researches of Pasteur and Koch to elucidate and demonstrate the germ nature of infectious disease. He said that the advances made and benefits accruing to practice of medicine at the present time from laboratory methods and research held forth the reasonable expectation the near future would reveal the true character of the *materies morbi* of most, if not all, diseases, manner of propagation and transmission and indicate scientific and exact procedure of treatment in place of the expectant and empirical plan. In response to the tireless, never ceasing activity of laboratory workers, biologists, bacteriologists and hematologists, new terms and expressions had multiplied, and an almost new nomenclature was given us. It was a great privilege to practice medicine in these latter days. It was not permitted all to be original workers, to be identified with signal advance or achievement in medicine or surgery, but to each it was permitted to maintain the dignity and reputation of the profession by adaptation to the methods of to-day—use of diphtheria cultures for diagnostic purposes, the employment of the Widal reaction in doubtful or suspected cases of typhoid fever, blood examinations in appropriate cases, etc. He said it was incomprehensible that there should be at the present day those who shrank from the employment of or questioned the efficiency of diphtheria antitoxin. Disappointment has been expressed, as in typhoid fever immunization and the serum treatment of this disease, but he said failure in certain lines emphasized success in others, and stimulated expectation as to what the future had in store. Whatever the future contained of promise, there was compensation in present living and relation to the near past, by reason of the Röntgen ray in diagnosis and treatment, the Finsen and other lights in therapeutic relation, intubation, the rôle of insects in the dissemination of disease, the relation of special mosquitos to malaria and yellow fever. For the first time in history war was being waged with regard to preventive medicine, and Japan was demonstrating to the world disablement and death from disease could be made to fall far below that arising from contact and the implements of war, a reversal of past experience. Throughout the State, in villages and small cities, hospitals had multiplied, schools for post-graduate instruction, a feature to the end the practitioner was enabled to familiarize himself with the new medicine, improve his operative technique and quicken his diagnostic skill. These hospitals were also educational factors in their respective localities. He believed there was much to learn from European customs which permitted the savant to continue the study of the various problems of health and disease, under government auspices, secure in his position and without embarrassment of study on account of concern for the matters of every-day life. Dr. Wey said that the sum approximately of $85,000 was available for all purposes in connection with the work of the State Department of Health. The State expended annually 1.17c. per capita for purposes pertaining directly to public health. He thought the time had come for each county to afford laboratory facilities. There should be a county bacteriologist to make blood counts and examinations, diphtheria cultures, Widal tests, and other examinations as related to general every-day practice of medicine.

SECOND DAY, WEDNESDAY, FEBRUARY 1.

The Family Physician.—Dr. ROBERT P. BUSH of Horseheads read this paper and referred to the relation of specialists to the general practitioner, as well as the duties of the family physician to the family and to the community. He also spoke of his influence and his rewards.

Dr. A. JACOBI of New York, said that it was very proper that such a paper should be read now and then, and that the good specialists in the larger cities should be reminded that the family physician was still in existence.

Correction of Nasal Deformities by Subcutaneous Operations. A Further Contribution.—Dr. JOHN O. ROE of Rochester read this paper. He said that in 1887 he presented his first article on this subject before the Society and, since that time, he had presented papers describing various other operations, by which the different deformities of the nose could be corrected by this subcutaneous method without wounding or disfiguring the skin. These subcutaneous operations for the correction of nasal deformities did not demand the bold endeavors of the general surgeon; they, however, required most accurate work and careful attention to details not required in major operations in order to insure the desired result. The success also depended on an accurate knowledge of the plastic art, and to the ability of the operator to reconstruct an organ so as to harmonize both as to its own proportions and in its relations to the neighboring parts. The symmetry of the nose, therefore, was more important than its size. The general shape of the nose should be made to conform to the general shape of the face. In the correction of all facial defects, the surgeon should not only be an artist, but also more or less of a sculptor, with perception of symmetry as related to the different features. In an article read before the British Medical Association in 1888 at Montreal, he classified nasal deformities into two main classes, first, those which affected the bony portion, and, secondly, those which affected the cartilaginous portion of the nose. The special deformities of the different parts he subdivided as follows: first, those affecting the bony portion, which might be too convex or too concave, or deflected latterly, and deformities of the cartilaginous portion which might be due to excessive or defective development of the tip, and those affecting the wings, which might be either collapsed or abnormally expanded. There were other deformities resulting from injuries or from extensive destruction of the hard or soft parts by syphilis, lupus or other diseases, which would not permit of classification, owing to the peculiar distortion of the hard and soft parts. In such cases, however, the method of correcting them by subcutaneous operation was equally applicable and attended with most excellent results. For the purpose of illustrating the manner in which some of these extraordinary deformities might be corrected by the subcutaneous method he cited several cases. In order that these operations might all be performed subcutaneously it was necessary that the incision should be made within the nose. After the parts had been thoroughly cleansed and made sterile, the vestibule of the nose was dilated with nasal spectra and illuminated. A vertical incision was then made through the outer wall of the nose to the under side of the skin. This incision should be made anterior to the deformity which was to be corrected. This incision was enlarged according to the extent of the deformity, and the skin raised throughout the deformed part. Through this opening the necessary procedure was instituted according to the nature of the deformity. The method that had given him the best results in holding the parts in place until thoroughly united, was a dressing in the form of a saddle made to fit the contour of the nose, held in place by adhesive plaster across the face. It was, of course, necessary to remove it frequently and change its shape in order to conform to the nose.

The Middle Turbinate in Diseases of the Accessory Sinuses.—Dr. J. A. Stucky of Lexington, Ky., said that increase in sinus disease was brought about by the increase in original investigations, and that, perhaps, there was more original work to-day on the accessory sinuses than on any other part of the body from an anatomical standpoint. One of the causes of increase in disease of the sinuses was attributed to the prevalence of grippe. In a résumé of his investigations along this line he said that, both American and English writers had agreed that the middle turbinate was practically an offshoot of the ethmoid and the differences in size and' shape was more often overlooked in intranasal diseases than was that of the inferior turbinate. The conditions of the middle turbinate very frequently caused obstruction to the natural openings and interfered with free drainage, such as catarrh and suppurative diseases. The early removal of such conditions decreased the necessity for extensive and more radical operations later. He condemned the use of escharotics and the galvanocautery on the middle turbinate, preferring the use of scissors and snares.

Inferior Turbinated Bone, Its Function, Diseases, and Treatment.—Dr. Wendell C. Phillips of New York read this paper and concluded as follows: (1) Hypertrophy and deformities of the inferior turbinated bone may interfere with respiration. (2) They also interfere with drainage. (3) They give rise to pressure symptoms and subsequently to mental depression. (4) They further prevent proper intranasal hygiene. (5) True hypertrophy must not be confounded with congestion or inflammation. (6) Hypertrophic tissue and portions of the bone should be removed when symptoms and appearances indicate pressure, altered secretions, interference with drainage and the normal functions of the nose. (7) Escharotics should never be employed. (8) The galvanic cautery was of doubtful efficiency. (9) A clean cut by means of specially devised scissors, through both soft tissue and bone, was by far the best method for operation. (10) The snare offered the best method for the removal of posterior hypertrophies. (11) The resultant wound should be protected by a thin layer of gauze moistened with a 12 per cent. solution of acetotartrate of aluminum, to which may be added a few drops of weak adrenalin solution.

Treatment of Chronic Otitis Media, with Illustrative Cases.—Dr. W. Sohier Bryant of New York read this paper and stated that the principal feature was cleanliness, attained by the removal of irritating materials and culture media. Second in importance was the avoidance of irritation consequent on the cleansing process. The objects to be attained were rapid healing of the perforations of the membrane; or if this was impossible, a dermatization of the exposed inner surface of the drum. He emphasized the fact that the only hope for a cure without capital operation was the very careful manipulation combined with the most absolute cleanliness.

Dr. Wendell C. Phillips of New York said that nasal deformities due to syphilitic disease, were the most difficult of all to correct by surgical procedures. With regard to the cure of chronic otitis media with the middle ear and attic necrosed, there was no hope for cure without operation.

The Public Health Laboratory.—Dr. Herbert D. Pease of Albany made a plea for the adherence to the scientific method in the application of the results of fundamental research to the problems of public hygienic work. For this purpose the widest, most searching, and precise methods of observation were necessary. This required all the available technical methods of bacteriological, chemical, and biological examination be utilized. Laboratories for this work could not be economically established by any but the large cities, and, therefore, the State should undertake such work for the other localities. Eleven States had started such work to a greater or less extent. There were at least eleven fields for the application of routine examinations, including bacteriological diagnosis work on diphtheria, typhoid fever, and tuberculosis, water, sewage and milk examinations, and the testing of disinfectants, both chemical and bacteriological; also chemical examinations of food; the preparation of antitoxins and vaccines, and the Pasteur treatment for rabies and the diagnosis of this disease. The methods used in all these lines of work required constant improvement as fundamental problems were developed. Public health laboratories should receive sufficient financial support to enable them to at least do such research work, as their peculiar routine problems showed to be necessary for the immediate improvement of practical sanitation. Some of these problems mentioned were the relation of diphtheria to diphtheria-like bacilli, that of the typhoid to the paratyphoid bacilli, and other problems in the differentiation of bacterial species; also questions of the natural conditions surrounding the viability of pathogenic bacteria. All epidemics of infectious diseases should be studied by laboratory workers, with a view of determining the natural conditions of their development. State technical work in these lines rested on the same claims for support as charitable, penal, and corrective institutions. The educational value of such work was great. There were signs indicating the requirement of a special technical training for prospective health officers. At present sanitary officers' conferences and schools for instruction were to be encouraged and developed.

The Various Methods of Opening the Skull for the Removal of Tumors of the Brain.—Dr. Charles H. Frazier of Philadelphia read this paper. He took up the consideration of the shape, size, and position of flap in tumors of the frontal, temporal and occipital regions, the methods of hemostasis, and the advantages and disadvantages of the various instruments employed in making osteoplastic flaps, together with the closure of the flaps and establishment of proper drainage. Special difficulties associated with exposure of cerebellar tumors was considered. Craniectomies for cerebellar lesions, and exploration for the same was referred to. In inoperable tumors of the brain, patients suffered from headache, vomiting, and disturbance of vision, as the result of intracranial tension; when it could not be localized, or when inaccessible, a section of bone should be removed. He had at present two patients under observation who had suffered very much prior to operation from pain, headache, and vomiting; operation had removed these symptoms, although there was no restoration of vision.

Dr. Curtis of New York said he had done resections of the skull with a wire saw, and found the method a very practical one, although it was by no means as rapid as with a Crile instrument. Three or four openings must be made and delay came in the introduction of the wire saw from one opening to the other. He emphasized the necessity for large flaps, because it made no difference to the patient whether the flap was two inches or larger, and every additional inch in room was of the greatest advantage. He also emphasized the importance of cutting a skin flap larger than the bone flap, so that when the whole flap was raised up the edges of the skin could be turned over and fastened by sutures, turning in their edges.

Railway Spine.—Dr. Edward B. Angell of Rochester presented this paper and said that the earlier pathological explanation of railway spine was largely speculative, that spinal cord injuries presupposed unusual violence, and that the disturbance, in truth, was a psycho-neurosis, in which imperative ideas played an important part. Discrimination between objective signs significant of an organic disease and subjective symptoms characteristic of functional disorder was made and illustrative types described.

Drs. Kinnear and Flood of Elmira, discussed this paper.

The Relation of Pelvic Conditions to Nervous Disorders.—Dr. A. L. Beahan of Canandaigua referred to the frequency of sclerosis of the appendix in females and the relation of this chronic form of inflammation to menstrual disturbances. He said that sclerosis of ovarian tissue, the thickening of the ovarian capsule, aborted ovulation, with hematoma or small cysts, and later, rupture of these into the abdominal cavity, with adhesions about the ovaries and tubes, often fused these together. The result of this pathological condition upon the physical life of the woman, especially the nervous system, should be carefully measured, and the means for restoration to health needed to be broadly estimated.

Drs. Edward B. Angell of Rochester, Edward E. Fisher of New York, B. C. Loveland of Syracuse, and Clapper of Victor, discussed this paper.

A Resolution from the Committee on Legislation.—Dr. Frank Van Fleet of New York, in behalf of this Committee, presented the following resolution, which was unanimously carried:

"Whereas, information from reliable sources has been received that certain opticians, forming the New York Optical Society, contemplate the introduction of a bill in the Legislature, "Defining and Regulating the Practice of Optometry," which is designed to confer on these opticians the right to employ lenses as therapeutic agents for the relief of symptoms which may or may not be due to defective eyes, and

"Whereas, information from other and equally reliable sources is received that certain people employing as therapeutic agents methods to which have been given the names of massage, therapeutic gymnastics, Swedish movements, osteopathy, mechanoneural somatopathy, seismotherapy, vibration, vibrassage, and other terms, desire at the hands of the Legislature the legal right to diagnosticate and treat diseases of the human body.

"Whereas, we believe that the greatest latitude, consistent with the necessary and proper protection of the people, should be given all who practice the healing art, and that the medical laws of the State of New York are elastic enough to permit the practice of any and all methods which have or can be desired for the prevention or relief of disease,

"Therefore, be it resolved that the Medical Society of the State of New York deprecates these efforts of incompetent people to secure the privilege to prey upon the community and respectfully petitions the Legislature to refuse to sanction any efforts such as these herein enumerated.

"Resolved, that the Medical Society of the State of New York petitions the Legislature to refuse to enact any laws which will in any way discriminate either for or against any class of people who claim to have any peculiar methods which may or may not be valuable for the treatment of diseases, or of errors and anomalies of the human body.

"Resolved, that a typewritten copy of this resolution, signed by the President and Secretary of this Society, be placed in the hands of every member of the Legislature, including the Governor and the Lieutenant-Governor."

The Non-Sequitur in Medicine.—Dr. Henry A. Fairbairn of Brooklyn said that in the past largely, and to some extent at present, metaphysical speculation had invaded the domain of medicine. A variety of assumptions, with inferences based thereon, had led to results having no agreement; on the other hand, speculating had dealt with facts in such a way as to lead to fallacy. Exact knowledge of facts, laws and approximate causes, the characteristic of medical study to-day, he said, must evolve unity and firm basis of procedure. The looking upon disease as a simple and not a complex matter, with all of its consequences, was the non-sequitur of medicine to-day. Unwarranted assumption led to that in the early days of medicine. Unqualified claims for therapeutic measures had propagated it. Unscientific statements still kept it alive. Our clinical teachers and pathologists and their carefully kept records rang out the answer to it; diseases, instead of being simple, were the most intricate subjects presented to the student for consideration. So interdependent were the various structures of the body for their nutrition, function, growth, and welfare, and so intimately bound together by the sympathetic system, that when disorder was manifested by one, it became necessary to define its relation to the rest of the economy. Satisfactory diagnosis and treatment could not rest upon the examination of one organ alone. The indiscriminate distribution and use of drugs, the origin of various medical vagaries, could be traced to the fallacy named. We must look to the medical doctor for its correction. He could not inculcate the fact too often that it required a very thoroughly trained and careful mind not only to unravel this complex subject, disease, but to select and apply the appropriate remedies for its relief.

Poisoning by Potassium Bichromate.—Dr. Francis Eustace Fronczak of Buffalo reported such a case and drew attention to medical jurisprudence literature, which was very meager on the subject, there being less than six cases mentioned of such poisoning. The case reported by the speaker was one in which an attempt was made to kill a woman by mixing about 100 grains of potassium bichromate with wine and alcohol. The doses usually given in books was one-twelfth to one-half a grain.

A Study of Two Hundred Osteotomies for Genu Valgum and Genu Varum.—Dr. Homer Gibney of New York made a report of these cases, which had occurred during his service at the Hospital for Ruptured and Cripples. The great majority of cases admitted were genu varum, or bowlegs, the proportion being about two-thirds as many bowlegs as genu valgum, and these deformities were more frequently met with in males than females. He then described his method of procedure briefly.

The Etiology of Hypertrophied Prostate.—Dr. L. Bolton Bangs of New York read this paper. (Will be published later.)

Some Observations on the Technique of Perineal Prostatectomy.—Dr. Geo. R. Fowler of Brooklyn said that the superpubic route was the one of choice, but that it must be acknowledged there were cases in which the perineal route best suited. In fact, there were no hard and fast rules which could be laid down. It was his belief that in the great majority of cases of hypertrophy of the prostate were most easily reached by the natural route of the perineum. Intravescular enucleation necessarily demanded a total enucleation. Again drainage was best instituted by this route. The capsule could be entered almost anywhere, and it was possible to perform a relatively complete prostatectomy without entering the urethra. When traction was properly applied it was not necessary to make pressure from the rectum, as was frequently the case when the superpubic method was employed. The fears of infection of the deeper pelvic plains were ever present by the superpubic method. Dr. Fowler then described the steps of the operation. No reference was made to traction upon the organ as an aid to enucleation or resection, because he did not believe it was at all necessary; he grasped the corresponding lobe with a double tenaculum forceps, which gave him absolute control of the situation. In the after treatment he emphasized the importance of getting the patient out of bed as soon as possible. If drainage was employed, the tube should be removed not later than forty-eight hours after operation.

Personal Experiences in Prostatic Surgery During the Last Two Years.—Dr. Willy Meyer of New York said that to-day it was a question of choosing the proper method in any given case. The surgeons usually recognize the necessity of individualizing in these cases, and could choose one of the three methods, giving it a fair and unbiased test. Each method had its merits. A well-to-do patient might be allowed to practice self-catheterization if he was opposed to surgical intervention, but for the rank and file so soon as a man came to catheter life surgical interference should be advised. In trained hands the death rate following operations was less than five per cent., and often but two per cent. He did not believe any surgeon had a right, under these circumstances, to relegate the patient to catheter life unless he absolutely refused the knife; in which case the Bottini operation should be advised. The superpubic operation seemed more promising as regards sexual power. In conclusion he said that we had to-day three useful methods, viz.: the superpubic, the perineal, and the Bottini; that these three methods deserved to be recognized as standard procedures; where the conditions warranted it prostatectomy should be done; the selection of the route, whether superpubic or perineal, was not an easy matter to choose at present; the question of the preservation of sexual power was important; if the operation by knife was refused the Bottini operation should be advised; the catheter should never be intrusted to a patient for regular use; the surgeon should familiarize himself with the perineal, the superpubic prostatectomy as well as Bottini operation in order to do justice; always select the operation that suited the case.

Prostatism without Prostatic Enlargement, its Diagnosis and Treatment.—Dr. Charles H. Chetwood of New York said that there was no doubt that prostatism could exist without prostatic enlargement. The important symptoms were urgency and frequency in urination, pain after the act, and a partial or complete retention of urine. This collection of symptoms in an individual past the age of fifty was more likely to suggest to the medical observer an obstructing prostatic hypertrophy rather than the malady about to be described. Some years ago he first described this condition under the title of "Contracture of the Neck of Bladder." This condition was a fibrous stenosis of the vesical orifice. The cause might be found in any previous chronic inflammation in front or behind the sphincter vesicæ and more frequently of gonorrheal origin. The condition was found in the young as well as the aged. He said that confusion existed in the minds of many men regarding prostatic hypertrophy and contracture of the neck of the bladder. Dr. Chetwood here related a few cases, one of which gave a history of prostatism when there was no prostate present. A normal vesical orifice should freely perience justified the conclusion that contracture of the neck be present the finger would not be admitted. Many cases of prostatic hypertrophy were operated upon without the recognition of contracture of the vesical orifice and resulted in failure. He then referred to the effective means for the relief of the condition. A simple incision into this stenosed ring was likely to be attended with severe hemorrhage, but the galvanocautery operation was safe and effective. He presented an instrument specially devised by him for use through the perineal incision. His experience justified the conclusion that contracture of the neck of the bladder was one of the causes of vesical obstruction and that relief could be had, safe and sure, by means of the galvano-cautery instrument introduced through a perineal incision.

Superpubic Prostatectomy.—Dr. Howard Lilienthal of New York said that his experience with thirty-one cases enabled him to state positively that the superpubic route was the safest and the most thorough of all operations for the relief of prostatic obstruction. Twenty of these cases were his own and eleven were operated upon by his colleague Dr. Joseph Weiner. Another case seen years ago, but not in the hospital, had resulted fatally. Recovery occurred in every one of the thirty-one cases in the hospital, and there was a perfect functional recovery in all but two. The sexual power was increased after operation in a number of instances, and was lost in none who were potent before operation. Most of the patients were feeble and had various complications. Dr. Lilienthal here briefly narrated the various steps of the procedure, and believed that success could be in the hands of others as it had been in his own. The operation itself was so simple that any surgeon with ordinary skill could hardly fail to attain success.

Has the Catheter a Place in the Treatment of Chronic Prostatic Hypertrophy?—Dr. Paul Thorndike of Boston read this paper by title.

Conservative Perineal Prostatectomy; Results of Two Years' Experience.—Dr. Hugh H. Young of Baltimore agreed that there was no one method for the treatment of prostatic hypertrophy. Seven years ago he first performed this operation by the superpubic route, which was followed by such wonderful results that he thought that the ideal had been attained. But after having had three deaths in twenty cases, and having had cases in which there was a tedious convalescence, he then thought that there were other methods which might produce better results, especially in aged patients. He then turned his attention to the Bottini operation, and he was surprised then to find such wonderful results from an operation which he once considered utterly unsurgical. Then came unexplainable failures. Among eighty-five cases operated on by the Bottini method there came some deaths which should not have occurred. There were six deaths among the eighty-five cases. He then turned his attention to the perineal route. Although an admirer of Dr. Parker Sym's instrument, he thought something better might be accomplished by a metallic instrument which he devised. This instrument was shown and described. During the past two years he had had exactly seventy-five cases. After briefly referring to the technique, illustrating it by diagrams, he said that in all these seventy-five patients normal urination had resulted in all but two; in one there was a residual urine of 300 c.c. and in the other 150 c.c. There were no operative deaths in any of these seventy-five cases. In a large proportion of the cases sexual power and erections had been preserved. Epididymitis was extremely rare, because he preserved the urethra and the ejaculatory ducts. The advantages of the operation he devised were: (1) the prostate was attacked from the nearest point, and also the whole obstruction of the prostate was in better view and under the control of the eye; (2) he was able to preserve the urethra and ejaculatory ducts and avoided injuring other structures better than when he used some other form of traction apparatus; (3) the introduction of a small instrument did not add to the gravity of the operation, and there could be no objection to such traction he used which steadied the gland; (4) the incision was utilized for valuable drainage and did not prolong convalescence; (5) the preservation of the sexual power in a fair majority of the cases was worthy of recognition.

Cases of Incontinence as a Result of Prostatectomy.—Dr. E. Wood Ruggles of Rochester contributed this paper, which was largely a review of the literature upon this subject.

Lantern Slide Exhibition.—Dr. Francis S. Watson of Boston presented some lantern slide views of prostates. He paid a glowing tribute to Dr. Gouley of New York as being the originator of prostatectomy in this country, and the operation practised by Dr. Gouley was the one used by Dr. Watson and Dr. Goodfellow in preference to any other.

Dr. Albert Vander Veer of Albany emphasized the importance of diagnosis. Fifteen years ago he and Dr. MacDonald performed this operation with an instrument similar to a drawing knife, removing the middle lobe. He believed that some respect was due the catheter, and such cases as were described by Harrison were relieved by the large sound and catheter. He noted that in all the papers read there was a conservative tendency to retain or restore the function of the remaining organs or parts of organs.

Dr. Samuel Alexander of New York said that in 1894 he had the honor of first making a contribution in references to operations upon the prostate for prostatic enlargement. At that time prostatectomy was on the decline and castration and operations upon the vas were in the ascendant. It seemer strange to him that there was such a revulsion of feeling as was shown in the words of those who had spoken. He believed that it was only right that all honor should be given to McGill of Leeds, England, for placing prostatectomy for the first time upon a proper surgical basis. The superpubic operation of McGill was practically the one used to-day. He emphasized the importance of a thorough knowledge of the anatomy of the prostate.

Dr. **Willis G. MacDonald** of Albany said that for nearly twenty years he had been operating upon the prostate, and had employed every form of operation which had been advised. He could not understand how one could successfully, accurately, and skillfully remove the prostate unless he could see what he was doing. The anatomical operation was based upon the anatomy of the perineum, and the attack upon the prostate should be made not by touch of the finger so much as under direction of the eye.

Dr. **Parker Syms** of New York continued the discussion. He said that the work of Dr. Alexander, the perineal prostatectomy aided by a superpubic incision, was most successful and scientific. It seemed to him that a suprapubic opening made in the bladder for the purpose of reaching the prostate was entirely unnecessary and unscientific. Dr. Syms had devised a tractor which consisted of a rubber bag on the end of a rubber stem, which he introduced into the bladder through the membranous urethra; it was then dilated, and this made pressure upon the prostate and held it in place, and made it very easy to enucleate that gland after the sheath had been split. When this instrument was first devised by him he thought that such aid was necessary, but he had since learned that it was not. He said the prostate could be enucleated through a median incision in the perineum in from five to six minutes, and with but little damage to the patient, and subjecting him to but little shock.

(*To be continued.*)

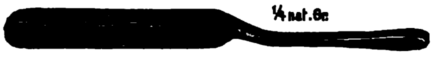
New Instruments.

AN ABDOMINAL SPOON.

By CARL BECK, M.D.,

NEW YORK.

The shape of the instrument, here illustrated, explains its purpose. Whoever has been embarrassed by the repeated protrusion of intestinal loops, while uniting the margins of a peritoneal wound, as so often happens when the anesthesia is imperfect, will appreciate the value of this "abdominal spoon." It prevents the intestines from being injured during the sewing procedure, because the point of the needle is directed against the instrument, which pushes the intestines back at the same time. So the whole peritoneal wound is in fact sutured over the instrument, which is gently pressed down at its handle by an assistant. The spoon can also be used as a blunt retractor in intraabdominal operations, especially on the liver and gall-bladder.



When I first conceived the idea of this protector, I thought that some similar instrument must exist; therefore I looked over the catalogues of instrument-makers, but in vain. I asked the firm of Windler, when I was in Berlin two years ago, to make one for me. I have used the instrument ever since with great satisfaction. It consists of cheap metal and its length is eight inches.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 30, 1905:

	Cases.	Deaths.
Measles	174	7
Diphtheria and Croup	272	40
Scarlet Fever	248	13
Smallpox	8	......
Chickenpox	174	......
Tuberculosis	389	167
Typhoid Fever	41	14
Cerebrospinal Meningitis	......	28
Typhus Fever	......	......
Yellow Fever	......	......
Cholera	......	......
Totals	1,306	269

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended January 27, 1905:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Colorado, Garfield County	Dec.	1–31	11	..
Lake County	Dec.	1–31	5	..
Larimer County	Dec.	1–31	18	..
Las Animas	Dec.	1–31	1	..
Weld County	Dec.	1–31	1	..
District of Columbia, Washington	Jan.	8–21	4	..
Florida, Jacksonville	Jan.	8–14	1	..
Illinois, Chicago	Jan.	15–21	18	1
Louisiana, New Orleans	Jan.	15–21	13, 4 import'd	
Michigan, Detroit	Jan.	15–21	2	..
Missouri, Saint Louis	Jan.	15–21	24	1
Tennessee, Memphis	Jan.	15–21	10, 3 import'd	
Nashville	Jan.	15–21	3	..
Wisconsin, Milwaukee	Jan.	15–21	6	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Dec.	25–31	5	..
Brazil, Pernambuco	Dec.	2–15	..	85
Rio de Janeiro	Dec.	26–Jan. 1	73	23
France, Paris	Jan.	1–7	10	1
Great Britain, Dundee	Dec.	25–31	3	..
Leeds	Jan.	1–7	4	..
London	Jan.	1–7	1	..
Manchester	Jan.	1–7	1	..
New Castle-on-Tyne	Jan.	1–7	4	..
Nottingham	Jan.	1–7	1	..
India, Karachi	Dec.	17–25	2	..
Italy, Catania	Dec.	30–Jan. 5	..	4
Peru, Callao	Dec.	17	1	from S.S.
		Loa, Valparaiso *via* immediat ports.		
Russia, Moscow	Dec.	8–14	2	1
Odessa	Dec.	25–31	1	1
St. Petersburg	Dec.	25–31	3	3
Straits Settlements, Singapore	Dec.	4–10	..	2
Turkey, Constantinople	Dec.	26–Jan. 1	..	24
Smyrna	Nov.	20–27	..	1
Venezuela, Macuto (vicinity of)	Jan.	1–7	15	..

YELLOW FEVER.

Brazil, Rio de Janeiro	Dec.	26–Jan. 1	1	..
Cuba, Habana	Jan.	10	..	1
		From S.S. *Dora* from Laguayr and Colon.		
Panama, Panama	Jan.	1–15	5	1
Venezuela, Caracas	Dec.	17–Jan. 7	..	1
Laguayra (vicinity of)	Jan.	1–7	..	6

CHOLERA.

Russian Empire, —				
Astrakan Government	Nov.	23–29	6	..
Baku Government	Nov.	23–Dec. 7	66	..
Erivan Government	Nov.	23–Dec. 7	502	238
Samara Government	Nov.	23–Dec. 7	32	..
Saratov Government	Nov.	23–29	40	19
Telisavetpol Government	Nov.	23–Dec. 7	68	..
Trans-Caspian Territory—				
Serachs Province	Nov.	23–Dec. 7	47	27
Uralsk	Dec.	28	(Epidemic)	
Turkey (General)	Nov.	28–Dec. 12	396	287

PLAGUE.

Arabia, Crater (hospital)	Dec.	25–31	41	33
Maalla	Dec.	25–31	2	2
Hedjuff (hospital)	Dec.	25–31	2	2
Alia Islands	Dec.	25–31	5	2
Argentina, Salta State	Dec.	14	1	..
Brazil, Rio de Janeiro	Dec.	26–Jan. 1	20	11
Cape Colony, Port Elizabeth	Dec.	4–10	2	..
Chile, Arica	Dec.	1	Present.	
Formosa	Dec.	5–11	44	35
India, Karachi	Dec.	19–25	54	51
Peru, Eten	Nov.	1–Dec. 11	24	..
Lambayeque	Nov.	–Dec. 11	13	..
Lima	Nov.	16–Dec. 11	14	..
Pacasmayo	Dec.	11	Present.	

Medical Record

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Original Articles.

THE ATTRACTIVE FEATURES OF GRADUATED TENOTOMIES UPON THE EYE-MUSCLES.

By AMBROSE L. RANNEY, A.M., M.D.,

NEW YORK.

Is it possible that a surgical procedure of any kind can possess attractive features to a sufferer who meditates it? It certainly seems at the first glance a paradox to answer "yes" to this inquiry.

There are in every large city thousands of sufferers who have borne each day for years more inconvenience and greater physical suffering than some surgical steps involve; yet who are too easily dissuaded from taking the radical and curative step for a physical ailment, not only because of ungrounded fears on their part, but because of a severe condemnation of such a step by ignorant relatives and friends, and also by some medical advisers. Such sufferers are constantly seeking in vain through every possible channel (but the right one), to escape even the suggestion of that alarming word to all laymen—a "surgical operation"—as a means of cure.

The clinical histories of twenty selected cases which I publish here demonstrate, I think, beyond cavil or dispute that rapid and permanent cures of many forms of nervous derangements which had no apparent connection with eye-strain and which had proven to be incurable by drugs have been effected through the surgical relief of eye-strain, which in consequence has become attractive to the sufferer.

I recall an instance in my past experience that illustrates well the wide-reaching effects that often follow even a suggestion of surgical relief for physical ills:

CASE I.—Many years ago, a prominent physician of the East sent his only son to me for the express purpose of ascertaining if "eye-strain" could be the cause of repeated physical break-downs, and an inability to use his eyes for any length of time, without great distress, while endeavoring to complete his college course. He had been previously examined from time to time, by several physicians, and his eyes, also, had been repeatedly tested by oculists of repute; yet nothing had ever been found to account for the symptoms, nor had any suggestions been offered that afforded permanent benefits.

Fortunately, the father of this young man had become thoroughly imbued, through familiarity with my office work, with the scientific character of certain steps, whose recognition I was then fighting for against the bitterest of professional opposition; and he felt personally satisfied that if his son was ever to be restored to health and usefulness in a profession, it was to come through scientific and modern tests for eye-strain, and radical correction of the cause.

I found, after several careful tests* of his son's eyes, that he was on the border-line of a convergent squint; that "he saw double-images" at times; that he had diplopia with the red-glass test; and that eye-strain was the probable cause of a nervous leak that had already unfitted him for his work.

I told the young man that I proposed to correct his "tendency to a cross-eye" by two painless graduated tenotomies (made upon the internal rectus muscle of each eye); that these surgical steps would not confine him to the bed, or even to the house, but for one day in case the weather was inclement; and I assured him, also, that I believed that after the two surgical steps which I advised, he would soon be able to finish his college course, and to study a profession without any of his former "break-downs."

Now follows the interesting and instructive part of this narrative. It seems that this young man was engaged to be married to a daughter of one of the prominent men of this city. The very suggestion by me of an "operation" upon the prospective son-in-law, created dire consternation at once in that family. He was immediately taken to another oculist in New York City (for confirmation of my view) without my knowledge or consent. The oculist in question did not know—nor did he (in his prejudiced attitude) apparently want to know, much about eye-muscles or their anomalies. He had none of the modern instruments—which are to be found to-day (thanks to a bitter fight), in the offices of most oculists. He, therefore, did just what the other oculists (of his class) had done before to this young man—viz., he tested his refraction (which was normal); smiled derisively; assured the patient "that he was all right"; and congratulated both him and the prospective bride's family that one victim had escaped so fortunately from mutilation at my hands.

After they had departed he sat down and penned, without solicitation—purely from the goodness of his heart—a letter to the father of the young man—a letter that would have carried terror to the heart of most parents; a letter that surely was intended by him to carry a poisoned arrow for my own breast; a letter that ought to be framed to-day as an instructive one for those young doctors who believe that great reputation and great success must always go hand-in-hand with honesty and fair-dealing. This letter was immediately forwarded to me by the father (on receiving it), with his written instructions to treat his only child as I deemed best—one of the most remarkable evidences of faith and confidence on record in my office. This letter reads about as follows:

Dear Dr. ———,

I find in your son no evidence that glasses are required; nor do I find any conditions that justify an operative procedure.

I feel it, moreover, to be my imperative duty to you, and to myself, to warn you against the *butcher of Madison Avenue;* and to state that irreparable injury must certainly result to your son if operations are performed upon his eye-muscles.

Respt. yours,
——— M.D.

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* The details of modern eye-testing are given in full in the author's work, entitled "Eye-Strain in Health and Disease." Philadelphia, F. A. Davis Co., Publishers.

Within two weeks from the receipt of these instructions I carried out my original plan of procedure. I performed two graduated tenotomies; one upon each internal rectus. I *cured the young man of all his symptoms, almost as if by magic.*

He subsequently finished his college course without an eye-symptom, and with steadily improving physical health. He immediately thereafter studied a profession. He is to-day a successful and prominent member of that profession; and has never had a relapse of his eye-symptoms or a physical breakdown. Yet that kind-hearted and generously disposed oculist (who predicted in his letter to an anxious parent untold woes and disaster to any "victim" of the butcher of Madison Avenue) might through his ignorance have prevented this permanent cure and subsequently had to congratulate himself on keeping one sufferer, at least, from all hope of recovery.

This "victim" sees to-day in tenotomies some very attractive features! A good education, and all that he holds dear in life, have been made possible to him through a surgical step.

CASE II.—In the early days of my work upon derangement and anomalies of equilibrium of the eye-muscles, a wealthy lady from one of the Western cities was under my care. One morning she brought with her into my office a niece who was suffering greatly from what had for years been diagnosed by many oculists as a "stoppage of the tear-duct" of one eye. She had had this tear-duct dilated for many years prior to this visit (by the passage of a probe through the duct), at regular intervals by oculists, both at home and abroad. This *step was intensely painful to her*; and no cure of her sad condition seemed possible to her from her past experiences.

The tears flowed more or less constantly over one cheek, causing the skin of that cheek to be badly excoriated and the face to be somewhat disfigured in consequence. For years she had carried a handkerchief almost constantly in her hand to mop this cheek with, and to prevent the overflow of tears as much as possible.

I found, by a careful examination, that one eye was several degrees higher in the orbit than its fellow;* and I at once put a prism temporarily over her distance glasses to afford relief mechanically by bending the ray of light. Almost immediately the tears ceased to flow over the cheek. She wore the prism for twenty-four hours, at my suggestion, and reported to me that " a miracle seemed to have been performed;" because all annoyance from an overflow of tears had been completely arrested for the first time in many years.

As the wearing of a heavy prism in combination with her glasses had great disadvantages, I proposed to her, that a graduated tenotomy be at once performed, as a means of lowering the high eye. This was done in five minutes, without pain, and in my office. She made social calls the same afternoon.

The effect of this trivial operation was an immediate and permanent cure. This patient has not for many years had her tear duct probed (as she formerly did prior to the operation); she has no longer any disfigured cheek; she no longer has to constantly carry a handkerchief in her hand; and she has greatly improved in her general health.

To-day, patient No. 2 sees (as did No. 1), some attractive features in tenotomies. The pain of each probing of her tear duct was severe—the operatio was painless.

CASE III.—A charming young lady came into m office yesterday, after an interval of over two year since her last visit. She carried her head erect, wa a picture of health, and in the best of spirits. Y this same person came into my office several year ago, with her head drawn rigidly toward her shoulder, her face distorted with unceasing pain that ha persisted for two years, her neck muscles like ba of iron, her body emaciated, and a small pillo packed tightly between the bent head and the shou der, in order to support the head. She had use this pillow constantly both day and night, in doo and on the streets, for nearly two years; had o tained sleep and a diminution of her pain only b large doses of opiates; and had come at last New York to consult Dr. Robt. T. Morris regar ing a division of her neck-muscles. Dr. Morris ga an unfavorable opinion of this surgical procedu and kindly referred her to me.

Several graduated tenotomies were required put her eye-muscles into proper equilibrium. I performed them all within a space of three month The result was a complete cure of her pain and deformity.

Since then she has been a teacher; has used he eyes constantly; has steadily improved in health; and has had no return of her deformity—although he neck muscles once became stiff when her glasse were broken, and she had to go without them fo several days. A return to wearing glasses cause the temporary rigidity of her neck muscles to disappear at once.

Patient No. 3 has (like the preceding) goo cause to-day, to see some attractive features in tenotomies of the eye muscles. "Whereas, I was sic —now I am well"!

CASE IV.—Some twelve years ago a married woman from the West was referred to me by Pro A. Alexander Smith, M.D., of New York. Sh was having "grand-mal" attacks of epilepsy, at ver frequent intervals (several occurred in one week) and, when I first saw her, she was taking her meal in a private parlor of the hotel, to avoid the possib mortification of a fit in the public dining-room, whil away from home. She showed no refractive erro —even when atropine was employed.

One graduated tenotomy upon an eye-muscle immediately stopped her fits. For the past twel years, she has been practically a well woman—although one or two "faint" attacks have been reported to me, without convulsive movements. Sh must, by this time, have nearly reached the "men pause."

This patient also sees, to-day, some attracti features in graduated tenotomies upon the eye-mu cles. I have seen this patient many times since t operation, when visiting New York, and she seem the picture of health and high spirits. She h taken no drugs, to my knowledge, to control epilep seizures since I performed the tenotomy.

CASE V.—An epileptic was referred to me by m friend Prof. Geo. M. Edebohls, M.D., of New Yo City, about four years ago. This well-known su geon had personally seen much of my office metho and results, while he was personally under my ca for several months for uncontrollable headaches, years' standing, that were cured by me throu graduated tenotomies upon his eye-muscles. H therefore, advised this patient to seek my advice a possible aid.

Careful tests made upon the eyes of this epilep patient disclosed a marked tendency toward a co vergent squint. Graduated tenotomies were p formed by me upon both of the internal recti. His refraction was practically normal; hence no glasses were prescribed. No epileptic seizure has occurred since the first tenotomy.

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* The reader is respectfully referred to the author's work, entitled "Eye-Strain in Health and Disease," F. A. Davis Co., Philadelphia, for full information regarding this ocular anomaly.

This patient (like those previously mentioned) has to-day reason to see some attractive features in tenotomies.

Case VI.—About twenty years ago, I saw an insane patient brought into the office of an oculist of this city, from one of the asylums of this State. There could be no question as to his insanity—which began when the patient was in a religious revival about two years prior to this visit to New York.

Two photographs of this patient were subsequently published*—and I take the liberty of quoting from the published history of this case the following paragraphs:

"When first seen he was stolid, refusing to speak, and sadly demented. He wept aloud and wrung his hands much of the time. He refused food, and, indeed, for many months had only taken it as it had been placed in his mouth by others. If standing, he held his arms out in an imbecile manner, with the fingers spread apart. The saliva drooled in streams from his mouth to the floor. He was thin and pale, and a cold moisture covered the skin. In this pitiable condition it was difficult to obtain exact information of the ocular conditions; but, by the exercise of much patience, these conditions were sufficiently made out to enable a generally correct judgment to be formed."

I personally saw this patient transformed into a perfectly sane and healthy being by three graduated tenotomies within a few weeks. When he returned home, he ate abundantly of his own accord, and was in every way perfectly sane and normally buoyant. As far as I have learned, there has been no return of insanity.

This patient has had reason to see some attractive features in tenotomies.

Case VII.—Nearly twenty years ago, one of my friends (a prominent attorney of this city), brought his wife to my office in a carriage to see if something could not be done to improve her physical condition. For over sixteen years this invalid had seldom left her room. She was not, as a rule, strong enough to even spend an entire evening in the company of her immediate family. She read almost constantly. She stated to me that "she had always regarded her eyes as the only strong organs that she had." After much careful observation and testing her eyes, normal refraction was found; but it was deemed wise to let out the internal muscles. Two graduated tenotomies were performed by me within a month from the date of the first visit.

Three months later the husband exclaimed, on meeting me casually on the street, that the results obtained by my treatment of his wife was "not one of cure, but one of resurrection." He stated that she was tiring him out attending social engagements and places of amusements that she had not visited for nearly twenty years. No relapse of her old symptoms have ever occurred. She continues to e perfect health to this day.

This patient, too, sees to-day some attractive features in tenotomies.

No patient whose case is in my record books has greater cause for gratitude and rejoicing.

Case VIII.—A carriage drove up to my door one morning, about eighteen years ago, and a young woman was taken from it, and carried by two men into my reception room. She had been brought from one of the New England States, to see if she could possibly be restored to health from a complete nervous collapse that had suddenly developed while she was away from home in a fashionable school for young ladies. Two years had elapsed since this attack; yet, under the best of medical advice, massage, electricity, and drugs, all had yielded negative results. She could walk but a few steps, and had been carried daily to and from her bedroom.

Within a few days from the first visit to my office, I felt justified in performing graduated tenotomies upon both internal recti muscles, for a marked tendency toward a convergent squint.

This patient regained her ability to walk, as well as any woman of her age, within three months. Subsequently, she studied physical training. When I last heard from her she was employed as a teacher of physical culture in some educational institution.

The patient is another of those who see, to-day, some attractive features in tenotomies.

The restoration to health after the relief of eye-strain was almost miraculous to her family, her medical advisers and her friends.

Case IX.—In the year 1891, when on the eve of departure on my yacht, I was visited on board by a sailing master of a yacht that lay at anchor nearby. He was in tears and evident mental distress. He stated, between his sobs, that his little daughter had suddenly developed paralysis after an attack of St. Vitus' dance, and that a diagnosis of brain-tumor had been made that day by a leading neurologist of New York City, after a very careful and prolonged examination. The prognosis given by that expert had been exceedingly grave.

He requested that I postpone my departure for one day and examine his child at my office on the following morning. This I consented to do, because of the extreme exigencies of the case.

The child was then about 8 years old. She was unable to walk on account of a paralysis of the right leg; and the arm and face seemed to be seriously affected as well. She talked with difficulty, drooled some at the mouth, and used the arm but slightly. This paralysis had developed suddenly. It had been preceded, however, by spasmodic movements of the arms and legs of the St. Vitus' type, for some months.* Under atropine, this child showed only a slight degree of hypermetropia; but she disclosed a very high degree of muscular error, that bordered closely upon convergent squint. Prismatic glasses were prescribed by me for constant wear, until I returned from my summer's cruise. Subsequently I performed graduated tenotomies upon both internal recti.

The result of this treatment was a complete restoration to health. This patient graduated with honors lately at a college, and has become a fine pianist.

I have, to-day, a photograph of this patient taken on the eve of her graduation. She has developed into an unusually handsome and vigorous woman; weighs about 150 lbs., and has never shown any choreic or paralytic symptoms since the tenotomies were performed, and her eye-strain thus arrested.

Surely this patient and her family see, to-day, some attractive features in tenotomies.

Such a remarkable recovery from so grave an outlook, justifies a hopeful prognosis in all cases where eye-strain exists.

Case X.—One of the most remarkable cases on my record-book was brought to my office by my old

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"Functional Nervous Diseases" (page 123), by Geo. T. ens, M.D. 1887. D. Appleton & Co.

* A full report of this case and also of other similar cases has been published by me in the book above mentioned on "Eye-Strain in Health and Disease."

and cherished friend, Prof. Ralph Waldo, M.D., of New York City, about 1889.

This case has special interest because some symptoms that pointed strongly toward the existence of organic disease of the spinal cord had been steadily progressive for months. The patient had also been a victim to marked diabetes for some years, and had been under medical care for that condition for a long time. His physician was more than astonished when he noted an immediate and complete disappearance of sugar in the urine within a few days following the first graduated tenotomy which I performed upon this patient. He watched for months for its return. This never happened, as far as my records show. The patient made so complete a recovery while under my care after a correction of his refraction by glasses and two tenotomies (that brought his eyes to the same level) that he performed the labor of at least two ordinary men for many years in his enormous business, and died some twelve years later of some acute pulmonary disease.

He had been a terrific worker in his business for many years. One of his most arduous duties was to sign all the checks for one of the largest firms in America, of which he was a member.

He began to notice, about two years prior to his visit to my office, that his right arm was becoming weak, and that writing with it was getting more difficult and uncertain each week. He therefore began the training of his left hand to write, and when I first saw him he was using the left hand almost entirely for signing checks and personal correspondence. He thought that there was an apparent progressive muscular atrophy about the right thumb, and its development as a sequel to his diabetes caused him great alarm. Several physicians had made a diagnosis of organic disease of the spinal cord, and had advised him to give up at once all business cares and the confinement connected with office work.

He came to my office chiefly for a diagnosis and for treatment by static electricity, if I deemed it advisable. His right hand certainly seemed to me, at a glance, to be very much atrophied about the region of the thumb; but, as both hands were extremely bony and thin, and as he was very nervous and also excessively disturbed over his condition, I decided to first test his eyes before I discussed with him the possibility of some organic spinal disease.

It may be well in this connection for me to explain to my readers how eye-strain can be related to diabetes. This is not the only case in which I have observed an arrest of diabetes by operations upon the eye muscles which were done by me for the relief of other nervous disturbances. Such recoveries were very startling to me when I first observed them, and their physiological explanation is probably as follows:

1. We know that the "diabetic center" in the medulla produces diabetes *only when irritated*—not when destroyed.

2. We know that the centers which control the movement of the eyes are also situated in the medulla in close anatomical relationship with the diabetic center.

3. We have reason to believe that eye-strain in any aggravated form (when due to anomalies of adjustment of the ocular muscles) may, in time, create a hyperemia of the medullary centers that are called into excessive action to adjust for such anomalies.

4. It is not irrational, therefore, to suppose that contiguous medullary centers may likewise become involved to a greater or less degree in consequence, and be also stimulated (as a result), to abnormal action.

For example, any occupant of an apartment (with thin walls) might become, in time, greatly disturbe and upset by constant drumming upon a piano in a adjacent apartment, especially if the pianist was beginner who played discords constantly and wh practised day and night to acquire the proficienc which he sadly lacked. So it may be with th diabetic center in the medulla, when the centers tha control the movements of the eyeballs are overtaxe from some congenital defect in the eye muscles an are constantly kept in a state of abnormal tension.

I expect, at no distant date, to publish the clinic records of all cases that I have personally observe where the relief of eye-strain by graduated tenoto mies has been followed by a very marked amelior tion or total cure of saccharine diabetes of lon standing.

Such cases (when published with full details) ma possibly shed some light upon a condition that quite common in adults over fifty years of age, bu fortunately, not so unfavorable in prognosis as whe developed earlier in life.

Patient No. X. had good reasons (for years befor his death) to see some very attractive features i tenotomies.

He was a very active worker for twelve years i disseminating among his friends the view that eye strain is often the cause of most obscure nervou derangements.

Cases XI., XII., and XIII.—Among the medica converts to my views in the nineties, that has kindl referred several obscure and puzzling cases to m for investigation and treatment, was my friend Dr E. W. Hedges of Plainfield, N. J. Three cases o genuine epilepsy (that were unmistakable in thei type) were sent to me from this source. All mad complete recoveries without the aid of drugs—on by the use of glasses alone, and two by graduate tenotomies.

These cases have been published (with all detail of treatment, personal letters from physicians an the patients themselves, and other data) in my wor entitled "Eye-Strain in Health and Disease," and i the *New York Medical Journal* of December 3, 1904

The first of these was a case of "grand-mal seizures of the most violent type. She has now bee absolutely free from fits since the last tenotomy— period of about twelve years. Reports have bee received by me from time to time, from this patient that express the greatest gratitude; and uninter rupted health seem to have been permanently estab lished by the tenotomies.

The other case was one of "petit-mal" seizures— type of epilepsy that is generally regarded by neurol ogists as extremely grave in prognosis. He ha (as shown by my records) one hundred and six at tacks in fourteen days, prior to tenotomy—afte stopping the internal administration of bromides. H had practically no refractive error; hence no glasse were ordered for this patient.

The last report that was received from this cas stated that "no seizures have occurred for over fou years."

Both of these patients must see, to-day, some at tractive features in tenotomies.

To be relieved from the dangers and mortificatio of epileptic convulsions without drugs is certainly remarkable result.

Case XIV. is one of the most remarkable cases o complete restoration to health (after tenotomies) from an apparently hopeless loss of mental faculties that I have ever seen. I saw this patient first o May 30, 1889.

The records of this startling case were originall published by me in my work on eye-strain. It one of the most wonderful recoveries, I think, o record. It certainly teaches that we, as physicians, can all be mistaken in making a positive diagnosis of organic disease. This patient is seen by me almost every year, whenever he visits New York. His recovery was complete and is permanent. He now weighs over forty pounds more than when I first saw him, thirteen years ago; and he is to-day in perfect health physically and mentally.

This pitiful sufferer was led into my office (as a child would be led) one morning by his wife. From her I obtained the following history: It apparently justified fully the suspicion of advanced softening of the brain held by physicians who had been consulted.

The wife gave to me these details that bore upon the diagnosis and hopeless prognosis: There had been steady emaciation and mental failure for many months. Gradually the patient had become like a child in mind; had to be cared for like a child by his wife; had to be told, when dressing, what clothes to wear and which to put on first; had to be fanned while sleeping in short cat naps every day until about noon, because of persistent insomnia; and had not visited his place of business or even paid his bills for over six months. At the table, he would chew food indefinitely until told to swallow. His demeanor was extremely apathetic, except at intervals, when he would become excited, start suddenly from his chair, seize his head in both hands, and pace the floor, exclaiming about the intense pain in his head.

Prior to his mental failure, he had suffered for twenty years with neuralgic attacks in the left eye and left side of the face, and also from flowing of tears over both cheeks in cold weather. For six years he had lived on a restricted diet on account of constipation, flatulence, gastric pain, and other symptoms of indigestion. His persistent sleeplessness added greatly to the care of this patient. He could not stand the excitement of a public hotel; hence he was forced to lodge with friends in an extremely quiet neighborhood of Brooklyn, and to come to my office daily in a carriage while I was endeavoring to get any satisfactory eye-tests. It took nearly a week to get these, because the patient became too excited and uncertain in his answers to make the tests positive at first.

The case looked most unpromising to me. I could not divest myself of the firm conviction that organic brain disease existed, and that the case was probably incurable.

I advised his wife to seriously consider the advisability of a graduated tenotomy upon the left superior rectus muscle as a step toward the correction of the 4° of "manifest hyperphoria" that the patient disclosed. I distinctly impressed upon the wife the fact that I did not think this step would prove curative; yet I could not but feel that the hyperphoria was a strain that ought to be at once removed—especially from so weak an invalid. I assured her that there was little ground for hope of recovery, but that the patient would probably have less pain and sleep better after the correction of the hyperphoria.

I mention this because the complete recovery of this patient was as much of a surprise to me as to others. The rapidity of recovery was almost beyond belief. In my professional life I have never seen anything that caused me so much astonishment in the line of prompt result from an operative procedure.

With the consent and expressed desire of his wife, I performed a graduated tenotomy upon the left superior rectus muscle. Immediately after the operation he was placed in a carriage and taken to Brooklyn.

Now came the remarkable changes to which I have previously referred as startling. The entire night following the operation he slept without awakening—a thing unknown for years. He arose the following morning, and (after dressing himself without aid) drank three goblets of milk before the rest of the family were up. He then sat down and ate a good breakfast, finishing as quickly as any of the family. Within a week he demanded his money from his wife, saying that he would not have her pay bills for him. In a very short time he came daily from Brooklyn to my office without any one to accompany him. Two weeks after the operation, he wrote a letter (the first in over four months). He began to read the daily papers, continued to sleep and eat well, and within a month almost entirely regained his mental faculties. A full correction of his refractive errors was then ordered; with instructions to wear his glasses constantly.

Some weeks later, I decided to perform a second graduated tenotomy upon the right internal rectus muscle for the relief of a latent esophoria that had disclosed itself. Soon after this operative step, the patient returned to his home in Canada.

He has been seen by me only at infrequent intervals since that time. He soon resumed control of a large business; gained over forty pounds in weight within a year; has taken no drugs; and is absolutely well to-day. There has never been a relapse of his former condition since the first operative step was taken on the left superior rectus muscle of the orbit.

At no time, for the past fifteen years, has this patient ever experienced a relapse. The relief of eye-strain effected a complete cure.

If anyone sees attractive features in tenotomies—surely this patient does!

He practically owes his life to a complete arrest of eye-strain.

Cases XV, XVI, and XVII are illustrative of the effects of tenotomies upon intense and persistent neuralgias.

The first of these was a lady from the South, who, within a period of three years, had every tooth separately extracted, in the vain hope of relief from neuralgia in the jaws. The pain was so intense as to produce complete unconsciousness for days at a time. Two tenotomies, within one month, upon the eye-muscles cured her of pain. The relief has now been permanent for over ten years.

The second of this group (Case XVI) was a young minister of the gospel, who was sent to me about thirteen years ago by the late Dr. Geo. B. Leonard, of New York City.

When he first came into my office after having been treated for facial neuralgia for over a week with morphine by the physician who referred him to me, he was nearly insane with pain. He threatened suicide if nothing could be done to arrest his suffering at once; and stated that, although a clergyman, he would not be held responsible by a just God for seeking death as a means of relief.

The instillation of an atropine solution, into the eyes of the patient arrested his efforts of accommodation and gave him almost complete relief within the short space of fifteen minutes*; and at the end of one hour he was entirely free from pain, smiling, and apologizing for his previous excitement and loss of control of himself.

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* The effect of atropine (as a paralyzer of the accommodation) upon intense facial neuralgia is often almost miraculous; especially when hypermetropia (far-sightedness) exists and the patient is under forty years of age. I have seen facial pain arrested so frequently by the simple procedure of dropping an atropine solution (4 grains to the ounce) into the eyes during the paroxysm of neuralgia that it constitutes to-day with me one of the most satisfactory steps in the investigation and treatment of neuralgias.

A complete and permanent cure of this patient was made by prescribing spherical glasses, and performing two graduated tenotomies upon the internal recti muscles. He is to-day the pastor of a large church in a New England town; and has been totally free from neuralgic attacks since the tenotomies. I lately operated upon his child for a double cross-eye; evidently an inheritance from the parental side.

The third of the group (Case XVII) was one of the most persistent and aggravated instances of intense facial neuralgia that I have ever seen. I saw him first in 1888. The paroxysms would come on without apparent cause and at very frequent intervals. They would last for several days, in spite of very large doses of morphine given through a hypodermic syringe.

He was treated for some years for these attacks by a large number of the leading specialists of New York City without any relief. One of his physicians sent him to the late Dr. Loring, the famous oculist of New York, who prescribed glasses to correct about one and a half dioptres of hypermetropia and a slight degree of astigmatism. These he had worn constantly for about three years; but no appreciable benefit had been experienced from wearing them, except that he "thought he saw a little better with them." He had been for many months under the care of the late Prof. E. C. Seguin, the distinguished neurologist, who experimented upon him with almost every narcotic known. At one time, aconitia was pushed, under Dr. Seguin's personal supervision, until aconite poisoning appeared. The patient could not at one time talk plainly from the effects of this drug and the tongue and throat became almost paralyzed for several days. The intensity of the neuraliga paroxysms at times made his family fear suicide; and the patient learned to administer morphia and atropia by the syringe to himself when he felt that the attacks were getting beyond human endurance.

Throughout six or seven years of such suffering, this victim to neuralgia consulted almost every specialist of note in his vain efforts to obtain relief—but in despair over his failure, he became my patient at the solicitation of a friend who had been personally cured by eye-treatment.

On examination of this patient's eyes, I found that Dr. Loring had given him glasses that were a full correction for all his refractive errors; but like many other oculists, he had not investigated the eye-muscles, which were seriously at fault. He disclosed a very moderate degree of esophoria[*] at the first examination, but later on I found him to be a victim to "latent" esophoria of a high degree. Within two months, I performed a graduated tenotomy upon both interni of this patient. His neuralgia ceased entirely within a week from the date of the first operation, and he has been entirely free of neuralgia for the past fourteen years.

About two weeks ago (sixteen years after the tenotomies) this patient called upon me while in New York and stated that "his marvelous restoration to perfect health by so simple and painless an operation had been considered a miracle by his friends and family." His eye-tests showed no marked change in his refraction; except that he needed a stronger glass for close work, which was ordered. I found, however, to my delight, that the esophoria which originally existed and had caused all his suffering was completely relieved; and he left with the happy assurance that he had no reason as far as I could see to anticipate a return of his old trouble from eye-strain.

All of these three neuralgia sufferers see to-day some attractive features in tenotomies!

Each has been restored to perfect health by the relief of eye-strain.

Cases XVIII and XIX suffered for many years from extreme sleeplessness and complete nervous prostration. These two cases illustrate well the effects of tenotomies upon these distressing conditions—of which I could cite at least one hundred cases, if necessary.

The first of these cases was that of a minister of the gospel who consulted me about fifteen years ago (prior to resigning his pastorate) because of long-continued insomnia and a complete physical breakdown. He was restored to perfect health within three months by graduated tenotomies upon the external recti muscles. Since that time he has used his eyes constantly without any distress and has never suffered a relapse of his insomnia or nervous prostration.

The second of these (Case XIX) has lately come under my observation. A married woman of about 35 years, strongly built, and with no outward appearance of organic disease, was brought to my office from a Western city about two months ago.

She stated that a peculiar twitching of the muscles of her legs and feet had developed (whenever she was in the recumbent posture) within two years. While not actually painful, these twitchings prevented sleep to such an extent that she frequently sat upright in a chair wide awake an entire night. In several instances, she had done this for three consecutive nights. She had tried all forms of hypnotic drugs under medical advice without any permanent relief; and she was rapidly forming a confirmed drug habit on retiring, in the hope of obtaining sleep even for a few hours each night. She had gradually developed symptoms of nervous prostration.

I found that she had practically no refractive error; but I gave her some prismatic glasses to wear constantly because she showed excessive weakness of the external recti muscles.

Almost immediately, normal sleep returned to her. Subsequently I performed one graduated tenotomy upon the right internal rectus muscle and thus dispensed with her glasses. She seems to be completely cured of her insomnia and muscular twitchings; had gained greatly in weight and strength when I last saw her (about two weeks after the tenotomy); and in every way showed a marvelous improvement in her spirits and general facial expression.

Both of these patients, have to-day cause to see some attractive features in tenotomies!

The terrible consequences of confirmed insomnia have been averted in both instances by a painless surgical procedure.

Case XX.—Twelve years ago (May, 1892) a young lady of about 20 years of age was sent to me from Brooklyn, N. Y. to see if eye tests made by me could shed any light upon periodical attacks of extreme and uncontrollable vomiting, followed by loss of both power and sensation in both arms. These attacks would occur about every two weeks. They would either begin with numbness or pain in the head; then violent vomiting would begin and often last twenty-four hours; and with these symptoms there would develop blurring of vision, pain in both eyes, intolerance of light, and great difficulty in breathing.

After her first attack, she lost coordination of her tongue muscles; had numbness develop in both hands and arms; and finally lost all power in both arms. This was never fully regained until after I had performed the first tenotomy upon her eye-muscles in 1892. Prior to her first visit to my office she had worn glasses for many years that fully corrected a high degree of hypermetropia with astigmatism. These she is still wearing, I imagine; as they had been judiciously prescribed.

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[*] A tendency of the eyes to swing toward the nose.

I performed three graduated tenotomies upon her internal recti muscles soon after she came under my care, because they were imperatively indicated. Within six months after these tenotomies there was a complete restoration of health.

For the past twelve years she has never had a relapse of the old attacks of vomiting or any of her other alarming symptoms. It is reported that she has changed from a very thin delicate girl, in whom physicians had diagnosed a "tendency to consumption," into a strong and perfectly healthy woman.

This patient sees to-day some very attractive features in tenotomies!

Her rapid and complete recovery after scientific eye-treatment without the use of any drug seemed a miracle to the numerous physicians who had attended her as well as to her family and intimate friends.

General Résumé.—The twenty cases that I have selected for incorporation in this monograph illustrate the startling and curative effects that a complete relief of eye-strain by graduated tenotomies can afford to sufferers from conditions which apparently had little or no association with the eyes.

Some of these sufferers were not aware of the existence of any symptoms that had indicated to themselves or their medical advisers that the eyes were in any way abnormal.

Yet it may be well for my readers to see what varied conditions of ill-health these selected cases illustrate:

CASE I.—*Asthenopia.*—Associated with repeated "physical breakdowns" (whenever study was attempted). In my work on "Eye-Strain in Health and Disease" I report (in tabulated form) many cases of this condition, usually associated with headache or neuralgia.

CASE II.—*Epiphora* (of years' duration). Tenotomy arrested, at once, the flow of tears over the cheek that had persisted for years in spite of all treatment.

CASE III.—*Extreme Deformity from Wry-neck.*—This case was completely and permanently cured by eye-treatment.

CASES IV., V., XI., XII. and XIII.—*Epilepsy.*—In my work on eye-strain I give tabulated records of the eye-treatment of epilepsy in 26 cases. I would also refer my readers to the *N. Y. Med. Jour.* of December 4, 1904.

CASE VI.—*Insanity.*—This remarkable case is supplementary to several that I have reported in my work upon eye-strain—previously referred to.

CASES VII. and VIII.—*Nervous Prostration.*—These extreme cases of a very common result of unsuspected eye-strain, are worthy of careful perusal by those who still scoff at eye-treatment in extreme nervous derangements.

CASE IX.—*Chorea—followed by Paralysis.*—The history of this case had led to a positive diagnosis of brain-tremor by a neurologist of international repute.

CASE X.—*Progressive Atropy of Muscles in Both Hands; Partial Loss of Use of Right Hand; Diabetes (of some years' standing).* This remarkable case illustrates the results of eye-strain upon the activity of spinal cells, and also its influence as a factor in causing diabetes.

CASE XIV.—*Complete Loss of the Intellectual Faculties.*—This startling case has no parallel in my professional experience; yet the relief of eye-strain effected a complete and permanent cure.

CASES XV., XVI., and XVII.—*Uncontrollable Neuralgia.*—These three cases were selected for publication here because they were remarkable for the persistence and severity of pain. My book contains full details of all treatment of many similar cases.

CASES XVIII. and XIX.—*Sleeplessness and Nervous Prostration.*—These two cases are selected to illustrate the relationship between unsuspected eye-strain and two very common types of extreme suffering from insomnia. My book contains a chapter upon insomnia and its treatment, with many illustrative cases.

CASE XX.—*Uncontrollable Attacks of Vomiting; Loss of power and Sensation in Both Arms; Suspected Tuberculosis.*—This case was a puzzle to many medical men, until eye-strain was completely relieved by tenotomies. A full correction of refractive errors (by glasses) had been tried without any beneficial results.

Some Clinical Suggestions Relating to the Cause of Obscure Nervous Derangements.—In bringing this contribution to medical science to a close, I offer the following suggestions to those physicians who are as yet apathetic to or prejudiced against one of the greatest discoveries of this century, in its relation to the arrest and permanent cure of many types of physical suffering.

One of the many converts to the theories that I have for over twenty years expounded and fought for (against bitter professional antagonism in the past), strikes an important keynote in a late contribution to this field* when he says:

"The laity have an idea that physicians ought to know all about every new theory that comes up, and value the opinion of physicians accordingly. If a physician is asked his opinion of a theory that he has not considered it worth while to look into, the chances are he will say there is nothing in it. What is his opinion worth? asks the layman. Nothing!"

Again, physicians and interested friends often tell patients upon whom a tenotomy ought to be performed, that the "operation will ruin their eyes." Case No. 1 of this article illustrates this point.

Such gratuitous and ill-timed advice often delays or indefinitely postpones the commencement of a recovery.

The views which many years of experience in this special line of ophthalmology have led me to advocate are as follows:

(1) It is vitally important and essential to success that the *refractive errors* of all patients be positively determined.

(2) A mydriatic is usually required to make such information absolutely accurate.

(3) All refractive errors should be intelligently corrected by glasses. These should be *worn constantly* for a length of time sufficient to determine if they modify any apparent muscular anomalies in the orbit.

(4) *A tenotomy upon an eye-muscle should never be suggested or performed too hastily.*

It often takes considerable time to determine if the full correction of refractive errors by proper glasses is not all that may be required to effect a cure.

Those who have the largest experience in this field are often the slowest to operate. Yet, in the twenty cases reported here, tenotomies were most positively indicated and were, therefore, performed by me.

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* Dr. F. D. W. Bates, *N. Y. Med. Jour.*, Dec. 24, 1904.

(5)) In searching for anomalies of the ocular muscles, it is vitally important not to be ***misled into accepting the records of the first tests*** made upon any patient's eye-muscles as a basis for final conclusions or positive advice.

It may be the "latent" or hidden muscular errors (which the patient has unconsciously learned to overcome, after years of practice, by various "tricks of adjustment), that are sapping the nervous vitality of this patient, because of the excessive nervous expenditure so entailed.

(6) The mistake of not ascertaining the "latent" muscular errors* of the orbit by a judicious and methodical use of prismatic glasses for the purposes of diagnosis, perhaps accounts for the failure of many oculists (not thoroughly familiar with modern methods), in solving complex eye-problems.

(7) It takes much patience, together with careful and repeated observations of some patients, to ascertain positively what are the indications for scientific eye-treatment, and which step should be taken first.

The physician who wrote to me some years ago that "he had read some articles of mine on the treatment of epilepsy—and that he was tempted to cut some eye muscle in an epileptic patient to see if it did any good"—left me in doubt whether to feel ashamed of his intelligence or of my personal presentation of so complicated a field of diagnosis and surgery.

(8) The utterly absurd claim that has too often been made in the past, and which has been loudly asserted again, of late, by one or two enthusiastic and prolific writers, viz., that "eye-strain is always due to errors of refraction," does not, in my opinion, merit to-day any serious attempt at contradiction. Such people see but one-half of a great field in curative medicine.

The cases reported in this article afford ample evidence to the *absurdity* of such statements.

(9) Refractive errors may cause "apparent" heterophoria† in a certain proportion of cases; and properly prescribed glasses may sometimes modify "genuine" heterophoria.

(10) Genuine heterophoria* may co-exist with refractive errors; and it may also be found in cases where absolutely perfect refraction exists.

(11) The cases reported here demonstrate that eye-strain may unquestionably be a factor in causing extreme and persistent nervous derangements of widely different types.

(12) Some of the cases reported here ought to convince the most confirmed skeptic that it is an imperative step to look for eye-strain first by modern methods, and with modern instruments, before obscure nervous derangements are diagnosed as organic or an unfavorable prognosis given.

(13) Some of the cases reported here show that even neurologists of repute and large experience cannot always tell an organic disease of the nerve-centers from a condition that may be due to eye-strain and be curable by giving nature a chance through the removal of its exciting cause. See Cases III., IV., V., VII., VIII., IX., X., XI., XII., XIV., and XVII.

(14) Several of the cases reported here demonstrate most positively the direct relationship between eye-strain and convulsive attacks.

(15) The intimate connection between eye-strain and intense pain is well shown in cases XV., XVI., and XVII.

It is my firm conviction that no case of headache or neuralgia is scientifically treated to-day until scientific tests are made upon the eyes by modern methods, and modern instruments.

The percentage of eye-strain in cases of persistent headache and neuralgia is enormous.

(16) The extremely conservative views embodied in the preceding conclusions are of great value in treating eye-strain; yet experience often brings us face to face with certain eye-conditions that imperatively demand prompt and complete relief through graduated tenotomies.

In all cases of "genuine" heterophoria the only way to obtain the best results is to radically remove the muscular errors either by tenotomies upon the abnormally tense muscles, or advancement of the muscles that show defective power.

(17) I positively condemn the methods that are employed to-day by some oculists with a view of training abnormally weak muscles (by long continued use of prisms) to overcome and thus mask a congenital defect of muscular equilibrium in the orbits—which is evidenced in "genuine" heterophoria.

(18) The daily exercising of the ocular muscles by prisms for a few minutes at a time, (with the object of strengthening all of the weak muscle) may often help patients that suffer from asthenopia*; but this procedure never cures "genuine" heterophoria, nor does it accomplish what a tenotomy will, when imperatively demanded, and skillfully performed.

(19) I condemn the prescribing of prismatic glasses for long-continued and constant wear; as a substitute for tenotomy, as a means of cure in marked cases of "genuine" heterophoria.

The prescribing of a sustaining splint or a crutch might possibly enable some patient (with a diseased joint) to walk, and afford him temporary relief; but such appliances do not cure a diseased joint, or rectify a congenital deformity.

Prismatic glasses are often of great utility to an oculist in making a diagnosis of "latent" heterophoria; and they often enable him to temporarily relieve or arrest some symptoms caused by eye-strain. Yet the tenotomy will usually accomplish still better and more permanent results in cases where "genuine" heterophoria is producing extreme physical ills; and with much less annoyance to the sufferer than a thraldom to prismatic glasses entails.

(20) It is both unjust and untrue for physicians or oculists to assert (as they often do without personal knowledge of the facts) that graduated tenotomies upon the eye-muscles (when imperatively indicated, and skillfully performed) "will ruin the eyes," or words to that effect.

I have personally had two tenotomies done upon my own eyes with immediate and marked benefits; have performed three tenotomies upon my only child with most satisfactory results; have operated for "genuine" heterophoria upon many hundreds of eyes for various types of physical ills induced by eye-strain; and I know that I have had a larger percentage of good results, and fewer annoyances to the patient after these operations, than in any line of operative surgery that exists to-day.

Thanks to modern methods and greater care in developing latent heterophoria prior to operation, over-corrections have been extremely rare experiences with me during the past fifteen years.

Even a marked over-correction (should it occur) can easily be rectified by an advancement; and I have never seen (in my experience of over twenty years in this work) a single instance where the acuteness of vision has been impaired to the slightest degree by a graduated tenotomy. On the contrary, I have seen many cases who have had the acuteness of vision greatly improved after the eye-muscles were properly adjusted. I have on record a few instances where astigmatism has apparently been cured by tenotomies.

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* One chapter in my book "Eye-Strain in Health and Disease" is devoted exclusively to the modern methods of testing the eyes.

† A term that covers all types of muscular anomalies within the orbit.

* A term that covers an inability to use the eyes without pain.

(21) Graduated tenotomies upon the eye-muscles are performed by me to-day under the influence of cocaine and adrenalin (suprarenal extract).

The first makes the operation painless; the second almost totally arrests any hemorrhage.

A painless and bloodless operation that may dispense with the use of glasses (in some instances) and in many cases effect an immediate cure of extreme physical suffering, ought not to be condemned from pure prejudice or ignorance, nor distorted into a step of untold dangers to vision and health.

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ON SOME RELATIONS OF MEDICINE AND SURGERY TO JURISPRUDENCE.*

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In accordance with the customary program of our Society the pleasant service of addressing you to-night falls to my lot. A pleasant service, indeed, because I have to congratulate the Society on its successful history, and to indulge in audacious anticipations for its future.

The *raison d'être* of the Society of Medical Jurisprudence is mainly the mutual benefit which medicine and jurisprudence derive from each other. Great as this benefit is, it is too little appreciated. It seems to me that the neglect is especially on the part of our medical friends. I shall regard it as the most stringent feature of my term of service to impress my confrères with the necessity of becoming better acquainted with legal points, not only for their own benefit, but in the interest of humanity and justice.

The medical profession is called a noble one, because it is expected to, and does, treat the poor free of charge without grumbling, and that though this largesse is often abused. Physicians in fact commit professional suicide in laboring to exterminate the diseases which give them the means of living. They are doing to-day what was only hoped for by no less a man than Bacon, who said: "I have hope and wish that the nobler sort of physicians will advance their thoughts, and not employ their time wholly in the sordidness of cures; neither be honored for necessity only; but that they will become coadjutors and instruments of the divine omnipotence and clemency in prolonging and renewing the life of man."

But noble as the members of this profession are, they are apt to neglect their duties as citizens as far as they are not of a hygienic character, and their indifference to legal points is one of their most conspicuous sins of omission in this direction. It is even a fact that most physicians do not know how far they are responsible to their patients. They believe in general that honesty and common sense are guides sufficiently reliable to serve as mentors in practice, and therefore do not realize that sometimes even the best intentions violate the law. *Summum jus, summa injuria!* is still true in our modern times. This the physician should keep in mind, especially for his own sake.

It is by no means always easy to define accurately what the physician's responsibility is. It varies with the nations, with the times, and with the scientific fashions. Schiller's words: "*Das Ewigdauernde ist nur der Wechsel*" ("The only lasting thing is change") preeminently apply here. How strange that the Roman Haruspices were regarded to be infallible, although the misera plebs used to say: "*Haruspex haruspicem cum vidisset, risum tenere non potuit.*" The same plebs which ridiculed these fakirs was ordered by law to believe their doctrines. Egyptian physicians risked corporal punishment when they overstepped their well-established Codex. The warriors of Alaric the Goth turned the unsuccessful surgeon over to the relatives of the patient who had succumbed while under his treatment.

Modern times treat the physician somewhat more leniently. The majority is well aware of the great advances medical science has made since those dark days, and is inclined to transfer its respectful appreciation to the person of the physician. Still it cannot be denied that among some classes this respect is severely lacking and some people know of no better amusement than to make jokes on their medical adviser. In each weekly issue of the *Fliegende Blaetter* there is at least one joke on the doctor, as a rule of a harmless nature. But our *Life* is hard. This excellent satirical weekly would deserve our full admiration did it not always find something about the vermiform appendix which is meant to show the surgeon in an absurd, if not a dishonest light.

Such prejudices, while ordinarily not intended to do any harm, may turn sometimes to the disadvantage of physician as well as of patient, and assume a severe physiognomy when exploited among ignorant jurymen.

There is some truth in the Jeremiade of Buxton: "If you talk with the average juryman, he will tell you the doctor is rich, the doctor has an easy time, doesn't have to work, just rides about, makes his money easily, has a good home, good clothes and a good time in general. He will tell you the doctor can get along without what little he owes him, the doctor doesn't need it. This average juryman cannot enter into or appreciate the peculiar trials, anxieties, and exacting duties that fall to the lot of that same overworked doctor, who is still plodding on, Sundays and holidays, not able to complete his arduous duties in eight, ten or twelve hours, but is still watching patiently by the sufferer's bedside, it may be all night, while the envious juryman lies snoring in bed." This standpoint is not general, but still widely spread. It is a strange and non-explained phenomenon that the same man is viewed in this way who spends his life merely for the benefit of others, gives his services to public and private charities for years, exposes himself at all hours and in all kinds of weather to disease, danger, and death; spends his time with the unhappy, the discouraged, and despondent, brings them in exchange for their long tale of woe, encouragement and hope for better things; but in return for these hard tasks—dirty, disagreeable, unsavory jobs—receiving little remuneration or none whatever.

These lamentations are somewhat exaggerated, but much of them is true. Still, in the pursuit of our professional duties, we have no right to take sentimental views. We must face all these disagreeable facts with the eye of the altruistic philosopher and assume that attitude in our relations which has its best fundament in the understanding the laws of our own country. Now, what does the law say?

In the first place, the law does not require omniscience, or hold the physician liable for any and every error of judgment. It only requires that a physician should possess a reasonable degree of learning and skill, and exercise, according to his best judgment, reasonable and ordinary care and diligence. It appreciates fully that, as none of us is infallible, a degree of responsibility exceeding these limits would virtually debar us from the exercise of our profession, and would therefore soon deprive the public of all medical aid. The physician is, for instance, not responsible for the deleterious or fatal effect which results from the administration of chloroform as an anesthetizing agent to an individual of a peculiar constitution or idiosyncrasy, the nature of which could not be known to him before the administration. But if such administration was not preceded by a careful physical examination, or was made in an improper—say upright position (except there should be some exceptional reason for it)—or if there were no means of resuscitation at hand, the physician would be guilty of malpractice. If the outcome was fatal he may be indicted for manslaughter.

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* Presidential address delivered before the Society of Medical Jurisprudence, January 9, 1905.

The same applies to operative surgery, the surgeon being expected to possess ordinary skill and knowledge. Still, dissatisfaction with the result, especially the unfortunate outcome of a surgical operation, frequently furnishes a basis for a suit for damages. It is hard to please everybody; and while the surgeon sometimes regards the result of his operation as extremely beautiful, the patient may hold a strictly opposite view.

B. von Langenbeck, my revered teacher, was regarded the master of plastic surgery in his time. The results of his rhinoplastic operations were admired the world over. Once he transplanted a skin-flap from the arm of a young man whose nose had been destroyed by an ulcerative process, and after forming the nostrils he was so much impressed with the beauty of the result, that he gave expression to his pride by showing it to the patient in a mirror. But no sooner had the "grateful" patient seen his new facial prominence than, in his great disappointment, he threw the mirror in the face of von Langenbeck.

I had a less "striking" experience with a charity patient, for the gangrenous stump of whose thumb I found a substitute, which permitted the continuation of his profession. This would have been impossible had I pursued the ordinary way of simply amputating the stump. I presented the case to a medical society in whose Transactions the result was called "excellent." But the patient, instead of realizing that he should have been grateful to me, said that he had been exposed to some inconveniences during the tedious course of treatment, for which $100,000 from my pocket would be a fair equivalent.

Such experience is somewhat like that of the rescuer, who was bombarded with rotten eggs by the boy from whose scalp he pulled out a few hairs while saving him from drowning.

Of course, the surgeon has to be careful, and when great operative risks are to be anticipated, they should be explained thoroughly to the patient in the presence of a witness. Of course, an action can be commenced in spite of all precautions, but the plaintiff could never recover under such circumstances.

Especially if experiments are undertaken, the surgeon must be on his guard. In former years it was decided that if an experiment on man was followed by injury or death, the experimenter should be culpable. But tempora mutantur. A surgeon who can show good reasons for a new procedure, especially when a simple operative method has failed to relieve his patient, cannot be held responsible for an unfortunate outcome of his experiment. Of course, as alluded to, the patient or his relatives must have given permission.

It seems to be somewhat unjust that, the higher the standing of a physician is, the more skill should be expected from him, in other words, his failures should be condemned the more severely; while the Christian Scientist, the farrier and the quack are but seldom prosecuted for their failures. The views, which, according to Puffendorf, the Mahomedan Justice held, when a blind man brought suit against a horse doctor, may also be approved to-day. The unfortunate patient attributed his fate to an eye-salve which the quack usually applied to his equine patients. But the oriental Daniel dismissed the complaint on the ground that if the patient had not been an ass himself, he would not have consulted a horse-doctor.

There is a great deal of common sense in this decision, but is it just that the ignoramus should escape by virtue of his ignorance? Is it not dangerous to set the quack or Christian Scientist free because their treatment may not do any positive harm, while it consumes the valuable period during which, as in cases of appendicitis, strangulated hernia, placenta prævia or hemorrhage from a divided blood-vessel, it would have been possible to save the life of the patient?

What is meant by "reasonable skill and knowledge?" There is difficulty in answering this question; for there are few methods in the use of which all authorities agree. There are, however, certain established principles which must be adhered to, while the method of their special exercise may vary according to the different scientific standpoints. A surgeon, for instance, who nowadays should proceed to operate without any aseptic precautions, would be condemned by his confrères. But whether he would prefer to render instruments and skin sterile by the mechanical means of cleanliness, viz., soap and water, or by chemical methods, maintaining that the chemical action was of a stronger bactericidal power, should be left to his own discretion. His special modus operandi must also be influenced by the peculiar conditions arising from the environment of the patient. Under extraordinary circumstances (battlefield, railroad accident, prairie) he may also be compelled to employ an unskilled or non-medical person as an anesthetist, in which case it would be unjust to add to his great responsibilities that of the anesthesia. As a rule, it is highly imprudent to operate without the assistance of at least one qualified practitioner, wherefore such risks should be taken under the most pressing circumstances only.

The most fertile field for the great army of the disappointed are the various complications and sequelæ occurring in the course of the treatment of fractures. Whenever there is deformity or shortening, the patient and his friend enjoy claiming that the surgeon's art was defective, although there may have been circumstances which were beyond his control. And nothing hurts the reputation of the practitioner more than a badly healed fracture—it will tell an endless story. Twice it has been my privilege to demonstrate the importance of this great subject before our Society, especially in connection with proofs of the usefulness of the Roentgen method, the admirable medium which brought about a complete revolution of the science of fractures. The many unfortunate circumstances, which so often prevented the surgeon from making an exact diagnosis, thereby causing the much-dreaded deformities, have ceased now to hang like the sword of Damocles over the surgeon. Accurate knowledge has taken the place of ignorance, and doubt and painful manipulations are no longer a necessity for diagnostic purposes.

Even the most skilful experts in fractures have ceased to deny that there is an enormous number of bone-injuries, which, in former years, could not be properly recognized, the general symptoms being either obscure or veiled by the swelling of the surrounding tissues. The mistakes made in trying to differentiate fractures from dislocations, contusions, distortions or tumefactions were innumerable; but they could be proven as such only under extraordinary circumstances. Now, with the aid of the rays, we can see the conditions as they are, and the rays are, in fact, impolite enough to do this without the slightest regard for great authorities. No wonder that such brusque information has been received with a feeling of uneasiness, often by the very men who should have been but too glad to learn of their diagnostic errors, in order to correct them, as long as there is time.

And as long as there is time, the Röntgen method is the faithful friend and adviser. It unveils the truth in its awesome nudity. The advice of the sometimes burdensome, but always reliable friend should be followed and his warnings listened to, because if done in time, much disaster may be averted. The same friend will become the formidable prosecutor, if the truth is disclosed after the chances for proper correction have waned.

In former years it was customary in the face of an obscure case, to assume an extremely wise attitude and sigh: "If we could only look through it!" Now, since this wish has become a reality beyond our most audacious expectations, there are still many who think that by virtue of their peculiarly well developed palpatory talents they could diagnosticate fractures just as well. Such arrogance will find its punishment in the court room some day, for judges and lawyers now begin to take thorough interest in the new method.

Is it right to risk an experiment, when a simple glance with the fluoroscope furnishes the most precise evidence—when it can at once be clearly determined whether there is comminution or impaction, or intervention of muscular tissue, or intraarticular fracture, or association with dislocation?

It is a blessing that if the picture is fixed on a photographic plate, the nature of the injury can be studied at leisure, and the proper line of treatment decided upon without subjecting the patient to any tentative manipulations. After a dressing is applied the fluoroscope or the Röntgen plate shows whether the fragments are in position or not. If they are not, the dressing is removed and the false position corrected at once. In this manner the execution of all therapeutic measures can be verified by the Röntgen guide; the dressing itself, even if consisting of plaster-of-paris, offering no obstacle to the rays, so that the position of the broken fragments can be controlled through the dressing. Thus the therapy is enormously simplified and perfected, the Röntgen mentor always showing the true nature of conditions.

It is evident that at the early stages the Röntgen rays are the friend of the physician. Not only do they advise him as to the course of treatment, but they are also a medicolegal document which may show that the injury was of an extraordinarily severe character, so that perfect restoration is an impossibility. Only a fool would, in the face of a shattered bone-epiphysis, expect that recovery should take place without deformity or disturbance of function.

Cripples usually live long, so that they may have many chances to annoy the surgeon if they, as it often happens, are of a virulent temper. Shakespere, the greatest seer into the depths of the human heart, has disclosed this weakness in the matchless monologue of the deformed Gloster, who laments:

> I am not shaped for sportive tricks,
> Nor made to court an amorous looking-glass,
> Have no delight to pass away the time,
> Unless to spy my shadow in the sun
> And descant on mine own deformity:
> . . . . curtailed of this fair proportion
> Cheated of features by dissembling nature,
> Deformed, unfinished . . scarce half made up
> And that so lamely and unfashionable,
> That dogs bark at me, as I halt by them.

But besides the medicolegal points referring to himself, the physician should know how to give testimony about diseases or injuries treated by him or a confrère, from a strictly medicolegal point of view. Every physician, just like everybody else, is liable to be subpœnaed as an ordinary witness, when he, for instance, observed somebody run over by a trolley car or saw a man knock down another. But if he happened to treat the injured professionally, the prosecutor or the defense may wish to obtain his professional testimony in the case. This will not only give him a splendid opportunity to perfect him in practice, but will also lead to professional preferment. It also entitles him to extra compensation, and he cannot be compelled by a hostile attorney to testify contrary to his desire, as his opinion is his own property.

Such opportunities are extremely frequent to-day, and our knowledge of diseases induced by physical injury has remarkably increased during the last decade. Most of this great progress is also due to the Röntgen rays, many doctrines formerly regarded as incontrovertible being completely changed now. In proportion to increased anatomical knowledge, our clinical experience has profited, and thus our diagnostic and therapeutic horizon become much widened. If we consider the simple fact that the annual statistics of the railroads of the United States alone show 4,000 persons killed and 38,000 injured, and that German statistics say that in 1898 more than 97,000 workmen insured under the German law were injured in some way, the immense importance of the subject from a medicolegal point of view is evident. It is obvious that by far the greater majority of the cases is brought before the courts, and who else is able to judge the extent of the injury and its consequences, and also its significance for the commonwealth, if the physician is not?

I am told by one of my friends of the bar that one-half of all jury trials in New York are for personal injuries. This speaks loudly enough. Of course, the working classes are more exposed to injuries than the wealthy, and for them the question of an injury oftentimes means "to be or not to be." It is natural that a jury in this country is inclined to favor the poor workman, being guided by sentimentality and not by the cool considerations of jurisprudence. The new laws of Germany have practically eliminated this emotional factor. So far Germany is the only country which by its law insuring workingmen against injury (*Unfallversicherungsgesetz*) has succeeded in giving protection to the workmen who expose themselves to danger in their various occupations. One of its paragraphs provides as follows: Workingmen and employees, excepting those of commercial, domestic or a few other callings, whose annual wages do not exceed the amount of $500, are insured against accidents incident to their various occupations. Such persons who are injured while at their work are all entitled to free medical attendance, and from the fourteenth week after the accident, to an indemnity of two-thirds of their wages.

In the event of death, the widow of the workman is entitled to burial expenses and to full indemnity for herself and her children until the latter reach the age of fifteen years. The amount of indemnity is based on medical testimony throughout. The indemnity is graded according to the disability. If it should happen to be total, the full amount is paid out; if partial. only a fraction of the amount is granted. If he is disabled for his special work, but can support himself, though much less, at some other occupation, payments are then made proportional to his decreased earning capacity.

One of the predominating features of an injury case in this country is the question of negligence on the part of the employer. In most cases this forms in fact the salient point. In Germany this factor is left out altogether, the employer and the employee being treated with equal justice. The medical expert will therefore not be embarrassed, since there is no exaggeration on the part of the injured. In this country it does not too rarely happen that the injured plaintiff appears like a disfigured Richard III before trial, while after he obtained his money he will walk as erect as others. In Germany, as illustrated by me in the case of a refined malingerer (see my paper on "The Medicolegal Value of the Röntgen Rays," *Medical Record,* August 9th, 1902), a new action may be begun after there is some reasonable suspicion of unfair play.

In this country simulation is very little practiced, but exaggeration is so much more commonly found. To disrobe a case from exaggerations and represent it truthfully is extremely difficult. In order to do justice to the case as well as to himself, the physician must strictly adhere to scientific points and not be influenced or tempted by exterior considerations.

A fractured leg or a bullet in the thigh cannot be simulated, but a fracture may have healed as far as the bones are concerned, and no visible signs may be left to be detected, even by the Röntgen method, after several months have elapsed since the injury. And still there may have been peculiar injuries of the soft tissues caused by the fracture fragments which deprive the patient from some function. Or the bullet may be extracted, but the shot-canal cannot be obliterated, and the patient will become the victim of disturbances which are of a subjective nature, and can therefore not be tested by objective methods.

It is possible to show the evidence of a fracture many years after its occurrence, if there was well-marked displacement. No fracture-line will, of course, show after that time, but the deformed appearance of the bones will present sufficient evidence of the nature of the injury.

A complicated medicolegal question will also arise when chronic diseases like osteitis, arthritis deformans or malignant growths develop after an injury. There may be no causal connection between the injury and the disease, but when an injury has happened in a factory, the indication of the patient to sue for damages is manifest. No doubt an injury often gives the impetus to the development of such diseases. The amount of damages will depend upon the duration of the healing process then, and the degree of functional disturbance. This will vary greatly, as from a simple fracture, which may be accurately united in a few weeks, to an injury followed by the development of a malignant growth, which will finally lead to the death of the patient.

As to inflammatory processes, I may refer to the case of a workman of fifty-four years, demonstrated before you nearly four years ago, who had sustained an injury of his elbow when forty years old. He had assumed at the time that there was a fracture of the elbow. Recovery took place after months, and finally the elbow remained stiff. Several years after the injury was sustained inflammatory signs had manifested themselves from time to time. They were regarded as rheumatic. But no other joints were involved. Examination eleven years after the injury showed a very much thickened elbow, which was fixed in a sharp angle. Pressure below the joint caused intense pain. Crepitus, so often found in old arthritic processes, could not be produced in this instance, as the joint permitted no motion at all. There were no indications of tuberculosis, syphilis or gonorrhea.

A Röntgen examination revealed the presence of malunion (lateral displacement) of the coronoid process of the ulna. This most probably had given the first impetus for the development of the arthritis deformans, which the Röntgen plate showed well marked in the external condyle of the humerus, while the left condyle showed entire synostosis with the olecranon process. An operation consisting in the removal of the projecting fragment by the chisel, separation of adhesions, and the partial resection of the external condyle, the seat of predilection for the acute attacks, were advised as therapeutic means. So far this advice was not obeyed by the patient, whose elbow is still stiff, and can hardly earn a living.

At the time the poor workman sustained the fracture in a factory it was supposed that he could use his arm again about a month after the accident. He had never shown any signs of ill health before. After ten weeks he was able to resume light work; then the swelling increased gradually, and the diagnosis of arthritis was made. He might have claimed damages at the time, the Röntgen rays then being able to show integrity of the tissues on one hand, and the presence of a fracture line on the other. But later, when the presence of arthritis veiled the original conditions, the workman realized that he could not prove his claim.

Under such circumstances even the Röntgen rays do not furnish sufficient light for the decision as to what was the etiological factor.

Similar views apply to the development of malignant growths after an injury. In a paper read before this society I was able to show the faint outlines of bone-shell in the soft myelosarcoma of a woman of twenty-eight years, who had fallen on her hand in dorsal flexion. The swelling resulting from it gave the impression that a fracture of the lower end of the radius was sustained. Three months after the injury, when seeing the patient for the first time, I noticed an insignificant deformity, just as it is observed in malunion of this classical fracture; still there was one strange symptom, viz., the consistency of the epiphyseal end was soft. The Röntgen picture failed to show the evidence of bone tissue, only a small remnant being left at the outer aspect of the radius. Resection was finally performed, thus proving the correctness of the diagnosis. In this case the causal connection between injury and growth was probable, but not absolutely certain. So the opinion of the medical expert would be left *in suspenso.*

In a number of cases of osteosarcoma of the shoulder observed by me, there was always a history of a preceding injury. In every case a suit for damages was considered by the more or less unscrupulous patients or their relatives, which placed me in an embarrassing position.

Another great difficulty in recognizing the etiological factor is found in the wide field of the so-called traumatic neuroses. Here it should be realized that we must rely more on the honesty of the report of the patient than on anatomical and clinical observation. Epileptiform attacks and paresis are also often traced back to injuries, and it is impossible sometimes for the physician to determine whether an injury was not simply an exciting cause for the manifestation of a disease which had existed before in a more or less latent stage.

In conclusion I may say that the physician must not only recognize the injury and its consequence, *per se*, but must also know the patient himself and the kind of work which he used to do, and from the continuation of which a special injury may prevent him. So, for instance, may the fracture of that insignificant bone called metacarpus mean nothing for a bricklayer, while by the same injury a young, talented violinist may lose his chance to become a second Paganini.

These few points may illustrate that the most precise scientific knowledge alone will not be sufficient for passing just medical judgment, but it must go hand in hand with two factors which are, it is true, unscientific, but of equal importance, namely, common sense and absolute self-control.

CHOICE OF A GENERAL ANESTHETIC AND SELECTION OF METHOD OF ADMINISTRATION.*

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THE subject of this paper in detail comprises only general anesthetics, for the reason that cocaine and other local anesthetics occupy a widely different field, and may be dismissed for our purposes by saying that they are valuable whenever it is impossible or inadvised to use general anesthetics. The term, general anesthetics, implies any standard drug, of which ether, chloroform and nitrous oxide are the most reliable and most familiar, or any combination or mixture of such drugs, of which the best illustrations are the alcohol-chloroform-ether, or the chloroform-ether mixture, briefly called A. C. E. and C. E. mixtures, respectively. The term may also embrace sequences or successions of anesthetics, of which the nitrous-oxide-ether sequence is the best known. One may regard the method of administration as denoting that procedure or those procedures by which a stated anesthetic, combination of anesthetics or sequence of anesthetics is exhibited, consequently, there are recognized as to ether the open, semiopen, and close methods of administration. When the apparatus of a certain authority is applied, the technique is also called method; for example: Bennett's method of nitrous oxide-ether administration. The established general anesthetics are as just stated, nitrous oxide, ether, and chloroform. Ethyl chloride is the last member of the group, and at the present time appears to merit definite recognition as such. The proportionate parts of the established anesthetic mixtures are for alcohol-chloroform-ether, one part of alcohol, two parts of chloroform and three parts of ether, and for chloroform-ether, two parts of chloroform and three of ether, as a rule, although the amount of either may be increased according to indication.

The accepted anesthetic sequences are at this moment, so far as ether is concerned, nitrous oxide-ether; A. C. E.—ether; C. E.—ether; chloroform-ether; and ethyl chloride-ether. The sequences for chloroform are ether-chloroform; nitrous oxide-ether-chloroform; A. C. E—ether-chloroform; C. E.—ether-chloroform; A.C.E.—chloroform; and ethyl chloride-ether-chloroform.

It is to be noted that one never uses nitrous oxide-chloroform as a sequence for the reason that it is unsafe to pass from a general anesthetic of high tension, namely nitrous oxide, to one of low tension, such as chloroform.

Having thus enumerated the various basic principles, the question of the selection of anesthetics or combination of anesthetics or seqence of anesthetics is reached, and one recognizes that this may comprise the elements, first, of selection for common practice; second, of choice for specific types of patient, and third, of election for definite operations.

In the selection of general anesthetics for day-to-day use, the question of safety alone is the primary point as to which it is recognized that nitrous oxide is the safest known anesthetic, especially when administered with oxygen. Ethyl chloride appears to promise rivalry with nitrous oxide in this connection, but its employment is too recent to warrant a fixed statement concerning it at the present time. Ether is the next safest, and perhaps when the length and severity of ether operations is compared with those of operations suitable for the preceding two anesthetics, ether is the safest of all anesthetics. With regard to a comparison between ether and chloroform, one should recognize the two facts that deaths under chloroform outnumber those under ether about five to one, and that chloroform is about five times more powerful than ether, since one ounce of it will carry the average patient as long or longer than will five ounces of ether, thus indicating fairly well that the statistics as to fatalities are probably correct and have a basis in this fact. The overwhelming majority of surgeons, who for many years have used all kinds of anesthetics, are against chloroform and in favor of ether. The generally accepted grounds are that ether primarily stimulates both cardiac and respiratory centers; primarily prevents depression of the circulation either by overdose or other cause; primarily corrects those factors which under chloroform so suddenly depress the heart; primarily makes less hazardous than chloroform, all changes in posture, especially from the supine to the sitting; primarily makes vomiting less apt to be followed by syncope; primarily renders moderate deprivation of air advisable, whereas under chloroform such is dangerous; primarily renders the grave circulatory reflexes unlikely, which are always imminent under chloroform. Ether primarily stimulates and accelerates respiration, changes in which are readily detected. Chloroform respiration may be inaudible and suddenly cease, especially if the posture of the patient is changed. Patients with comparatively normal health take ether almost free of risk, whereas very many chloroform deaths have occurred in precisely this class of patient. What Hewitt calls the workable area of ether is great, that of chloroform small, which means that the exactly proper quantity of anesthetic for each case is almost impossible to reach unerringly, and that overdose or underdose with ether is comparatively safe, while with chloroform either is highly hazardous. Ether poisoning may occur, leaving the circulation quite unaffected whereas chloroform primarily paralyzes the heart. These comparisons are made with the understanding that an equal amount of care is present in applying either the ether or the chloroform. Chloroform, on the other hand, is more readily administered; because more powerful, less of the drug is used per patient. It evaporates more slowly than ether, and is therefore more suitable for hot climates and high elevations. It is less bulky than ether, and is therefore more convenient for the battlefield.

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* Read before the Rockland County Medical Association, November, 1904.

The various mixtures of chloroform and ether previously spoken of occupy a position midway as to safety between the two drugs themselves. The higher the percentage of chloroform a mixture contains the greater the relative dangers thereof. The character of the anesthesia is practically that of chloroform slightly modified by the ether element present, especially as to the pulse which shows the stimulation of the ether.

The considerations which cover the selection of a general anesthetic for a particular patient comprise the following heads:

1. General State of the Patient.—Good health and absence of visceral diseases do not guarantee a featureless anesthesia, as Hewitt says, although most operators think otherwise erroneously. Feeble health usually means perfect susceptibility, and hence in these persons the cause of trouble is much less and the anesthesia far more apt to be featureless.

2. Sex and Age.—Females are better subjects than males because they are less intemperate, more susceptible to all drugs, and on the whole more courageous in sickness and more willing to do what is required of them by the anesthetist. The years of age count for less than do the diseases present at different periods of life in influencing anesthesia. Infants and young children may take ether drop by drop. Hewitt reports the case of a six-day-old child who took ether in this manner perfectly for a rather protracted operation. For infants C. E.-ether or A. C. E.-ether is a very good sequence. During the stage of crying and struggling chloroform should be given very deliberately lest the deep inspirations lead to overdose. All children bear asphyxia poorly, and hence react unfavorably to nitrous oxide gas.

In advanced life, if the lungs and heart are free of progressing disease, the choice is much the same. As a rule, nitrous oxide-ether is not the best sequence for these patients. C. E.-ether is in the minds of many a preferable combination; the writer, however, has never experienced any difficulty with the gas-ether technique.

3. Temperament.—Naturally the placid are the best, while the nervous and hysterical are the least desirable subjects. Anesthesia of the cornea in the hysterical may deceive the anesthetist as to the degree of narcosis present.

4. Habits.—Alcoholism is the most important, and invariably renders the subject combative and resistant to the drug. Hewitt states that he once gave 5½ ounces of chloroform in seventy-five minutes to a 56-year-old man, whereas the majority of subjects require an ounce or less per hour. Nitrous oxide will not anesthetize an alcoholic, but may destroy pain. Morphinism usually makes less anesthetic necessary, but in marked cases may reverse this effect and produce a long train of undesirable nervous phenomena. The tobacco habit is an important one because it renders the upper air passages chronically inflamed. Such subjects always have loud stertor and much bronchorrhea. Previous anesthesias are important only with regard to the condition of the patient at the time. If the subject is anemic they play no part; if robust, they may be followed by great resistance.

5. General Physique.—The poor subjects are those of muscular strength, of obesity and of plethora, whereas the inactive and anemic subjects are quite the contrary.

6. Respiratory System.—Hewitt states that in lost consciousness all preëxisting defects are greatly increased, which certainly coincides with the experience of the writer during the past six years. Firm and closely fitting teeth may be a very great bar to easy anesthesia; such patients require a small mouth prop, as a rule, no matter whether ether or chloroform is used.

Subjects without teeth may suck their lips back and forth in a valve-like action which obstructs the air-way to a remarkable degree. Fixity of the lower jaw always makes the anesthesia difficult, whether the fixity is due to position or disease. Growths of the tongue, soft palate and tonsils may become turgescent and excite dyspnea. Decrease in the supply of oxygen usually adds to their size. Growths of the neck, thyroid gland, etc., usually obstruct respiration. All these conditions rather indicate the chloroform-ether mixture, or ether drop by drop.

Diseases of the larynx and trachea require chloroform or chloroform mixed with ether. Bronchorrhea, pulmonary, and pleural diseases, if active and progressive, indicate chloroform or chloroform-ether; if stationary, ether may be used cautiously. Recent pulmonary disease indicates chloroform or C. E.-ether sequence. The ether should be given most carefully and preferably drop by drop, so as to give exactly the required quantity and no more, with a bag cone, so as to warm the fumes as much as possible. When respiration and circulation are interfered with by such conditions as ascites and empyema, great care is necessary. The writer's opinion is that C. E.-ether or chloroform-ether is the best usually. Ether should always be at hand if chloroform is being used, so that if the evacuation of the fluid changes the condition of the circulation, it may be employed as a stimulant. In empyema if the lung itself is no longer diseased, ether alone may be used. In both ascites and empyema much danger will be avoided if the fluid is aspirated a few hours before the anesthetization.

7. Circulation.—Slight or compensated disease of the valves of the heart accepts ether well; cases which require cardiac sedatives will probably do better under chloroform or C. E. Cases which require stimulation will usually react better under ether alone than under chloroform in any way. When one is in doubt as to the exact condition of the heart, it is probably safer to use ether than chloroform. In the advanced cardiac cases, unless the patient must sit up to breathe, it is highly advisable to have him in the recumbent or semirecumbent posture, to give him plenty of air and to provide utmost freedom for the respiratory function. The cyanosis so often present with gas may overwork the right heart; therefore, the nitrous-oxide-ether sequence is not to be recommended. Orthopnea always demands ether and absolutely contraindicates chloroform.

Cases with intermitting pulse usually improve under ether and often under C. E., but commonly require stimulation after withdrawal of the anesthetic. Myocarditic and fatty hearts require great caution and had best receive straight ether drop by drop. Atheroma, if marked, usually indicates C. E., and especially if myocarditis is present. Recent previous cerebral hemorrhage renders ether dangerous. Aneurysm suggests C. E. with deliberation and caution, especially during the stage of struggling. The same dictum applies to venous thrombosis. Exhaustion and collapse require ether with care and precision. It is best to restore these patients by a moderate saline infusion before giving any anesthetic. Intestinal obstruction demands a light degree of anesthetic because shock is present and great caution as to vomiting, of which there is much danger. It is commonly not accompanied by esophageal movements. The vomiting is usually more truly a regurgitation for which the anesthetist must constantly be on guard. Many recommend that a pillow be put under one shoulder, the mouth gag into place and the sponge forceps at hand; that the head be turned to the opposite side so as to permit the regurgitated fluid to collect in the lateral regions of the throat and mouth, wherefrom it may be wiped. The writer prefers Rose's position with the head extended over the edge of the table, so that the vomitus collects in the vault of the pharynx, whence it may be readily removed, while at the same time the respiratory current passes through the mouth held open by a gag while the tongue is pulled forward.

8. Central Nervous System.—Cases of fracture of the skull with symptoms of intracranial hemorrhage, if unconscious require no anesthetic, but if conscious, they had best receive chloroform, if the fracture is very recent, or C. E. or ether if less recent. In any case, the degree of anesthesia must be slight. Conditions of the brain, accompanied by semiconsciousness or unconsciousness, of which cysts, tumors, abscesses, and inflammation are the type, likewise require a light degree of anesthesia and usually do better under chloroform or C. E. If there are indications of depression, ether should be used. Nervous symptoms forming part of the symptom complex of chronic diseases, of which the various forms of nephritis are the best examples, usually require a light degree of anesthesia, and most of them do best with ether drop by drop.

9. Kidney Diseases.—Organic lesions probably have definite indications, functional lesions are usually unimportant. Unfortunately, medical opinion is widely divided as to the choice of anesthetic for these cases. Edebohls, who has done much kidney work, rarely uses chloroform for these cases. Weir states that probably ether is much the safer anesthetic for the reason that, whereas it may irritate the kidney, it does not damage it permanently, but that if the patient has a kidney susceptible to chloroform, he is practically certain to have serious symptoms as the result of the chloroformization. Hewitt, who is one of the most experienced living anesthetists, recommends that prolonged etherization should be avoided, and considers the C. E. mixture as the best. The writer has had opportunity to observe the results of ether and of chloroform alone and in mixture. On the whole, he inclines to the view rather strongly that brevity of operation, combined with etherization carefully carried out, drop by drop in a bag inhaler, is by all means the safest plan for these subjects. A very good rule is to infuse moderately with saline solution a large number of these kidney cases; this works well in stimulating the organs to do their work. Another procedure which the writer follows in private with great advantage, is to have the patients during the first six hours of convalescence from the anesthetic wrapped in several thicknesses of blanket next to the skin, thus constituting a veritable hot pack and relieving the kidneys of much of their work.

Diabetes is a condition which requires great care. Good judgment indicates that, when possible, the sugar should be reduced by diet before the operation is undertaken, and that brevity of operation should be observed as far as possible. Ether is undoubtedly best choice, but should be given most carefully. Other authorities, however, differ from this statement and prefer the C. E. combination. The tonicity of the chloroform is, however, of very great moment to these subjects in the writer's view.

Menstruation, pregnancy, and lactation are conditions which are quite unimportant with regard to anesthetics, with the sole exception that as a rule the pregnant woman should be anesthetized carefully so as to avoid struggling with its consequent dangers.

The foregoing are the chief elements of the subject, and the observations are the result of about six years' careful study in this field. It is hoped that their enunciation in this form will be helpful to those who are interested in making the question of anethesia a less worrysome one to the patients and more convenient to the operators.

CRYOSCOPY OF CEREBROSPINAL FLUID IN EPIDEMIC CEREBROSPINAL MENINGITIS.

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THE molecular concentration of the cerebrospinal fluid in epidemic cerebrospinal meningitis is a subject that has been but little investigated, there being hardly more than a few casual references to it in the entire medical literature, as far as I could determine. It was with the hope that some information, at least interesting if not important, might be obtained that the present work was undertaken.

During the recent prevalence of epidemic cerebrospinal meningitis in this city, many cases were admitted to Gouverneur and Beth Israel Hospitals. Through the kindness of Dr. Francis Huber, who was then on service in these hospitals, ample material was obtained for my investigation.

The following brief remarks on the theoretical basis of cryoscopy may be serviceable. A pure fluid freezes at a higher temperature than the same fluid when holding solid substances in solution.[1] The freezing point of a solution under the same external conditions, such as atmospheric pressure, etc., depends (1) upon the solvent itself; this is of comparatively little importance; and, in the case of the body fluids, may be totally disregarded, since here we have to deal with the same solvent in all of the various fluids, namely water. (2) Upon the molecular concentration of the solution, [1], [3], [4], the greater the number of molecules held in solution, the greater the depression of the freezing point. The freezing point is not additionally influenced by the size or nature of the molecules, but is purely dependent upon their *number*;[3] *e. g.* a molecule of sodium chloride produces the same effect upon the freezing point as a molecule of dextrose, although these substances differ greatly in molecular weight and properties. When several substances are contained in solution in a fluid, the total freezing point of the fluid is equal to the sum of the freezing points which each substance in itself would produce [1], [6]. The ion exerts the same influence upon the freezing point as the whole molecule, [1], [3]. The less concentrated the solution, the more will the molecules be dissociated into their ions until, when a certain dilution is attained, the molecules are completely dissociated.

A normal solution of any substance as such (*i. e.* the number of grammes of that substance corresponding to its molecular weight dissolved in a liter of distilled water) causes a lowering of the freezing point equal to 1.88° C.

For the sake of convenience the following symbols are made use of: T stands for the total freezing point of the cerebrospinal fluid; S, for that part of the total freezing point due to the contained sodium chloride; R, for that portion of T due to the remaining solid components of the fluid, *i. e.* T-S; $\frac{T}{NaCl}$, for the total freezing point divided by the number corresponding to the per cent. of sodium chloride found in the fluid; *x*, for the total number of molecules and ions in the fluid, represented in each case by 100; β, for the number of sodium chloride ions (since all the sodium chloride molecules are here dissociated); , for the number of molecules and ions of the rest of the solid constituents.

The freezing point was determined with Beckman's instrument; the sodium chloride estimated by the Salkowski-Volhard method; S obtained from the following formula $\frac{P \times 10 \times -.1.88,}{M}$, where P = the number corresponding to the per cent. of the substance contained in the fluid (in this case the per cent. of sodium chloride); P is multiplied by 10 in order to change the per cent. to grammes per liter; M = the molecular weight of the substance; and -1.88 = the depression of the freezing point of a gramme molecule of dissolved solid per liter of distilled water. To illustrate: the freezing point of a 0.70 per cent. solution of NaCl *as such* equals $\frac{.70 \times 10 \times -1.88}{58.5}$ or -.225. This number, however, must be multiplied by 2, because in this dilution every sodium chloride molecule is dissociated into its two ions, and consequently we have twice as great a depression of the freezing point.

The effect upon T of the albumin content may be entirely ignored as is evident from the following: Sabanejew and Alexandrow, quoted by Hammerstein, give the molecular weight of albumin as approximately 14300. Let us say we have 2 per cent. of albumin in the fluid, an amount which is greatly in excess of that actually present. Now, a 2 per cent. solution of albumin would lower the freezing point only $\frac{2 \times 10 \times -1.88}{14300}$ or -.0026, a quantity so small that it may be totally disregarded.

Cellular elements and other solids held in *suspension* do not affect the freezing point; for, to produce a depression of the freezing point, it is necessary that the solid substances be in solution.

Altogether sixty-nine specimens of cerebrospinal fluid were examined; some of the cases being examined several times at varying intervals.

The following data and conclusions have been obtained from a study of my investigations:

Upper limit of T is -.815; lower limit, -.50; a variation of -.315. The vast majority of cases, however, 79 per cent., ranged from -.52 to -.64, a variation of only -.12. Average T is -.575, very close to the normal freezing point of blood. T oscillates much less than the freezing point of urine. The greater part of T is due to the sodium chloride content. T varies not only in specimens from different cases, but, also, in specimens from the same case at different times. T is not of any prognostic significance; some of the patients that recovered showed a high T, others a low T; while the same is true of several cases that terminated fatally.

The limits of S are -.352 and -.486, a variation of -.134; this may be considered a comparatively small variation. Most of the cases, 74 per cent., ranged from -.40 to -.45, a difference of only -.05. Average S is -.422. S is less inconstant than T.

The limits of R are -.062 and -.338, a variation of -.276. Most of the cases, 72 per cent., ranged from -.090 to -.180, a difference of -.09. Average R is -.152. Some of the fluids have a high T and a low S, others a low T and a high S, showing that in these cases the number of "feste" molecules, exclusive of those of sodium chloride, vary much.

The limits of the NaCl content are .55 per cent. and .76 per cent., a variation of .21 per cent. Most of the cases, .71 per cent., ranged from .60 per cent. to .68 per cent., a difference of .08 per cent., or reduced to terms of the freezing point, a difference corresponding to -.05, as is seen from the following $\frac{.08 \times 10 \times -1.88 \times 2}{58.5}$. Average sodium chloride content is .66 per cent. The amount of sodium chloride fluctuates less than T. This is due to (1) that molecule for molecule the sodium chloride varies less than the other "feste" molecules. (2) that, since every sodium chloride molecule is dissociated into its ions, for a difference of one molecule of sodium chloride there is twice as great a difference in the freezing point.

The quotient obtained by dividing the total freezing point by the number corresponding to the per cent. of sodium chloride is a quantity to which Korányi, who may justly be designated the father of clinical cryoscopy, attaches great importance in the examination of urine. In the cerebrospinal fluid of cerebrospinal meningitis $\frac{T}{NaCl}$ has for its limits .729 and 1.183, a variation of .454. Most of the cases, 74 per cent. ranged from .800 to 1,000, a difference of .20. Average $\frac{T}{NaCl}$ is .872.

Although this work has not been productive of any results that are available at present for positive practical purposes, the data obtained may be of scientific interest and value.

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Sanitary Inspectors of Birmingham, Ala.—The Jefferson County, Ala., Medical Society, at its January meeting, acting as the county Board of Health, elected B. W. Walker chief sanitary inspector for the city of Birmingham for a term of two years commencing February 1, and J. B. Sparks assistant sanitary inspector for the same term.

FOREIGN BODY IN THE BRONCHUS; REMOVAL WITH THE AID OF THE BRONCHOSCOPE; RECOVERY.

By SIDNEY YANKAUER, M.D.,
NEW YORK.

On January 24, at 11.30 A. M., I was hastily called to see a child, 10 months old, who was said to be choking. Responding promptly, as the patient lived near my office, I found a well-nourished boy, coughing constantly, and the following history was given. The child had taken an orange-pit into its mouth. The mother attempted to remove it with the finger, when the child, beginning to cry, took a deep breath. The orange-pit disappeared and the child was immediately seized with coughing, dyspnea, and cyanosis. The child was taking deep and rapid breaths, it was somewhat cyanotic, and after each third or fourth respiration had an attack of spasmodic coughing. The pulse was 120.

Laryngoscopic examination was made with some difficulty on account of the small size of the throat; but it was possible to see the entrance of the larynx. The foreign body was not seen. Digital examination was also negative, and the fact that the child cried with a clear voice convinced me that the foreign body was not lodged in the larynx. The respiratory murmur was loud on both sides of the chest, and there were coarse sonorous râles over the whole chest. A diagnosis of foreign body in the trachea or bronchus was made, and Dr. Emil Mayer was called into consultation. He confirmed the diagnosis and advised immediate operation.

The child was then removed to a private hospital, and at 3.30 P. M. of the same day, four hours after the accident, it was operated on. Examination of the chest just before the operation showed that the right chest moved much less freely than the left. The normal respiratory murmur on the right side was absent, and was replaced by a faint inspiratory sibilant râle, loudest in the second half of inspiration. On the left side the breathing was exaggerated.

Chloroform was administered, primary anesthesia only being induced, and inferior tracheotomy was performed, with the assistance of Dr. Emil Mayer. A probe was readily introduced into the mouth through the tracheotomy wound and larynx, showing that the foreign body was not located there. The bronchoscope, 7 mm. external diameter, was then introduced into the tracheal wound and pushed forward until near the bifurcation. The foreign body could be plainly seen, lying with one end impacted in the right bronchus, the other against the opposite wall of the trachea. It was seized in the bronchoscopic forceps, but could not be withdrawn through the narrow lumen of the instrument, so that bronchoscope and foreign body were withdrawn together. The orange-pit measured 17 mm. long, 6 mm. wide, and 5 mm. thick. A tracheotomy tube was inserted.

On the following day the breathing had become normal in intensity on both sides, but there were many loud sonorous and moist râles over the whole chest. The temperature was 103.2°, pulse 130, respirations 30. On the second day the temperature was normal; the tracheotomy tube was removed, and the wound closed with adhesive-plaster strips. The recovery since then has been uninterrupted.

This case presents several points of interest. Attention is called to the importance of using a very small amount of chloroform, the anesthetic having been discontinued as soon as the trachea was opened. The case is one of the youngest thus far recorded. Inferior bronchoscopy was performed in preference to the direct method for the reason that it is impossible to introduce into the larynx a bronchoscope sufficiently large to permit the necessary manipulations, in so young an infant, without injuring the larynx. In some of the cases of direct bronchoscopy in infants that have been reported, secondary tracheotomy became necessary (Nehrkorn, *Deutsche medizinische Wochenschrift*, September 29, 1904). It is the first recorded case of successful removal of a foreign body by means of the bronchoscope in this city.

73 East Ninety-second Street.

A SPINDLE-CELL SARCOMA OF THE BOWELS OPERATED ON SUCCESSFULLY

By J. B. BOUCHER, M.D.,
HARTFORD, CONN.
SURGEON TO ST. FRANCIS' HOSPITAL.

Mrs. R., age 38, born in Ireland, father died of tuberculosis, cause of mother's death unknown; she has four brothers and four sisters, living and well, and has had two children, living and in good health. The patient entered St. Francis' Hospital early in January, 1904, with the following history:

For the past year she had been losing some in weight, appetite poor, bowels constipated and irregular. At times she complained of considerable pain in the abdomen, particularly in the right inguinal region. The conjunctivæ were almost white, the skin was dry and rough, and the general expression was that indicating some morbid change going on in the system. Examination revealed a mass in the right inguinal region about four or five inches long, about one inch to the outer side of the appendix line, and attached to the crest of the ilium. The mass was only very slightly movable and seemed to be connected with the abdominal wall. It was slightly tender on pressure and felt like a solid tumor. The diagnosis of a probable malignant growth was made and an operation was advised and consented to.

An incision about four inches long was made over the mass, which was found adherent to the anterior abdominal wall and involving the cecum and several inches of ascending colon. The mass was dissected off the abdominal wall together with the parietal peritoneum and part of the muscle. It was then found that in addition to the involvement of the cecum and colon, the glands in the neighborhood were enlarged, some being as large as an ordinary marble. The appendix was grown into the solid mass, involving the cecum so there was only a small loop of the proximal end visible.

As the lumen of bowel was nearly occluded we decided to do a radical operation for the removal of the growth. We clamped off about six inches of small intestine, all of the ascending and about one-half of the transverse colon. We then removed all that portion between the clamps, going wide and including every gland that could be found. We then turned in the end of the transverse colon doing a double Lembert suture with silk, and made an anastomosis between the cut end of the small intestine and the side of the middle portion of the transverse colon, using silk sutures.

The abdomen was closed without drainage. The patient made an uninterrupted recovery with the exception of a small stitch abscess which discharged for a few days and closed. Her bowels moved freely without medicine on the third day. She left the hospital for her home at the end of five weeks. Microscopical examination of the specimen showed it to be a spindle-cell sarcoma.

On August 1 I received a letter from her family physician, Dr. John Mountain of Middletown, who had kindly referred the case to me. The doctor wrote: "The patient's condition remains very good. After returning home she had some diarrhea for a few weeks but gradually gained in strength and appearance. She has gained fifteen pounds in weight, and looks and feels very well. She does all her own work for the family and goes out washing two days a week. I have examined her and found no trouble in the abdomen."

Within the past week I have had an opportunity to examine the patient. Her condition is excellent. She looks and feels well. Examination of the abdomen reveals no trace of her former trouble and as it is now nearly one year since the operation, the result seems very encouraging.

From a search of the literature on this subject I am led to believe that this case of a patient living a year after removal of so extensive a sarcomatous growth of the intestines, and still in good health, must be a very rare one.

25 Charter Oak Avenue.

"Potato" Tumors of the Neck and Their Origin as Endotheliomata of the Carotid Body, with an Account of Three Cases.—Hastings Gilford and K. L. Hart Davis state that the occurrence of these growths in one particular region of the neck and in no other part of the body suggests that they must spring from some structure which is peculiar to this area. This particular growth is not an epithelioma, but an endothelioma. It is a tumor of the carotid "gland." Marchand first pointed out the exact origin of these growths. The writers report three cases of such growths which were noted in middle-aged or old men. The tumors were apparently of a high degree of malignancy, and rested upon the carotid arteries at the bifurcation. The position, relation to the carotid arteries, and penetration of the carotid sheath at the point of bifurcation all point to an origin from a structure situated in this neighborhood, and this structure is the carotid body. This body, as described by Marchand, is of the size and shape of a grain of rice, and is situated within the fork of the bifurcation of the two terminal branches of the common carotid. It reaches full development and permanent size in the sixth month of fetal life. Its anatomy somewhat resembles that of the hypophysis cerebri. It is glandular in nature, but has no ducts, and though it contains many nerves, it is not a ganglion. It is a mesoblastic structure, and its development is closely associated with that of the carotid artery. Between the vessels and nerves with which it is supplied there are masses of endothelial cells, of round or irregular shape, sometimes much like the acini of a gland. The function of this structure is unknown. The evidence seems fairly complete that the "potato tumors" are endotheliomata of the carotid body. As a rule, these tumors are looked upon as tuberculous, lymphomatous, or malignant glands. The best treatment is complete removal at the earliest possible date. It does not seem likely that this growth could be completely removed unless the vessel were taken away at the same time. This operation would be more likely to succeed if a temporary ligature were placed around the common carotid artery a week or so before the removal of the tumor, in order that a sufficient blood-supply to the brain would be ensured. The other alternative is the destruction of the growth by caustics. The former method, however, is preferable.—*The Practitioner.*

Scurvy Rickets, with Spontaneous Fracture of Three Long Bones.—Nathan Raw says that the term scurvy rickets is in reality a condition of scurvy, often, no doubt, superadded to rickets, but in its nature distinct. It is known as Barlow's Disease in Germany. Such cases are of great importance to hospitals and practitioners, for grave allegations of neglect and injury may be made, as in this case, on account of fractures, which may be found without any apparent cause. The patient whose history is given here was two years old, and had always been fretful and irritable, and had cried out when handled. It had been fed since birth on proprietary foods, and had never had any boiled or sterilized milk alone. The post-mortem appearances in this case were those of a typical case of severe rickets, with scurvy superimposed. Over the left parietal and occipital bones was an enormous swelling, which incision showed to be a large collection of pale fluid blood under the muscles. Three other swellings were found—one over the neck of the left humerus, one over the center of the left thigh, and one in the lower third of the right tibia. In each instance an extensive subperiosteal hemorrhage was found, with complete fracture of the bone. The cancellous tissue of the bones was very vascular and softened. The gums were soft, friable and very spongy. The stomach was almost completely digested. The general condition of these cases is one of profound anemia. Ecchymoses may appear. The temperature is variable. The cause of the disease is uncertain. It is doubtless due to some defect in the diet. The writer has all milk for the hospital children sterilized slowly. The milk is raised to a temperature of 200° F. and kept there for five minutes. He has never seen the slightest symptom of scurvy among these children. Artificial foods and condensed milk seem sometimes to produce scurvy. So does peptonized milk. There is liability in a case of scurvy to the formation of large swellings, which are often mistaken for abscesses. Treatment is satisfactory if taken fairly early. The fresh element omitted in the diet should be provided. A powdery steamed potato, beaten into a thin cream or milk, is excellent. Lemon or orange juice, in one-half teaspoonful doses, is useful three or four times a day. A little raw meat juice, and ordinary milk, if it can be digested, are of value. Dover's powder will relieve pain. The child should be protected from the weight of the bedclothes and should have complete rest. It should not be handled or bathed any more than is absolutely necessary. Scurvy rickets is not so common as it was ten years ago, which is doubtless due to more rational and intelligent feeding and a better knowledge as to its prevention.—*The Practitioner.*

Appendicitis in a Child Discovered by Rectal Examination.—Dan McKenzie emphasizes the fact that rectal examination should be undertaken as a matter of routine in all doubtful cases of illness in children, more especially in those in whom the symptoms point to the abdomen as the seat of disturbance. The writer reports a case in point. A boy aged 4 years was suffering from pyrexia and malaise when first seen. As he was subject to acute gastric attacks, nothing unusual was anticipated. On the day after the first examination, he complained of stomach-ache and pain on micturition. The abdomen seemed to be hard and tender. Per rectum, the bladder was felt to be full and fluctuating. As some cystic trouble was suspected, the patient was anesthetized and a catheter passed into the bladder, but nothing was found to account for the symptoms. Rectal examination cleared up the cause of the illness. Bimanual palpation of the pelvis and abdomen revealed an oval, rounded tumor about the size of a pigeon's egg, lying toward the right side of the pelvis, in the right iliac region. Appendicitis was diagnosed. At the operation, which was performed the same evening, it was found that the appendix was perforated in several places, and the organ was lying in a pool of pus, so that if surgical intervention had been delayed even for a day or two, the child would doubtless have died. Convalescence was complicated by the passage of a fairly large uric-acid calculus. After this, recovery was uneventful. The pelvis in a child is so much shallower than the pelvis in the adult that it is possible with a finger in the rectum to investigate the condition of the abdomen far more completely than can be done in later life. Anesthesia, in the writer's experience, is necessary for a satisfactory examination of this kind.—*The British Journal of Children's Diseases.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR

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THE NATURE OF VACCINE BODIES; PARASITIC OR DEGENERATIVE.

IN the November number of the *Journal of Medical Research*, Dr. James Ewing reviews the histology of vaccina and variola, and gives his reasons for believing the so-called vaccine bodies to be of degenerative rather than parasitic nature. He says that when such a study as Hückel's leads the investigator to a positive conclusion that the vaccine bodies are certainly cytoplasmic degeneration products, and practically identical data serve to convince other competent observers that the bodies are certainly parasites, it is obvious that the evidence fully justifies neither contention, and that a demonstration has not been reached. As the author's own study has not furnished any demonstrative proof of the nature of the vaccine bodies, it is, he says, hardly permitted to him to claim absolute certainty for his opinion that they are cytoplasmic degeneration products; but this view is very strongly favored by a great number of facts of which those chiefly concerned with his own study are the following: The specific vaccine body shows in many instances definite connections with the cytoplasm of the epithelial cell connections which are explicable only on the supposition that this body is a part of the cytoplasm. Moreover, there appear to be numerous transitional forms between the specific vaccine body and other homogeneous globules in the cells, which can be produced by diphtheria antitoxin. Again, the form, size, and structure of the vaccine body are so irregular as to suggest the cycle of a degenerative process rather than that of a living microorganism; and the criteria commonly required by zoologists for the identification of protozoa (*i. e.*, nucleus, spore-formation, multiplication) have not been demonstrated for the vaccine body. A study of vaccina shows that an active diffusible toxin, similar to that of diphtheria, is at work in the process from its beginning, but the production of such toxins is not the rule with protozoa. The comparative study of the action of vaccine on different animals shows that the same general process and in many respects the same peculiar intracellular changes are produced in widely different classes of animals, which suggests that the vaccine body is a particular form, assumed in some warm-blooded animals, of degenerating epithelial cells. There are, the writer says in summing up, possible sources of error in the foregoing conclusions, and he believes far more demonstrative evidence is needed before any real insight into the true nature of the vaccine body can be obtained.

Regarding the intranuclear bodies, again, the present data seem insufficient for positive opinion, pro or con, as to their protozoan nature. Certainly Councilman's intranuclear rings are very definite structures, exhibiting so much of the general appearances of protozoa as to establish at once a suspicion that such is really their nature. Ewing merely points out the difficulties which the average worker may encounter if he undertakes a critical study of these bodies. The behavior of the intranuclear bodies under different fixatives and stains is unsatisfactory for the protozoan hypothesis, the staining reactions of these bodies being identical with those of certain nuclear elements, viz., nucleoli and linin droplets. In pure variolous tracheal lesions fixed in formalin, all the intranuclear bodies present seem clearly identical with degenerating nuclear elements. After treatment with Zenker's fluid and Borrel's stain, there are found satisfactory transitional forms from homogeneous linin globules having no resemblance to protozoa, up to large vacuolated structures which belong in the cycle of the variola parasite. The intranuclear rings seem to occur only at a particular, not initial, stage of the necrosis of squamous epithelial cells. The intranuclear cycle is imperfectly represented in specific lesions of mucous membranes, and may be entirely missing in the cutaneous necrosis of rapidly fatal secondary hemorrhagic cases. On the other hand the full series of these bodies seems to occur only in variola, and only individual forms seem to be duplicated, and these imperfectly, in other lesions.

ARE THE DOCTORS OBSERVING?

A MEMBER of the New York State Legislature, who is known to his colleagues as "the Bowery Senator" (his patronymic is variously given as Sullivan and Fitzgerald), has introduced a bill designed to legalize the practice of "kinesipathy," as the new scheme for getting rid of disease by giving it the shake is called, and to secure for its "professors" the advantage of State recognition. By way of an elucidation of the term kinesipathy, the bill defines it as including "massage, therapeutic gymnastics, Swedish movements, mechanoneural therapy, somatopathy, seismotherapy, vibration, and vibrassage." It provides that thirty days after its passage "the New York Medico-Gymnastic and Massage Society, the Therapeutic Society for the Physical Education of Greater New York, and the Trepsis Association of Greater New York shall meet and select a board of three examiners in Kinesipathy. This board when confirmed by the State Board of Regents shall have the power to make rules and regulations for the practice of the kinesipathic art."

The *New York Times*, which is commendably orthodox in its medical views, has scented the danger to the community in the provisions of this bill, and makes some comments upon it in an editorial paragraph with the above title. "Examined and certificated," the writer truly says, "by a board chosen from among their own number, and confirmed by the State Board of Regents, this whole great company of men and women who yearn to treat the sick—and get their fees—without taking the trouble to become doctors would be safe from the occasional prosecution which they are pleased to call persecution, and they would attain to a professional dignity that would be of enormous benefit to their business." The note concludes with an expression of wonder, "how soon the medical societies are going to get active."

The *Times* writer should make the acquaintance of the members of the Committee on Legislation of the State Medical Society before asking such a foolish question. "Are the doctors observing," indeed! The kinesipathy bill was introduced on February 2 in the Senate Chamber of the Capitol, but on the day preceding this, as reported in the MEDICAL RECORD of last week, in the Common Council Chamber of the City Hall at Albany a resolution was adopted unanimously and enthusiastically by the delegates of the Medical Society of the State of New York, then in annual session, denouncing this very bill—conceived in iniquity, but not yet born—and all other pernicious medical bills of like nature. The Society, informed of the intended introduction of the bill, called upon the Legislature to refuse to sanction it or any other efforts of incompetent and ignorant persons to secure the privilege of preying upon the community by the practice of special and peculiar methods of treatment.

If the denunciation of a bill before its introduction is not an evidence of activity sufficiently intense to satisfy the most anxious friend of legitimate medicine, we don't know what is. The doctors are observing—at least those of them who constitute the Committee on Legislation of the State Society—and the other doctors and citizens in general of the State of New York owe them a debt of gratitude for their watchfulness.

"PLACE AUX DAMES."

OUR esteemed contemporary, the *Medical News*, has deserved well of posterity by directing attention to the observation that, in addition to the well-known risk of superficial burns, the vocation of the radiographer exposes him to the more insidious danger of damage to the spermatogenetic function. *Vetat pudor*, but a sense of justice to thousands yet unborn impels us to disclose the fact that, according to the revelations of a recent investigator, woman has still greater cause to fear this fell destroyer of germ cells than her tougher congener. Even the sheltered seclusion of the ovary affords no protection to its precious freight against the baleful emanations fathered by the German physicist. Halberstaedter, in the *Berliner klinische Wochenschrift* of January 16, describes experiments on rabbits which lead him to conclude that the function of the ovary is even more susceptible to the deleterious effect of the Röntgen ray than is that of its male analogue. So real does the danger seem to this author, that he recommends that prophylactic measures be carried out to guard against injury to the nurses in attendance in *x*-ray laboratories, by the use of suitable protective appliances, and that in treating abdominal conditions in women by the rays, the risk to the ovaries should always be kept in mind. Three sets of female rabbits were used in the experiments. The first series was rayed for half an hour on two occasions several days apart, while the second set was exposed twice as often. In each instance the animals were placed on the back during the treatment, with the right half of the abdomen protected by a plate of lead. At the autopsy about two weeks later, in every instance it was found that the left ovary was much smaller than the right, usually only half as large, and was devoid of Graafian follicles. A third series of tests was made in which the condition of the ovaries before treatment was established by laparotomy and inspection, so that accidental variation between the two sides could be excluded. Microscopical examination of the organs showed that ten days after the treatment the number of Graafian follicles was greatly reduced, while at the expiration of fifteen days they had all disappeared. In the animals of the first series primordial follicles and primitive ova were still distinguishable, so that a return to function was possible, but in the ovaries of the second series, destruction was so complete, that it seemed more than doubtful that new Graafian follicles could ever be produced. No doubt, when the results of Halberstaedter's experiments become known, the disciples of Malthus, whose advertisements appear so prominently in the newspapers, will find the installation of *x*-ray apparatus a profitable addition to the equipment of their "sanatoria."

LUCID BREVITY.

IN his inaugural address the new President of the Academy of Medicine used the words "lucid brevity" as describing the characteristics he particularly wished to see in the communications laid before that body. "Never," writes an ex-President of the Academy in a note to the MEDICAL RECORD, "were two words more aptly put together. Would that they might be woven into the web of all medical discourse, and water-marked on every page of medical writing! Verbosity," he continues, "is the plague of scientific discussion. It may arise from inability to think clearly, but quite as often it results from inability of the speaker or writer to lose himself in his subject. Certain tricks of verbiage find their usefulness in making and keeping the author's personality as vivid to the listener or to the reader as it is to himself. As one of these tricks may be mentioned the over-frequent use of the first person singular. In a reprint containing twelve small pages now before me, this use of the pronoun occurs 56 times. It is needless to say that that article is not an example of 'lucid brevity.' Let us hope that Dr. Dana, as presiding officer, will have the hardihood to make such use of the gavel, in extreme cases, as will secure a measure of brevity whether 'lucid' or not. If he does this, he will add greatly to the interest of the proceedings."

CHRISTIAN SCIENCE DUPES MUST PAY THEIR OWN DAMAGES.

THE Supreme Court of New Hampshire has recently decided that persons who knowingly submit themselves to treatment by Christian Science "healers," must not expect to recover money damages for any injurious consequences that may arise. The case was one in which a healer tried to dismiss the thought of a recurrent attack of appendicitis. The patient was a woman who had had an attack from which she recovered under medical treatment. When a recurrence took place she hired a "scientist" to disperse the claim by sitting in front of her and making assertions while she read Mother Eddy's book. As she grew steadily worse she finally became alarmed, called in her physician, was operated upon, and recovered. She then tried to recover damages from the healer who didn't heal, but the judge said the dupe was just as guilty as the duper, and that if it was illegal for the defendant to treat the plaintiff as he did, it was equally illegal for her either knowingly to employ him to give her such treatment or to consent to be so treated. One might say this was a good ruling, for the plaintiff was a fool, and it served her right nearly to pay with her life for her folly. But, on the other hand, the law ought to protect weaklings and fools from the machinations of crafty knaves, and when Christian Scientists know there will be nothing to pay if their victims die, society will have lost a powerful defense against the onslaughts of the readers and healers of the Church of Eddy.

The Value of Filtration of the Public Water Supply.

According to a statistical study made by the Chief of the Bureau of Filtration of the City of Philadelphia the average number of cases of typhoid fever for each week from the beginning of the year to February 3 was 84 among a total population estimated at 1,300,000. Of this number only one occurred in the West Philadelphia district, with a population of 46,805, furnished with filtered water; while there were six cases in the remainder of West Philadelphia, having a population of 101,566, not yet supplied with filtered water. In the Twenty-first and Twenty-second wards, with a population of 113,755, furnished with filtered water, there was not a single case of typhoid fever for the week ending February 3, and only one case for each of the four preceding weeks of January. The number of cases of typhoid fever per 100,000 for the whole city decreased from 7.65 in the week ending January 6 to 5.87 in the week ending February 3.

News of the Week.

Examination of the Eyes and Ears of Pupils in Public Schools of Vermont.—The following is the text of an act recently passed by the General Assembly of the State of Vermont: "The State Board of Health and the Superintendent of Education shall prepare or cause to be prepared suitable test cards, blanks, record books, and other needful appliances to be used in testing the sight and hearing of pupils in public schools and necessary instructions for their use; and the superintendent of education shall furnish the same, free of expense, to every school in the State. The superintendent, principal, or teacher, in every school, during the months of September in each year, shall test the sight and hearing of all pupils under his charge and keep a record of such examinations according to the instructions furnished; and shall notify in writing the parent or guardian of every pupil who shall be found to have any defect of vision or hearing, or disease of eyes or ears, with a brief statement of such defect or disease; and shall make written report of all such examinations to the superintendent of education as he may require."

Sanitation in the Canal Zone.—From communications received at Washington from Gov. Geo. W. Davis and from Mr. John Barrett, United States Minister at Panama, it appears that the reports concerning health conditions in the Canal Zone have been grossly exaggerated. There is no probability of an outbreak of yellow fever, for the few cases recently reported are said to be sporadic and the very active measures being carried out under the direction of Col. W. C. Gorgas are expected to stamp it out entirely. Of the eighteen cases that had been reported up to January 20, 1905, since July 1, 1904, when the United States authorities took charge of the sanitation, only three had a fatal termination, and only one of the deaths occurred within the last three and one-half months. In the families of the Americans employed on the Isthmus, there have been three cases of yellow fever and only one death. Of the employees hired on the Isthmus, five have been stricken, but only one has succumbed to the disease. The total number of cases of Americans not employed on the Isthmus, including those of the cruiser *Boston,* where the disease broke out, three weeks ago, have been nine cases and five deaths. Two cases of smallpox have been reported since the American occupation, but these were imported. There is no typhoid fever or plague, and of the 4,000 employees only three per cent. are on the sick list for any cause.

The Nathan Lewis Hatfield Prize for Original Research in Medicine.—Five hundred dollars will be awarded by the College of Physicians of Philadelphia to the author of the best essay submitted in competition on or before March 1, 1906, subject, "The Clinical and Pathological Diagnosis of Sarcoma." Essays must be typewritten, designated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device, and containing the name and address of the author. They must embody original observations and researches. The Committee reserves the right to make no award if none of the essays submitted is considered worthy of the prize. Further information may be obtained by addressing Dr. Francis R. Packard, College of Physicians, 219 South 13th street, Philadelphia, Pa.

Health Department Changes.—The Division of Bacteriology of the Department of Health has been abolished, and two new divisions have been created. One will be known as the Division of Laboratories, and the other as the Division of Communicable Diseases. The former includes the Research, Chemical, and Vaccine Laboratories, under the immediate charge of Dr. Wm. H. Park, James P. Atkinson, Ph.D., and Dr. J. H. Huddleston respectively; the whole division being under the direction of Dr. Hermann M. Biggs, Medical Officer. This division will superintend the preparation of vaccine virus, diphtheria and tetanus antitoxin, tuberculin, etc., and conduct all experimental bacteriological work, the examinations of milk, food, etc. The Division of Communicable Diseases will have sanitary supervision over tuberculosis, pneumonia, typhoid fever, malaria, cerebrospinal meningitis, puerperal septicemia and abortion; also it will have charge over the administration of antitoxin in diphtheria. The examination of diphtheria cultures, samples of sputum, blood, etc., will continue to be a part of the work of this division, and it will be in charge of Dr. J. S. Billings, Jr., who has been the Assistant Director of the Division of Bacteriology. Dr. Thomas L. Fogarty has been appointed Assistant Sanitary Superintendent for the Borough of Brooklyn. He is 38 years of age, a graduate of the Long Island Hospital Medical College in 1891, and for the last ten years has been connected with the Department of Health in various positions.

For a Pure Milk Supply.—The Philadelphia Milk Exchange recommends all engaged in the production and distribution of milk that no milk be purchased or sold that does not conform with the following conditions: The cows shall be healthy and free from all disease; milk from any cow suspected of illness shall be discarded from the herd milk; the dairyman and his household must be free from all contagious disease; milk pails should have covered tops, with a small opening protected by wire sieve and cloth strainer; all cans and dairy utensils should be perfectly clean before being used; no milk should be kept in or sold from living rooms or any room connected with the stable; bottles and bottling apparatus should be scrupulously clean, as well as the room for filling bottles, the boxes for storing bottles or cans, and delivery wagons, inside and outside. In addition Dr. A. C. Abbott, president of the Board of Health, has recommended that all milk cans should be thoroughly washed before being returned to the farms or dairies whence they came, and that dairymen and milk dealers generally should effectively screen all rooms in which milk is handled so as to exclude flies, which are known to be an important medium for the transmission of infectious diseases.

Dr. L. Duncan Bulkley will give a special course of four lectures on "The Relation of Diseases of the Skin to Internal Disorders," in the Out-patient Hall of the New York Skin and Cancer Hospital, Second avenue, cor. Nineteenth street, on Wednesday afternoons, at 4:15 o'clock, commencing March 1, 1905. The course will be free to the medical profession.

Legislative Action Sought Against a Blacklist.—The physicians of Millbury, Mass., have entered into a mutual agreement that they will not attend professionally, except in case of emergency, any person who wilfully refuses to pay for medical services rendered previously by any other physician of the place. Some time ago the physicians of Monroe County, N. C., entered into a similar agreement. All who had refused to pay doctors' bills were put on a blacklist, and an agreement was entered into not to visit any of them until the account was settled. The doctors stuck to their agreement regardless of the consequences, and the Legislature has been called on by the deadbeats for relief. A bill has accordingly been introduced compelling a physician to attend the sick when money is tendered for his services, if the physician has no other reason for refusing to answer the call than the blacklist agreement.

Government Care of Lepers.—Two bills concerning lepers are now under consideration by the House Committee on Interstate and Foreign Commerce. One bill provides for the establishment of a sanatorium for the care of the 275 persons who are said to be lepers in this country, the institution to be located in the arid region of the Northwest. The other bill is one appropriating $150,000 for the scientific study of the disease in Hawaii.

Sing Sing Prison Declared to Be Insanitary.—A report recently submitted to the Legislature by State Engineer and Surveyor Van Alstyne and Superintendent of Prisons Collins declares that Sing Sing Prison is "a hotbed for the culture and spread of tuberculosis," and recommends that it be abandoned as "unfit for human habitation," and that a new prison be erected on the west side of the Hudson River at a point in Rockland County, nearly opposite the site of the present institution, not far from Haverstraw.

Pure-Food Bill in Pennsylvania.—A bill has been introduced into the Legislature of the State of Pennsylvania making it a misdemeanor to manufacture, sell, consign, offer for sale or have in possession with intent to sell, any article of food or drink which contains formaldehyde, sulphurous acid or sulphites, boric acid or borates, salicylic acid or salicylates, saccharin, dulcin, glucin, betanapthol, abrastol, asaprol, fluorides, fluorborates, fluorscilicates or other fluorine compounds, and all other preservatives injurious to health. The bill does not prohibit the use of common salt, saltpeter, wood smoke, vinegar and the condimental preservatives, such as turmeric, mustard, pepper and other spices. The penalty for violation of the act is a fine of not less than $60 nor more than $100, with costs, or imprisonment not exceeding sixty days, or both.

Cincinnati Society of Medical Research.—At the last regular meeting of the Society in the Cincinnati Hospital Laboratory, the following officers were elected for the year: *President,* Dr. Samuel Iglauer; *Vice-president,* Dr. H. J. Whitacre; *Secretary* and *Treasurer,* Dr. H. J. Schroeder; *Executive Committee,* Drs. Carl Hiller and S. P. Kramer. Papers were read by Dr. M. L. Heidingsfeld, on "Myoma Cutis," and by Dr. Iglauer on "An Attempt to Relieve Atrophic Rhinitis by a New Operation."

The Fox River Medical Society, at its annual meeting, held at Green Bay, Wis., January 17, elected the following officers: *President,* Dr. A. C. Mailer, of De Pere; *First Vice-president,* Edward Sawbridge, of Stephenson, Mich.; *Second Vice-president,* W. A. Gordon, of Oshkosh; *Secretary* and *Treasurer,* J. S. Reeves, of Appleton, Wis. The next annual meeting will be held at Green Bay.

Orleans Parish Medical Society.—At the installation meeting of this Society, held January 12, the following officers for 1905 were installed: *President,* Dr. L. G. LeBeuf; *First Vice-President,* Dr. J. A. Storck; *Second Vice-President,* Dr. John F. Oechsner; *Third Vice-President,* Dr. S. M. D. Clark; *Secretary,* Dr. Allen Eustis; *Treasurer,* Dr. Jules Lazard; *Librarian,* Dr. Homer Dupuy; *Additional Members Board of Directors,* Drs. M. J. Magruder, Gordon King, and J. G. Dempsey.

Memorial Bust of Dr. Christian Fenger.—Very soon there will be formally presented to the Chicago Medical Society by its members a memorial bust of the late Dr. Christian Fenger. This bust will be placed in the Cook County Hospital, on the surgical staff of which institution he served for twenty years. As considerable money will be left after paying for the bust, it is thought that this will be used to establish a Christian Fenger fellowship in one of the local colleges.

Annual Meeting of Illinois State Board of Health.—At the annual meeting of this Board, recently held, Dr. George W. Webster of Chicago was re-elected President of the Board; Dr. James A. Egan of Springfield, Secretary, and Dr. P. S. Wessel of Moline Treasurer. The Board has given its endorsement to a bill recently introduced in the Legislature which provides for the establishment of a State Hospital for Consumptives.

Another X-Ray Casualty.—Mrs. Elizabeth Fleischmann Aschheim, a member of the Röntgen Ray Society, well known on the Pacific coast for her skill, has been obliged to have the right arm amputated on account of *x*-ray burns. The effect of the rays first appeared in the hand about a year ago, but Mrs. Aschheim did not give up work until six weeks ago.

Diphtheria on Staten Island. — Forty-four cases of diphtheria have been reported to the Health Department during the last two weeks from the village of Elm Park in Richmond borough, and the S. R. Smith Infirmary at New Brighton is crowded with patients. The local public school has been closed, and an unusually large corps of Health Department physicians is at work in the infected section.

Typhoid Fever in Winnipeg.—More than 250 cases of typhoid fever have developed in Winnipeg in the last seven weeks, and the percentage of deaths has been alarmingly high. The health officers and city physicians are unable to learn the cause of the epidemic. The drinking water of the city is taken from an artesian well, and has been pronounced by experts to be pure. It is said that the mayor of the city has requested the Health Board of New York to send a sanitary expert to determine the source of the infection.

The Osteopaths and Their Bill.—This is evidently going to be a great year for registration bills. The medical shakers and the spectacle men are clamoring for a Regent's license, and the osteopaths have renewed their appeal for the seventh or eighth time. The new bill, to be introduced by a Buffalo senator, will provide that there shall be a Board of Osteopathic Examiners, consisting of five persons, selected by the Regents from ten nominees named by the New York Osteopathic Society. Those who pass the examinations are to be licensed, and have the privilege of attaching the initials "D. O.," meaning Doctor of Osteopathy, to their names.

Graft in the Health Department.—Health Commissioner Darlington has asked the Municipal Civil Service Commission to create the position of inspector of supplies to prevent the alleged wholesale looting of department property going on in the city hospitals and other branches of the department.

New Hanover County, N. C., Medical Society.—At a meeting of this society held January 26, the newly elected officers were installed as follows: *President,* Dr. W. D. McMillan; *Vice-President,* Dr. D. W. Bullock; *Secretary* and *Treasurer,* Dr. S. E. Koonce; *Hospital Visiting Committee,* Drs. A. H. Harris, S. E. Koonce, D. W. Bullock, and Pride Jones Thomas.

Hospital News.—*Milwaukee County Hospital.*—The Milwaukee County, Wis., Medical Society has prepared a bill for the legislature, removing the management of the Milwaukee county hospital from the county board and placing it in the hands of a board of trustees.

Bill Concerning the Medical Staff of Cook County Hospital.—Senator Carl Mueller, of Chicago, has introduced a bill in the Senate of Illinois providing that physicians and surgeons of Cook County shall be apportioned among the recognized schools of medicine in such proportions as the Board may from time to time determine, the physicians and surgeons appointed to hold their positions for a term of six years, and internes eighteen months. The various schools are now given representation, but the bill is intended to legalize the practice.

New York State Tuberculosis Hospital. — The first report of the State Hospital for Tuberculosis, at Raybrook, in the Adirondacks, was presented to the New York State Medical Society by the Superintendent, Dr. John H. Prior. Of the eighty-two patients admitted, eleven have been discharged as cured. Of the remainder five have not been in the hospital long enough to justify any conclusions, nineteen have apparently recovered; the disease of thirty-four has been arrested, and all the rest show improvement. "The law creating this institution, and under which it has been in operation for a period of six months," says Superintendent Prior, "seems to be eminently satisfactory. It contains many new features which have never before been tested. The requirements for admission and the methods designed to limit treatment to incipient cases only will be adopted and tried by several other states in the near future. Thus far it seems unnecessary to advise any changes in the organic law."

The Late Dr. Manley.—At a stated meeting of the New York County Medico-Pharmaceutical League, held at the Hotel Astor on January 24, 1905, the following resolutions were offered: *Whereas,*—In the demise of our late Ex-President, Thomas H. Manley, M.D., the medical profession has lost an honored and worthy member, who for many years contributed to medical science and surgical skill; and *Whereas,*—We realize that he might have given to this society the benefit of many years of valuable advice and unselfish personal service, it is with profound regret that we bow to the inscrutable will of Divine Providence; and therefore be it *Resolved,* That in the loss of Thomas H. Manley, M.D., there has been taken from our midst a courteous gentleman, a benevolent and most useful citizen; and be it further *Resolved,* That these resolutions be spread on the records of this society; and that they be published in the medical press, and a copy thereof be transmitted to the family of the deceased. L. W. Zwisohn, M.D., Herman J. Boldt, M.D., Samuel F. Brothers, M.D., Committee.

The Medical Board of the Harlem Hospital adopted the following: *Resolved,* that by the death of Dr. Manley we have lost a highly esteemed and eminently proficient member of the Attending Staff. By his work at the Hospital and his highly appreciated literary abilities he has made his name known to the Profession. *Resolved,* that a copy of these resolutions be sent to the family of Dr. Manley, that it be published in the Medical Press, and that these words be entered upon our minutes. Theodore Keune, M.D., W. H. Luckett, M.D., Committee.

Obituary Notes.—Dr. Homer L. Bartlett of Brooklyn, N. Y., died at Thomasville, Ga., on February 3, at the age of seventy-four years. He was born in Jericho, Chittenden Co., Vt., and was graduated at the College of Physicians and Surgeons in this city in 1856. He practised in Brooklyn for a year and then was obliged to return to Vermont for his health. Upon his return he opened an office in Flatbush in 1857, and from that time was most active in all public affairs. He organized the Flatbush Health Board and became Health Commissioner. Later he organized the Flatbush Police Department and was chosen as President of the board. For many years he was visiting physician to the Kings County Penitentiary. He was also Vice-president of the Kings County Medical Society, a member of the State Charities Aid Association and of the American Medical Association.

Dr. Charles C. Ellis of Somerville, Mass., died of pneumonia on January 28, at the age of fifty-seven years. He was born at Berlin, Vt., was graduated from the Medical Department of the University of Vermont in 1867, and for many years practised medicine in Manchester and Nashua, N. H. He removed to Somerville about fifteen years ago.

Dr. Otis Eugene Hunt died at his home in Newtonville, Mass., on January 20, at the age of eighty-two years. He was born in Sudbury and was graduated from the Berkshire Medical College in 1848. He retired from active practice in 1883.

Dr. Daniel O. Polin of Springfield, Ky., died on January 14. He was born near Harrodsburg, May 28, 1829, and was graduated from the St. Louis Medical College in the class of 1851. He was president of the Washington County, Ky., Medical Association and the oldest practising physician in that part of the State.

Dr. T. M. Ward of Canton, Miss., died on January 18, at an advanced age. He was born in Maryland.

Dr. G. W. Harrison of Ashland, Wis., died January 12, at Grand Rapids, Mich. He was a graduate of the Rush Medical College, Chicago, in 1881.

Dr. W. R. Read of Boston died suddenly on February 1, at the age of seventy years. He was born in Scotland and was graduated in medicine from the University of Pennsylvania. He retired from active practice about twenty years ago.

Dr. Calohill M. Stigleman of Floyd, Va., died on January 30, at the age of seventy-five years. He was a graduate of the Medical College of Virginia in the class of 1857, and served in the medical department of the Confederate Army during the Civil War.

Dr. J. P. Haynes of Beaumont, Tex., died on January 26, at the age of seventy-eight years. He was a graduate of the Medical Department of Tulane

University in the class of 1870. He retired from active practice some years ago.

Dr. **Hugh B. McConnell** of Somerville, Mass., died on January 25, as the result of an operation. He was born in Toronto thirty-four years ago and was graduated in medicine from Trinity College, Toronto, in the class of 1891.

Dr. **Michael O'Hara** died at Philadelphia on January 31 at the age of seventy-two years. He was graduated from the medical department of the University of Pennsylvania in the class of 1852. At the outbreak of the Civil War he enlisted in the Navy as an assistant surgeon, and he afterwards became surgeon to the 150th Pennsylvania Volunteers.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

TWO YEARS AFTER INTRACRANIAL OPERATION—FUNCTIONAL INSANITY—SUDDEN PARALYSIS IN CHILDREN—SKIAGRAPHY OF LUNGS AND PLEURA—THE LATE DR. THOS. WOODS.

London, January 20, 1905.

It is not always easy to obtain a late history of operation cases, but there was an interesting exhibit at the Clinical Society's meeting on Friday. Mr. Jonathan Hutchinson, Jr., showed the case on which he performed intracranial resection of the second division of the fifth nerve, two years ago. Complete relief to the symptoms has continued up to this time, and he suffers no inconvenience from the anesthesia.

Dr. Robert Jones read a paper at the Medical Society on the 9th inst., in which he discussed the relation of functional insanity to neuroses. He regarded insanity as the negation of sanity, thus including every form of mental abnormality. As there is no standard of health there is none of sanity. The final criterion is conduct. Dr. Jones mentioned cases of temporary delirium in febrile states sent to asylums with a diagnosis of insanity.

The most convenient test, he said, was the presence of illusions, delusions, hallucinations influencing conduct. As a rule, these were functional, but in time might be related to organic changes. The most highly evolved senses—sight and hearing—contributed more to these delusions than the more stable but less informing smell and taste. Tactile sensations were associated with hysteria; visual and auditory with insanity. Hysteria might, in fact, be regarded as a "lower grade insanity." Cases of loss of memory and of double consciousness often recovered quite suddenly, and other conditions, such as hypochondriasis, chorea, neurasthenia, epilepsy, etc., leaving no structural alterations, must be put down as functional. Early treatment was insisted on, as minute variations continued over long periods might make it possible for disorder of function to lead to organic change.

Dr. Mercier thought the paper supported his view, that all insanity was functional. Every twenty-four hours the mind normally ceased to functionate for a time in sleep. In insanity periods of cessation of function occurred, but at irregular intervals. Cells might be damaged, but it was those parts of them which were not damaged that produced symptoms.

Dr. T. B. Hyslop commented on the difficulty of distinguishing some cases of neurasthenia from general paralysis of the insane. He held the important point to be, not the illusions or delusions, but the lesion to which they were due and which prevented the patient from perceiving that they were only illusions.

Dr. Andriezen did not admit that functional insanity existed, nor could he think that functional disorder could become organic disease. He said that in cases of epilepsy diagnosed as functional he had found areas of cortical sclerosis. He did not think the post-epileptic alteration of personality was functional. As to periodic attacks of melancholia, or to those which occurred in dipsomania, he thought they were due to some maldevelopment or malnutrition, causing the cerebral mechanism to act in a faulty manner.

Dr. Batten read a paper on encephalitis and its relation to acute anterior poliomyelitis, in which he described some acute intracranial symptoms as occurring in children in the summer season, giving rise to extensive paralysis, which cleared up rapidly but not completely. He met with twenty-nine cases of anterior poliomyelitis and eight of polioencephalitis in the summer of 1904. More pathological evidence was wanted and he hoped on a future occasion to produce it. He grouped his cases according to the part affected, thus: (1) Those in which the cerebral hemispheres were affected; (2) those in which the cerebellum, and (3) those in which the cranial nuclei were affected.

Dr. Beevor said the view long entertained of these cases of sudden paralysis in children was that they were due to thrombosis of the larger veins, but that was hardly a sufficient explanation. There was considerable evidence that the cause was more probably thrombosis of the smaller vessels.

Dr. David Lawson demonstrated to the Medico-Chi. on the 10th inst., some changes which take place in the lungs and the pleura, chiefly in pulmonary tuberculosis, as shown by skiagraphs. He began by showing the difference in the behavior of serous fluid alone and of the same fluid *plus* air in a rubber bag. In the former the upper surface of the fluid was ill-defined and concave; in the latter sharply defined and horizontal. The same difference was shown between serous effusions and hydro- or pyo-pneumothorax. Skiagrams were thrown on the screen from a case of pyo-pneumothorax, taken four hours before operation, three months after it, and nine months later, the lung being then fully expanded. Other skiagrams showed the appearances in serous effusion before and after operation, when there had been compensatory emphysema, and again when there was consolidation and with cavities, were also shown, as well as lapsed lung, thickened pleura, dry pleurisy, tuberculosis with consolidation and with cavities, were also shown, as well as a case in which four cavities were located during life and the diagnosis confirmed by photograph of the lung after death.

In the discussion considerable differences of opinion were expressed as to the value of the *x*-rays for diagnosis, several fellows considering that ordinary physical signs could detect disease quite as early. Dr. Walsham was confident that pus was more opaque than serum, though some observers doubt this. The position of the heart was of less value in children than in adults. He had never seen a shadow in dry pleurisy.

Dr. K. Fowler said in cases of tuberculosis the shadow might extend beyond the bounds of the auscutatory sounds. There was need for great care in interpreting skiagrams. His experience was rather disappointing. In aneurysm the rays were of more use than in other conditions.

Dr. Thos. Woods, who died in his 90th year, attained no little success outside his profession, as well as in. Though in general practice he pursued philosophical and scientific studies, and contributed to their advance. He wrote "Reasons Against the Theory of Evolution," and the account of "Lord Ross's Telescope," as well as important papers on Thermochemistry, besides contributions to strictly medical subjects. All the time he was a busy man, with a large practice. He was M.D., Glasgow; L.R.C.S.I., M.R.C.S.E.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

WORK OF THE HARVARD SMALLPOX COMMISSION—MONKEYS IMMUNE AGAINST SMALLPOX, THOUGH SUSCEPTIBLE TO VACCINA—RECRUDESCENCE OF PLAGUE IN HONG KONG—POOR PHYSIQUE OF THE FILIPINO—INADEQUATE MEDICAL ATTENDANCE IN THE PROVINCES.

Manila, P. I. Dec. 15, 1904.

At the December meeting of the Manila Society the principal matter of interest presented was a paper by W. R. Brinckerhoff, M.D., and E. E. Tyzzer, M.D., entitled "Vaccinia and Variola." It will be remembered that these two medical men belong to what is ordinarily known as the Harvard Smallpox Commission. They came from Boston to Manila for the purpose of continuing the work which had been commenced at the former city about two years ago during the smallpox epidemic which was present at Boston at that time. Dr. Brinckerhoff explained that the commission was organized with the view of attacking the smallpox problem at different points simultaneously by a number of different workers.

Owing to the continual presence of smallpox in the Philippines and the facilities with which monkeys for experimental purposes could be obtained, it was decided that it would be desirable for at least two of the workers to come to Manila. The question of expense, however, was a serious drawback, but at that juncture Dean C. Worcester, the secretary of the interior for the Philippine Islands, happened to be in Boston, and, upon learning of this plan, kindly agreed to lend his assistance. The Insular Government thereupon aided the scheme, with the result that Drs. Brinckerhoff and Tyzzer came to Manila. They began work here last April, which has been uninterruptedly pursued up to the present time. A large amount of material was collected, much of which has been examined, but the greater portion of it is to be taken to the United States, where it is expected that it can be worked up to better advantage. Bacteriologically much the same results were obtained with vaccination and smallpox lesions as in the United States. The work was seriously interfered with by the non-susceptibility of the Philippine monkey to smallpox. Every conceivable method was tried for the purpose of infecting these animals with the disease, but in only one instance was a typical lesion produced. It was not possible to cause an eruption in the ordinary sense of the term. In the one monkey that was successfully inoculated only a very few skin lesions were found. The authors are of the opinion that, while monkeys are more or less susceptible to vaccination, their susceptibility to smallpox is very limited. A number of instances were cited by the authors in which monkeys had been exposed to the disease under natural conditions and had not contracted it. This observation was further supplemented by one of the speakers who took part in the discussion, who stated that on the army transport *Liscum*, which was detained last May at the Mariveles Quarantine Station, on account of smallpox, there were 159 persons aboard the vessel. Of this number 154 had been previously vaccinated. The remaining five all contracted the disease. With the steerage passengers, among whom the smallpox broke out, there were two monkeys, which were almost constantly in close contact with the persons in whom the disease appeared, yet they did not contract it. If monkeys were susceptible to smallpox to any extent it would certainly seem that an infection that could find the five unprotected persons among 159 would also have found them. From the foregoing résumé it will be seen that it was not possible to make much advance because there were no animals upon which satisfactory experiments could be made. It is now proposed to continue the experiments with orang-outangs, because the preliminary work done shows that they seem to be more susceptible to smallpox and the microscopical findings resemble very closely those found in human beings.

There was one case of plague reported in Singapore last week. Hong Kong, which has enjoyed an entire freedom from the disease for a number of weeks, is again infected. Three cases and three deaths were reported during the past two weeks.

A physical examination of Filipinos, recently made, shows in an unmistakable manner what poor physicians prevail among the so-called better classes of natives. The chest measurement did not average ov r 28 inches, nor the expansion more than an inch. Although they were mere boys, they showed evidence of having committed sexual excesses. From the foregoing it will be seen that the native is in quite as much need of a physical education as a mental one, and unless that is provided for no marked improvement in his condition can be expected.

The lack of adequate and proper medical assistance in the provinces for the Americans who reside there has been again brought to the attention of the authorities. The lot of the white man in the outlying districts of the Philippines is indeed a hard one. There is not sufficient work to justify an American physician to settle in the provinces, unless he can hold some governmental position which will aid his income. The Insular authorities are not always in position to make such appointments and for that reason many hardships will no doubt have to be endured before better arrangements can be made.

Dr. E. E. Tyzzer, of the Harvard Smallpox Commission, left for the United States on the transport *Sherman*, which sailed from here December 15.

Assistant Surgeon M. K. Gwyn,. of the U. S. Public Health and Marine Hospital Service, who has served in the Philippines for more than three years, has been ordered to return to the United States.

GEHEIMRATH DOCTOR DETTWEILER.

To the Editor of the Medical Record:

Sir: By the presentation of the portrait of Dr. Dettweiler to the New York Academy of Medicine our eminent phthisiotherapist has added to his numerous and valuable contributions to this subject. In this workaday world—in this age of haste and rush, immediate achievement alone appeals to our hurried observation. The lessons of a life like Dettweiler's—the history of his achievements in a field requiring cultivation with patience and self-sacrifice, demand more than a passing notice. It is therefore eminently wise and proper that the counterfeit presentment of the man who has placed phthisiotherapy upon a permanent basis shall grace the halls to which the searcher for the achievements of medicine resort.

Personal acquaintance with Dr. Dettweiler confirms all that Dr. Knopf has so well said. During an interview in 1896 on the subject of Phthisiotherapy, which was replete with instruction and pleasure, I was impressed by his hope-inspiring manner, and by the geniality and humor which brightened the discussion of a pathetic subject. Noticing on the wall of the Liegehalle some verses worked in colored wool contained in a frame, I asked their purport. The genial doctor replied that they were a gift from one of his patients who had well learned the lesson of patience and hope which he endeavored to inculcate by precept and example in his institution. The lines read:

In dem Tempel der Bacille
Herrsche musterlose Stille
Walte Lust und Heiterkeit
Dann ist die Heilung nicht mehr weit.

Freely translated this "motto" would read:—

In the temple of Bacillus
Must reign calm and perfect stillness
Must reign bright and jovial cheer
Then the cure is very near.

The great exponent of rest, calmness (physical and moral), fresh dry air continuously inhaled night and day, in fair weather or foul, correct breathing, avoidance of cough, free and appropriate nutrition, graduated exercise in the absence of fever, judicious hydrotherapy in appropriate cases—the man who has brilliantly illustrated these basic therapeutic principles in his own practice—has passed beyond. May his lessons and his example endure forever for the relief of human suffering and the glory of Medicine!

Simon Baruch, M.D.

Hotel Majestic, New York.

EXAMINATION OF THE SIGHT AND HEARING OF SCHOOL CHILDREN IN VERMONT.

To the Editor of the Medical Record:

Sir: Your readers will be interested to know of an act just passed by the legislature of the State of Vermont [see page 221], making it obligatory throughout the state that all public school children shall have their eyes and ears annually examined by their teachers. The State of Connecticut passed a similar law some three years ago, but the one passed in Vermont is better. It is hoped that the action taken by these two legislatures will be followed by similar acts in other states.

Frank Allport, M.D.

92 State Street, Chicago.

Progress of Medical Science.

The Boston Medical and Surgical Journal, February 2, 1905.

The State's Relation to the Epileptic.—Owen Copp refers to the action of the London School Board, under whose direction Dr. Shuttleworth, in 1900 and 1901, examined all epileptic children of school age known to its officers. He found a ratio of about 1 to 1,000, and reported that of these defectives, "17 per cent. seemed fit to continue in normal schools, 27.5 per cent. were so far mentally impaired as to require instruction in 'special classes' for defective children, 40 per cent. required to be cared for and taught in a residential school for epileptics, and 15.5 per cent. seemed unfit for any education, requiring only medical and nursing care." Since this investigation, a large number of children who had formerly been kept at home because they suffered from fits, are now attending school. On the basis of this report, Massachusetts should have about 500 epileptic children of school age. The effort to bring such children as are suitable into schools would seem to be the duty of public school committees. The writer declares that the state should supplement these efforts by providing: (1) A center for study, research and teaching in relation to epilepsy, well officered and equipped, to afford scientific treatment to patients both within its care and at home, through advice to indigent parents and friends who may wish to avail themselves of the aid, and, in conjunction therewith, schools for elementary education, manual training and persistent drilling into habits of doing simple, every-day acts of helpfulness to the family or the institution. (2) Colonies, independent or associated with such a center, which the adult epileptic, thus trained, may enter, finding a home in place of isolation in society, and industrial opportunities graduated to his capabilities, under conditions suited to his peculiarities and the utilization of his productive energy. (3) Custodial provision for the infirm, intractable and insane epileptic. The successful management of this policy would offer a most important check to heredity transmission of the degenerative taint. There will always be a certain number of these unfortunates in the community without protection. The public are beginning to wake up to the danger to the state from these defectives, and several states have already made restrictive and punitive legislation against the marriage and illicit relations of these individuals during the child-bearing period.

The Treatment of Hemorrhoids by the General Practitioner.—T. Chittenden Hill believes that the general practitioner should be able to successfully treat the more common rectal diseases. Hemorrhoids are more frequently met with than any other rectal disease. There are two general classes—external and internal. Of the former class, there are two common forms, the thrombotic and the external connective tissue hemorrhoid. The treatment of the thrombotic hemorrhoid is simple. An injection of eucaine, 1 per cent., is given, very superficially under the skin. The injection should go slowly over the whole top of the tumor well into the anal canal, but not into the swelling. With a curved bistoury the base of the swelling is transfixed, and the cut is made outward. The clot usually expels itself, but sometimes curetting is necessary. When the connective tissue hemorrhoid is acutely inflamed and the external sphincter is not hypertrophied, a palliative course is indicated. After the acute symptoms have subsided, an injection of 1 per cent. solution of eucaine is given, and the hemorrhoid removed with a pair of curved scissors. The writer calls attention to the fact that the great majority of cases of internal hemorrhoids can be operated upon under local anesthesia or otherwise satisfactorily dealt with. He believes that in properly selected cases, where the external sphincter is somewhat relaxed, or can be dilated so that the tumors are exposed for injection, perfect results may be expected from the injection method. When, however, the hemorrhoids are not very large, or over three in number, they may be treated radically and in less time by the ligature. The after-treatment of these cases demands careful attention. The bowels as a rule should be confined for forty-eight hours, and then cascara sagrada should be given in order to secure daily evacuations. The anal region should be kept scrupulously clean. Good drainage should be secured, and the necessary topical applications be made to induce rapid healing. If an irritable or hypertrophied sphincter gives pain, both layers of the muscle should be completely divided under eucaine. The internal sphincter should be carefully guarded, as otherwise incontinence might follow.

New York Medical Journal, February 4, 1905.

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A Case of So-Called Traumatic Asphyxia.—Randolph Winslow describes the appearance of a man, aged 22 years, who had been caught between the ceiling and the top of an elevator. He was forcibly bent down so that he sat on his heels, while his head was forced down to the roof of the car. He was kept for some minutes in this position. He felt as if his head and chest would burst, and he could not breathe. He did not lose consciousness, but suffered considerable pain. The fourth, fifth, and sixth ribs were broken, and there was some emphysematous infiltration of the subcutaneous connective tissues. The sight and hearing were not impaired. There was an extensive extravasation of blood under each conjunctiva. The most remarkable feature of the case was a bluish discoloration of the head, face, and neck to the level of the cricoid cartilage, or the collar line. This discoloration looked as if he were cyanosed, but it stopped short at the point mentioned. It was punctiform in character, like the eruption of scarlet fever, but blue instead of red. The head and face were swollen. The discoloration did not disappear or materially change its color upon pressure. The temperature rose to 100.8° F. on the day of the accident, but dropped to normal in three days. The patient was out of bed in a week, and left the hospital in twelve days. The skin gradually faded. None of the changes seen in ordinary ecchymotic conditions were seen, except in the bruised area and in the conjunctiva. The treatment consisted of the application of an icecap to the chest, and subsequently adhesive strips with enough morphine to relieve pain. The condition described is one of the rare results of a forcible compression of the thorax, and has been called traumatic asphyxia. A few cases only have been observed in the living person. The cause of the blue discoloration was supposed to be hemorrhage, but microscopical examination has proved that there was no extravasation of blood, but a dilated condition of the capillaries from overdistension. Skin taken from the present case showed the capillaries in places more or less distended with blood, but no blood was found anywhere in the tissues outside of the blood vessels. Very few cases of this nature have been reported.

American Medicine, February 4, 1905.

Rectal Alimentation.—Edsall and Miller refer to the literature and their own previous work which indicate that nutrient enemata are very poorly absorbed and that exclusive rectal alimentation is incapable as a rule of maintaining a nutritive balance. They report a series of experiments in which they carried out rectal alimentation in dogs and also determined the absorption in isolated loops of intestines in dogs; and further they report an absorption experiment in a human being. This work was done in order to determine in how far it is possible to improve fat absorption by giving the fats in the form of soaps, or by giving them in an artificial emulsion, when the emulsion is so prepared that it will not readily be broken up in the bowel. Their results are such as to convince them that it is impossible by any methods now available to administer successfully sufficient soap to make it of decided nutritive value. Their results with an artificial fat emulsion, particularly in the human subject, were somewhat encouraging and they believe that by further study it may be possible to increase the clinical value of nutritive enemata though it is still a question whether it will ever be possible to maintain nutrition in this way.

Diet After the Age of One Year.—J. P. Crozer Griffith discusses the difficulties attending the feeding of healthy children after the age of one year. Weaning should be commenced at about the age of ten months, only one bottle of food being given at first, and this of a strength less than mother's milk, since cow's milk is a new substance to which the child is unaccustomed. Gradually the number of bottles and the strength of the mixture should be increased, until at the age of a year the food should consist of milk but slightly diluted. Systematic weighing, twice weekly, is very important during this period in order to anticipate any decided falling off in the normal gain in weight. Some form of gruel should be added to the bottle for the purpose of accustoming the infant to the digestion of starch, since it will be taking this in large quantities soon. At the age of a year feeding with the gruel or barley (not oatmeal) begins, this being given in the middle of the day. Later this is taken at breakfast time, and rice, bread or hominy grits with beef juice is given for dinner. A plain dessert is added soon, such as rice pudding or junket. Eggs may be tried cautiously at fifteen months. Potatoes and meat are not given until eighteen months. The author gives diet tables for children of different ages up to three years, and a list of permissible and non-permissible articles of diet for periods beyond this. In concluding he emphasizes particularly certain general rules which seem to him of importance. Among these are: That milk must continue throughout early childhood to form the chief article of diet; that broths are serviceable as food only through the cereal addition to them; that although rashness on the part of the mother in experimenting on new foods is to be condemned, too great caution resulting in too long a continuance with insufficient food is equally harmful; that children in the second year are fed far too frequently; that too much starch is a more frequent cause of illness than too much meat, and that the age and need of the child, rather than the teeth, are to be the guide in determining when the giving of meat should be commenced.

Acute Postoperative Thyroidism.—S. Edward Sanderson, after comparing acute thyroidism to exophthalmic goiter, the author reviews the theories of the etiology of the latter. He cites all the cases found in the literature of the class he terms "acute postoperative thyroidism," giving five, and reports a case occurring in his own practice. His patient was a young woman of twenty. The trouble followed an operation for chronic appendicitis. Her most marked symptom was the tremendous heart action, with a rate at times more than 200, the force was so great as to make the heart distinctly heard at the foot of the bed. The patient recovered; due partly, possibly, to the use of cactus grandifloris.

Journal of the American Medical Association, February 4, 1905.

The Nature of Traumatic Sclerosis.—A. C. Brush states that diffuse violence to the cerebrospinal axis can produce a condition known as concussion or commotion. In this condition there may be localized hemorrhages, lacerations, or contusions of nerve tissue, multiple minute hemorrhages or thrombi scattered throughout the cerebrospinal axis, general edema, distension, and infiltration of the blood vessels; that from these lesions the following secondary changes may occur: The vascular hyperemia and infiltration of the vessel walls not only decreases the amount of nutrient lymph supplied to the nerve tissue, but also interferes with its return by a proliferation of the adventitia and a collection of débris and leucocytes in the perivascular spaces. This deprives the nerve cells of nutriment, and at the same time they are poisoned by waste products. Observations show that the nerve cells die in a few hours when their nutrition is entirely cut off, and that defective nutrition causes the same changes after longer periods; the degenerative changes beginning in the distal parts of the cell, and finally destroying the nucleus. The final result, therefore, is areas of degeneration, or of sclerosis, and possibly arteriosclerosis. The autopsy findings in five personal cases are given. In general it may be said that traumatic sclerosis is an organic disease of the cerebrospinal axis, that trauma is a competent producing cause, and that it is not merely a type of multiple sclerosis, but a distinct pathological entity.

Prevalence and Prophylaxis of Pneumonia.—E. F. Wells contends that this disease is increasing, both in deaths per thousand of the population and in percentage of total deaths. Charts compiled from the health records of several cities are presented in support of this view. As to prophylaxis, he gives the following advice: For the individual the nasal, pharyngeal, and oral cavities should be kept as clean as possible, and especially free from accumulations of mucus. When it has been demonstrated that such secretions contain the pneumococcus these efforts should be particularly well directed and maintained. In coughing and sneezing a protective cloth, preferably moistened, should be held before the mouth and nose. This is especially necessary in the case of pneumonic patients and in those harboring the pneumococcus. The sputum and other secretions of the respiratory tract of such persons should be destroyed before they have become dried. Individuals should, so far as practicable, keep out of range of the extruded pneumococcus-laden secretions of infected persons. For the public: The above advice, properly formulated into plainly and succinctly stated rules, should be widely and persistently circulated by the communal health authorities among the laity, and practicing physicians should be furnished a supply of these rules, neatly printed and without imprint, with the request that they give it as their instructions to their patients and clientele. And further, by every means, the interest of physicians and humanitarians in this subject should be aroused and fostered. For this purpose special societies and committees might be formed for the purpose of studying the problem and furthering the efforts of the various health bodies, as has so successfully been done in the case of tuberculosis.

The Relation of the Internal Secretions to Epilepsy, Puerperal Eclampsia, and Kindred Disorders.—The paper of C. E. Sajous is a continuation of his previous studies on the functional relationship between the adrenals, the pituitary body, and the thyroid. He believes that in the clinical states named we are dealing with two sources of convulsions. First, a toxin in the plasma circulating in the nervous elements, and second, an excess of activity in the pituitary body, leading to a correspondingly marked oxydation in all organs, including the muscles. The first is certainly pathogenic, while of the second, the most we can say is that it is an exaggerated manifestation of normal functional activity, and is perhaps protective. For therapeutic measures, the author would advise lines of treatment which increase the functional activity of the adrenal system, doing precisely what thyroid extract does after the removal of the thyroid. Hence there is logic in the increasing tendency to use iodine, mercurial inunctions, and other remedies which tend powerfully to increase oxydation and general metabolism by enhancing the functional activity of the organism's protective system.

The Lancet, January 21, 1905.

Suppurative Pericarditis.—One case is reported by R. W. Murray, his patient being a boy of 13 years. One week before admission to hospital, he presented, without apparent cause, a suppurative arthritis of the left ankle and of the metatarsopharyngeal joint of the great toe of the same side. Operation revealed the focus of infection to be an acute osteomyelitis of the lower end of the tibia. Examination of the cardiac region led to a suspicion of pus in the pericardium. This suspicion was confirmed by the exploring needle, and the pericardial sac was opened in the fourth left space, three-quarters of an inch from the margin of the sternum. Recovery ensued, though some difficulty was experienced in properly draining the sac. The author believes that the association of acute osteomyelitis and suppurative pericarditis is not uncommon. Increased cardiac dulness is to be looked on as the most reliable sign of chest involvement. The best drainage is obtained by opening in the costoxiphoid space, removing a portion of the seventh costal cartilage, and then keeping the patient propped up in bed. Gentle irrigation may be employed if necessary. This was successfully done in the author's case.

A Case of Acute Leukemia.—A case occurring in a boy of 17 years is reported by W. M. Stevens. The salient features were as follows: (1) The entire illness lasted only nineteen days; (2) the mode of onset and general symptoms (headache, malaise, continued fever) suggested typhoid, or tuberculosis, malignant endocarditis, or a septicemia; (3) splenic enlargement not noted until the thirteenth day of the disease. The organ was only slightly class, there are two common forms, the thrombotic and the external connective tissue hemorrhoid. The treatment of the thrombotic hemorrhoid is simple. An injection of eucaine, 1 per cent., is given, very superficially under the skin. The injection should go slowly over the whole top of the tumor well into the anal canal, but not into the swelling. With a curved bistoury the base of the swelling is transfixed, and the cut is made outward. The clot usually expels itself, but sometimes curetting is necessary. When the connective tissue hemorrhoid is acutely inflamed and the external sphincter is not hypertrophied, a palliative course is indicated. After the acute symptoms have subsided, an injection of 1 per cent. solution of eucaine is given, and the hemorrhoid removed with a pair of curved scissors. The writer calls attention to the fact that the great majority of cases of internal hemorrhoids can be operated upon under local anesthesia or otherwise satisfactorily dealt with. He believes that in properly selected cases, where the external sphincter is somewhat relaxed, or can be dilated so that the tumors are exposed for injection, perfect results may be expected from the injection method. When, however, the hemorrhoids are not very large, or over three in number, they may be treated radically and in less time by the ligature. The after-treatment of these cases demands careful attention. The bowels as a rule should be confined for forty-eight hours, and then cascara sagrada should be given in order to secure daily evacuations. The anal region should be kept scrupulously clean. Good drainage should be secured, and the necessary topical applications be made to induce rapid healing. If an irritable or hypertrophied sphincter gives pain, both layers of the muscle should be completely divided under eucaine. The internal sphincter should be carefully guarded, as otherwise incontinence might follow.

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[illegible] Corner and P. W. G. [illegible] affection, including [illegible] ation. They are [illegible] current abdominal [illegible] right iliac fossa, [illegible] ever, which come [illegible] passing off in a few hours, and which are generally referred to the appendix, are due in reality to conditions particularly involving the cecum. Volvulus of this part of the bowel seems to be three times as frequent in men as in women. Age limits in their series are nineteen days and between seventy and eighty years. Of the fifty-seven, operation was done on nineteen successfully, on twenty-one unsuccessfully, while the remainder died without operation. Their anatomical classification is (1) circular rotation, *i.e.* about one fixed point; (2) elliptical rotation (about two fixed points); and (3) axial, that is, about the longitudinal axis. The appendix may undergo secondary inflammatory changes which may at any time become so acute as to overshadow the original cecal condition. The displaced cecum has been found in every region of the abdomen (most commonly in the left hypochondrium) and even in the sac of an inguinal hernia. The most common form occurs between the twentieth and fortieth years. In these cases the roots mesentery, instead of being localized to the origin of the superior mesenteric artery (as sometimes happens), tends to a lesser degree than normal towards the right iliac fossa. In this way the mesentery of the lower part of the ileum is relatively shorter than that of the rest of the small intestine or the cecum, and offers a more or less fixed point for the latter to rotate upon.

The Matas Operation for Aneurysm.—H. B. Gessner reports a case treated in the manner indicated. The tumor occurred in the right popliteal artery of a negro aged 32 years. It was five inches in the long axis of the limb and four and one-quarter inches transversely. Swelling and pain had lasted two months. There was a distinct history of syphilis. The operation was performed in the usual manner, the sac walls being approximated. Some ten weeks later the patient was able to be up and walk with a little assistance. The claim made for this method, viz., noninterference with the collateral circulation, seems to have been borne out by this case.

French and Italian Journals.

Modifications of the Pulse Under the Influence of Coughing.—Gaultry has done some interesting work on this subject, from which he believes that the modifications of arterial pulsation due to coughing, are due not only to a mechanical action, but also to a nervous action. In normal subjects, the cough increases the frequency of the pulse and the arterial tension, and communicates to the rhythm of the pulse only a very temporary irregularity. In subjects with affections of the respiratory apparatus, the frequency of the pulse and the arterial tension are increased by coughing, and the irregularity of the ryhthm is very marked during the efforts of coughing. The duration of these modifications is longer than it is in the normal state. It increases with the youth of the individual, and with the weakness of the initial arterial pressure. In the case of whooping-cough without complications, the cough increases the frequency of the pulse and arterial pressure in a very marked fashion. In emphysematous patients, the cough increases the frequency of the pulse and the arterial pressure, and communicates to the pulse a very marked arhythmia. These modifications are less marked and of short duration in aged patients, and particularly in those afflicted with dilatation of the right heart. In pneumonia, the frequency of the pulse, which is slightly increased by coughing, persists for a long time, while the arhythmia exists only at the time of the cough. In an asthmatic attack, the cough increases the frequency of the pulse and the arterial pressure, but its effects are slight in relation to the pressure. In aortic insufficiency coughing increases slightly the frequency of the pulse and arterial tension, while arhythmia exists only at the time of the shock of the cough; the duration of these modifications is very short. In mitral insufficiency, coughing increases for some time the frequency and arhythmia of the pulse as well as the arterial pressure.—*Revue Française de Médecine et de Chirurgie,* January 2, 1905.

Hysterical Blindness.—Cabannes describes hysterical blindness as being a rare affection, but, nevertheless, clearly defined. Much attention has been given to the study of this affection in his clinic. Women are far more often affected than men—in the proportion of 85 per cent. In the majority of cases, the abolition of vision is at the onset complete and bilateral. The diagnosis of hysterical blindness ordinarily offers no difficulty: Blindness, total, bilateral, occurring suddenly, without apparent cause, associated with other symptoms of hysteria and clearly characterized from the objective point of view; by the integral conservation of the pupillary reflex; by the absence of ophthalmoscopic lesions. Certain sudden attacks of blindness observed in the course of, or during convalescence from certain infectious maladies, such as whooping-cough, typhoid fever, malaria, influenza, acute articular rheumatism, scarlatina, infectious pneumonia, have as objective characteristics: Integrity of the fundus of the eye; persistence of pupillary reflex. Exceptionally, in these cases, the pupils are large and immobile. The writer considers these amauroses either as hysterical manifestations or as slight retrobulbar neurites, and amenable to cure. Simulated blindness must be taken into consideration in the treatment of these cases. The simulation of a complete, bilateral blindness is very exceptional. The prognosis and treatment of hysterical blindness are the same as those of other phenomena of this serious neurosis.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux,* January 1, 1905.

Section of the Posterior Branch of the Radial Nerve, Suture, Recovery.—Bonnet has had under his care a young soldier who had received a wound from a knife on the posterior part of the forearm. The cut had severed the posterior branch of the radial nerve in its course through the supinator brevis. A characteristic paralysis had followed the injury. Flexion of the hand and fingers with abduction of the thumb, and conservation of the movements of pronation and of supination. Bonnet saw the patient fifteen days after the accident and made the correct diagnosis. On the twenty-eighth day he decided to operate on the arm. The two ends of the nerve were easily found. They were separated by a few millimeters. The operator freshened the ends and easily brought them together, suturing them with catgut. It was some time before improvement was noticed in the function of this nerve, but at the end of three and one-half months the motor function began to manifest itself, and a month later the arm was almost normal.—*La Presse Médicale,* December 31, 1904.

Treatment of Infections Following Operation for Cataract.—A. Bourgeois always examines the eye on the day after the operation. Two sorts of conditions may present themselves: Lesions which begin in the cornea, and appear twenty-four hours after operation. These are the most grave. And those which have their origin in the uveal region, and show themselves on the fifteenth or eighteenth day. These are less grave. The treatment employed by the writer is the method of subconjunctival injections of sublimate, or better, cyanide of mercury, 1 centigramme to 10 grammes of distilled water. A few drops of the solution of cocaine,—1-20,—are added. If the infection is severe, two injections a day are given. In cases not severe, four or five injections suffice. In the severe infections, eight injections arrest the infection. The local treatment consists of atropine, belladonna frictions, galvanocauterization, and so on. These measures should not be neglected, any more than the general treatment. This method of treatment has met with excellent success.—*Recueil D'Ophtalmologie,* December, 1904.

A Case of Malignant Pustule Treated with the Anti-Carbuncle Serum of Sclavo.—Luciano Sibille records the case of a young man, a dresser of hides, aged 24, who presented himself with a pustule in the right temporal region, with a depressed black eschar in its center, and the size of a two centime piece. It was accompanied with a marked swelling of the neck, and the parotid and cervical glands were much swollen. He had fever, dry and coated tongue, and was at times slightly delirious. Thirty cubic centimeters of anti-carbuncle serum were injected into the abdominal wall. The temperature remained elevated, and another injection was given the following day, and the pustule was excised and the wound covered with an antiseptic dressing. Two other injections were given, and were followed by a gradual disappearance of all general symptoms and healing of the wound.—*Gazetta Medica Lombarda,* December 19, 1904.

Histology of Imperforate Hymen.—E. de Arcangelis has made careful histological examination of the excised portion of a hymen removed from a case of imperforate hymen, in which retension of menstrual fluids had occurred. He found the tissues to consist of two layers of epithelium separated by a stratum of ordinary connective tissue. The external layer of epithelium was similar to the ordinary epidermis, except that there were prolongations of the epithelium down into the basement layers, as if seeking to meet similar prolongations from the inner layer of epithelium. The inner layer was a stratified epithelium that was not flattened, nor, strictly speaking, cylindrical in type, but approached the cylindrical. In the intervening connective tissue were a small number of muscular elements. The inner layer of epithelium was quite different from the ordinary epithelium of the vagina, appearing as a stratified cylindrical epithelium, without any corneous layer. The author considers the peculiarities of the epithelial lining to be due to the absence of the normal conditions that obtain in a functioning vagina.—*Archivio di Ostetricia e Ginecologia,* November, 1904.

Prostatectomy.—Belfield says that the prostate should be removed only when the obstacle to urination is real hypertrophy of the prostate; when the urinary function cannot be restored by the retained catheter, etc.; and when the patient's condition warrants a serious operation.—*Colorado Medical Journal.*

Book Reviews.

Beiträge zur Klinischen Medizin. Festschrift Herrn Geheimrat Professor Senator zur Feier seines siebenzigsten Geburtstages gewidmet. Mit 2 Kurven und 2 Abbildungen in Text. Berlin: August Hirschwald, 1904.

This is a worthy addition to the large number of similar publications which have lately been dedicated to eminent men by their friends and pupils. The intense activity which has characterized Senator's life is attested by the fact that the bibliography of his published scientific disquisitions comprises one hundred and eighty-five titles. The present volume contains thirty contributions covering a wide range of subjects and for the most part of considerable interest.

Lectures on Diseases of Children. By Robert Hutchison, M.D., F.R.C.P., Assistant Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond street. Author of "Food and the Principles of Dietetics." Joint author of "Clinical Methods." London: Edward Arnold, 1904.

This little volume neither pretends to be a treatise on the diseases of children, not yet to compete with the larger textbooks dealing with that subject. In it will be found a concise and reliable account of the common diseases of children. The subject is treated throughout from the clinical standpoint, hence questions of diagnosis and treatment are dealt with in some detail, and the problems of pathology are relegated to the background. The colloquial style of these lectures adds to their interest, and will ensure for the volume the careful reading that it well deserves. The book consists of nineteen lectures, covering the following subjects: Clinical examination of sick children, artificial feeding, digestive disorders, wasting diseases, tuberculosis, rickets, scurvy, dyspepsia of the second dentition, rheumatism, respiratory diseases, functional nervous diseases, paralyses, meningitis, mental deficiency, blood disorders, the diagnostic significance of some of the common symptoms of disease, medical aspect of adenoids. The volume is well printed and illustrated, is handy in size, and can be commended to the practitioner or senior student as a book of sterling merit.

Normal Histology and Microscopical Anatomy. By Jeremiah S. Ferguson, M.Sc., M.D. Instructor in Normal Histology, Cornell University Medical College, New York City. With four hundred and sixty-two illustrations in the text, many in color. New York and London: D. Appleton & Company, 1905.

The subject matter in this excellent book is thoroughly modern and is presented in clar and readable fashion, while the unusual profusion and quality of the illustrations contribute a great deal to the attractiveness of the volume. The original drawings are the work of the author, and there are also a hundred and twenty original photomicrographs. An interesting feature is the free use of drawings made from plastic reconstructions of organs, which should be of great assistance to the student in understanding the nature of such structures as the adrenals, various glands, the blood, and lymphatic systems of different regions, etc. The minute anatomy of the eye and of the ear is discussed at much greater length than is customary, and the section devoted to the nervous system is also worthy of note, both on account of its completeness and of the character of its illustrations. The bibliography is conveniently grouped by topics at the end of the volume and presents a well selected list of the more important contributions to histological literature.

Diseases of the Liver, Gall-Bladder, and Bile-Ducts. By H. D. Rolleston, M.A., M.D. (Cantab.), F.R.C.P. Physician to St. George's Hospital, London. Formerly examiner in medicine in the University of Durham, etc. Fully illustrated. Philadelphia, New York, and London: W. B. Saunders & Company, 1905.

This volume should prove a useful contribution to the literature of internal medicine and is probably the most extensive treatise on diseases of the liver yet published in English. The product of years of special activity in this field, it reflects an unusual degree of experience in a difficult but highly important branch of medical study and will undoubtedly prove of service both to physicians and surgeons. The microscopical pathology of the various disease processes is given the very prominent position it deserves, and this section of the subject matter is illustrated by a considerable number of fairly good drawings and photomicrographs. The other figures are also well chosen and for the most part portray interesting conditions, though figure 38, showing clubbed fingers, hardly seems important enough to be reintroduced fifty pages further on. Despite the author's assertion in the preface that it seemed advisable to omit the systematic bibliographies prepared for the special subjects, the references to writers mentioned in the text are unusually abundant and are fully representative of modern views. The practical utility of the volume as a work of reference is secured by a very comprehensive index.

Atlas and Epitome of General Pathologic Histology. By Docent Dr. Hermann Dürck, of the Pathologic Institute, Münich. Authorized Translation from the German. Edited by Ludvig Hektoen, M.D., Professor of Pathology in Rush Medical College, Chicago. With 176 colored illustrations on 80 lithographic plates, and 36 figures in black and colors. Philadelphia, New York, and London: W. B. Saunders & Company, 1904.

This is perhaps the most beautiful volume of the series of atlases to which it is the latest addition. The plates represent the acme of the lithographer's art and it is difficult to conceive of any features in which they could be improved. The text is simple but adequate and forms an appropriate commentary on the sections of tissues depicted. The number of the interpolated notes bears evidence to the conscientiousness of the editor's work and his additions are always to the point.

In the Year 1800. Being the Relation of Sundry Events occurring in the Life of Doctor Brush During That Year. By Samuel Walter Kelly, M. D. Chicago, Akron, O., New York: The Saalfield Publishing Co., 1904.

This is the third volume of "The Doctor's Recreation Series," edited by Charles Wells Moulton. It is more strictly a book for the doctor than were the two preceding volumes, which were rather books about the doctor, and, while of special interest to the medical man, were yet adapted to provide entertainment to the general reader as well. The present volume is too full of pathological detail to serve a useful purpose in adorning the physician's waiting-room table and diverting the patient who is dreading the ordeal of the examining-room.

The story purports to be a revised transcript of an autobiographical detail in the life of Dr. Jonathan Brush, who lived at the end of the eighteenth and beginning of the nineteenth centuries, and whose intimacy with Dr. Rush, General Knox, and other historical characters lent to his doings an importance which of themselves they might not have had. The story is well told, reminding one of Weir Mitchell, though it must be said somewhat remotely. The reader's interest in the narrative is sustained throughout, but the thought cannot always be repressed that the story would have been more artistic in its telling had it been compressed within half the compass of its four hundred and more pages and made a trifle less redolent of the shop.

How to Study Literature. A Guide to the Intensive Study of Literary Masterpieces. By Benjamin A. Heydrick, A. B. (Harv.), Professor of English Literature, State Normal School, Millersville, Pennsylvania. Third Edition, Revised and Enlarged. New York: Hinds, Noble & Eldridge, 1904.

Several new features appear in the revised edition of this valuable little work, one of which is a list of recommended reading. In this list, not only the names of the chief writers in English and American Literature are given, but also the books or selectiones themselves which should be read in order that a fairly representative idea of the writer may be gained. The book is the fruit of the author's successful experience as a normal school teacher, and is thus eminently practical for use in the home and in literary societies.

Light Energy: Its Physics, Physiological Action, and Therapeutic Applications. By Margaret A. Cleaves, M.D., Fellow of the New York Academy of Medicine, Fellow of the American Electro-Therapeutic Association, etc., etc. With numerous illustrations in the text, and a frontispiece in colors. New York: Rebman Company, 1904.

This work is the outcome of eleven years of teaching and studying clinically the effects of light. Physics are practically considered, as they have to do with light energy and its physiological action on the various forms of life.

Strangely enough, as it might seem, the *x*-ray has not received consideration, but the author explains that sufficient good books on *x*-ray treatment have already appeared. With this we can agree, and, furthermore, the 827 pages of this volume would have had to be considerably extended. We say this, because, aside from that incidental to a certain prolixity of style, there is little subject matter that could have well been omitted.

Some of the subjects studied at length are the action of light energy upon elementary forms of life; bacteria, higher organisms, circulation, and nervous system; electric arc baths, vacuum tube discharges; radioactive substances, fluorescence, radiotherapy, pernicious effects of sunlight. There are few illustrations, confined chiefly to apparatus, cabinets, etc.

The work shows a wide range of research and considerable personal experience, in both the theoretical and the practical sides of the various questions.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninty-Ninth Annual Meeting, Held in Albany, January 31, February 1 and 2, 1905.

(Special Report to the MEDICAL RECORD.)
(Continued from p. 199.)

THIRD DAY, THURSDAY, FEBRUARY 2.

Election of Officers.—The annual election resulted in the choice of the following officers: *President,* Dr. Joseph D. Bryant of New York; *Vice-President,* Dr. Herman R. Ainsworth of Addison; *Secretary,* Dr. Frederick C. Curtis of Albany; *Treasurer,* Dr. Ogilvie D. Ball of Albany.

President Elect's Address.—Dr. JOSEPH D. BRYANT of New York, after being introduced to the Society by the Retiring President, Dr. Hamilton D. Wey, said that he would indeed be bereft of human sentiment if he did not express his appreciation of the manifestation of confidence shown in electing him President. He regarded himself as the servant of the entire Society, and not as a partisan of any portion of it. He said that during his incumbency of the office he would endeavor to carry into effect, so far as lay in his power, and with their aid, the unity of the profession in this State, and make it a compact body of medical men such as would gain not only the respect and confidence of the profession in this and other countries, but also the respect and confidence and heed of those who had the administration of the affairs of State and country. He asked for their counsel.

Researches on the Blood of Epileptics.—Dr. B. ONUF and Dr. HORACE LO GRASSO of Sonyea presented this communication in which was emphasized the fact of a higher leucocyte count during a series of epileptic attacks.

A Case of Extensive Carcinoma of Tongue and Neck, Presenting Points of Special Interest.—Dr. WILLIAM SEAMAN BAINBRIDGE of New York City read this paper and presented the case. He said that among the widely divergent opinions regarding the etiology of cancer, it was encouraging to find a few facts so far established as to be accepted by the profession. Among these were (1) that all cancers began as a benign growth; (2) that there was, therefore, a true pre-cancerous stage, in which removal was a sure means of relief; (3) that the disease was absolutely local in the beginning, and if fully extirpated, a cure should result; (4) that extension might take place by direct infection of the surrounding tissue, but was usually through the lymphatic or blood channels; (5) that the system was poisoned by the production of toxins. In regard to treatment it had been established that arsenic paste and other caustics, besides liquid air, might cure small superficial cancers; that the Röntgen rays, Finsen light, and radium might cure selected cases of superficial cancer; that harm might result from these agencies, giving local relief but hastening systemic infection, or in some cases being followed by marked increase of the growth. The real hope of the cancer patient seemed thus far to be in operative treatment. The consensus of surgical opinion at present favored the removal as far as possible of all benign growths, especially those subjected to chronic irritation, or if malignant growth was present the removal of a margin of one-quarter to one-half inch of healthy tissue, and extirpation of lymphatic nodes and lymphatic vessels in close relation to the part affected, while in advanced cases as radical operation as was compatible with life should be employed. In some cases palliative operations lengthened life and ameliorated suffering.

Dr. Bainbridge presented a man, 49 years of age, whose mother had died of cancer of the breast at the age of 74. This patient had no specific disease, used alcohol freely, and had smoked twenty cigars daily for over twenty years, the cigar being held in the left side of the mouth, against that part of the tongue which became the seat of the disease. In May 1902, he first observed a small pimple which was treated with local applications and smoking discontinued. When smoking was resumed it returned. This was repeated a number of times. In December 1903, when Dr. Bainbridge first saw the patient, he had lost considerable flesh, and was somewhat cachectic. There was a hard, crater-like ulcer involving the left anterior quarter of the tongue, the tip being covered by a brownish fetid fur. Operation was advised, but refused. After treatment with *x*-ray, potassium iodide, tonics, etc., the patient continued to grow steadily worse, and operation offered the only possible relief from death. The growth had extended to the right half of the tongue, and there was induration of the floor of the mouth. Some cervical glands were distinctly palpable on both sides of the neck. Under chloroform and oxygen vapor anesthesia, an incision was made from the tip of the left mastoid process across the neck to that of the right, and below as far as the thyroid cartilage. Another incision was made along the anterior border of the left sternocleidomastoid muscle to within an inch of the clavicle. The ligual arteries being tied, the submaxillary and sublingual glands were removed, the salivary ducts being removed clear into the mouth. The opening of communication was closed by means of catgut sutures, care being taken to close off the apertures to Wharton's duct. Many cancerous glands were removed from the region of the tonsil on the left side to the dome of the pleura. The glands on the right side were involved from the tonsil to just below the division of the carotid artery. As far as possible connective tissue and fascia in juxtaposition to these glands were removed with them. The bisected sternocleidomastoid was sutured, and the wound, after careful hemostasis, was closed, except for a small drain at the lower part. Part of the large cauliflower mass on the tongue was removed by means of the Paquelin cautery. Whitehead's shellac was applied to the cauterized surface. The wound healed by primary union. The patient was fed *per rectum* for several days. A little more than two weeks later a second operation was performed, the left corner of the mouth being incised as far back as the edge of the masseter muscle, the tongue drawn out, and an elliptical incision made on the floor of the mouth encircling the tongue in front and on both sides, which organ was then completely removed, taking with it the geniohyoglossi and hyoglossi muscles, and one-third of the pillars of the fauces on the left side, and part of the anterior pillar of the fauces on the right side. A small flap of mucous membrane and muscle about three-quarters of an inch long, attached to the left glossoepiglottic fold, was dissected away, except where it was attached to the epiglottis and hyoid bone. This was twisted so that its left border was posterior, and its anterior extremity faced toward the left. This was sutured in place, making a bridge of tissue across the fauces in front of the epiglottis. The wound in the floor of the mouth was partially closed by chromicized catgut, and covered with Whitehead's shellac. The wound in the cheek was closed in the usual way, and shellac applied. Within three weeks the patient was discharged, and had remained apparently perfectly well, able to masticate solid food, to taste, and to talk fairly intelligently.

Dr. JOSEPH D. BRYANT of New York said he wished to emphasize the position the doctor had taken regarding the use of the *x*-ray, and the other new measures employed except in the inoperable cases. If he had any criticism to make, he would say that the doctor should have insisted earlier upon operation. The care taken in making a thorough and complete removal of the diseased tissues deserved favorable comment. In disease of this kind complete operation only was justified, even though it might be regarded as offering but temporary relief, or at least to prevent the growth from extending to other parts of the body near at hand. Dr. Bryant had removed malignant disease from this region only to witness its rapid return when he believed it would not return; again he had removed it believing it would return, and had obtained an operative cure. Often the condition of the patient had an much to do with his cure as the operation itself. Given two cases entirely similar so far as the morbid process was concerned, in the hands of the same surgeon who employed the same technique, one case might recover, and the patient never again be troubled with the disease; while the other case would have a hasty recurrence.

Dr. BAINBRIDGE, closing the discussion, said that he had been unable to convince the patient or his friends upon the imperative need of operation until after the *x*-ray had been tried; then he had either to give up the case or do as he did. He called attention to the place of incision on the outer side of the face; the scar now could not be seen. He also drew attention to the little bridge of tissue between the two pillars of the fauces, and said this transplantation of this bridge of tissue across the mouth was a very important part of the operation.

Prophylaxis in Pregnancy and Labor.—Dr. T. AVERY ROGERS of Plattsburg read this paper.

Special Meeting.—After adjournment of the Society a special meeting was held at the City Hall, for the purpose of taking action upon the agreement for the consolidation of this Society with the New York State Medical Association. The Society practically pledged itself to carry out what was contained in the resolution offered at the last meeting of the Medical Society of the County of New York.

FOURTH PAN-AMERICAN MEDICAL CONGRESS.

Held at Panama, January 3, 4, 5, 6 and 7, 1905.

(Special Report to the MEDICAL RECORD.)

(Continued from page 191.)

THURSDAY, JANUARY 5—THIRD DAY.

THE morning was spent informally in an excursion to Taboga island, with luncheon on board the steamer.

The afternoon scientific session was called to order at 3 o'clock in the National Theater, Dr. W. C. Gorgas in the chair.

Address on Surgery.—Dr. NICHOLAS SENN of Chicago delivered this address, taking for his subject "Coxa Vara and Differential Diagnosis Between It and Sthenic Inflammatory and Traumatic Affections of the Hip-Joint." Coxa vara, he said, was a disease of the femoral neck in adolescence, and hitherto had been rarely described in this country. Mueller was the first, in 1888, to subject it to earnest clinical study, and to prove that it was a disease entirely different from any other hitherto described. Hofmeister and Kocher, six years later, contributed to the study. The French seemed to have neglected the disease. Kocher thought that it was an occupation disease, as he found it chiefly in laboring men. Genuine coxa vara was characterized by a non-inflammatory softening of the neck of the femur. It was a self-limited disease, confined to the femoral neck, and characterized by anatomical changes. Senn reported two typical cases in young men, and a third in a man 42 years old. This last case had all the classical signs, and the *x*-ray showed that there was no fracture of the femur, as had been suspected before the case came into his hands. There had been the usual pains in the hip-joints referred at times to the knee, coming on in paroxysms which would last for two weeks, followed by painless intervals of several days. There was no tenderness nor impairment of joint motion. The pain was not aggravated by standing or walking. After two occasions in which the patient slipped and increased the pain, he noticed that the leg was shorter. When seen by Senn he walked with a decided limp, and complained only of muscular weakness. Any infection could be excluded, and there was certainly not a complete fracture. The spontaneous recovery, as well as the degree of bending downward of the neck of the femur in its entire length, and the complete absence of neoplastic inflammatory products excluded absolutely the possibility of arthritis or senile coxitis. Tuberculosis could also be excluded.

Very little was known, the speaker said, concerning the true nature of coxa vara. The softening of the neck of the femur was the most important element. Some claimed that this was caused by a localized osteomalacia; others regarded it as the late form of local rachitis. The primary bone affection was of a self-limited character, as spontaneous recovery was the rule. The active condition might terminate in a few months, or it might be protracted for years. The first symptom was pain in the hip-joint; the function of the joint was not always seriously impaired. Ordinarily patients were well enough to be about, although quite lame. There was no elevation of temperature or other constitutional disturbance, nor was there any tenderness about the joint; patients usually thought they were suffering from rheumatism; the general health was not affected by the disease, but the limb was shortened both apparently and really. Trauma, tuberculosis, and inflammatory conditions must be excluded. Life itself was never threatened, as the disease was self-limited, and sooner or later ended in spontaneous recovery. General treatment was unimportant if not useless. Local treatment must tend to relieve pain, and to limit the bending of the neck of the femur; both of these results were secured by absolute rest in bed combined with extension. Operative treatment should be postponed as long as possible.

The Address in Hygiene.—Dr. CARLOS J. FINLAY, Chief Sanitary Officer for Cuba, had prepared this address, which was read by Dr. Martinez of Havana, on the "Sanitary Conditions in Cuba Since the Proclamation of the Republic." He divided the subject into three separate parts: (1) Special sanitation against yellow fever; (2) special sanitation against other infectious disease; (3) general sanitation for the preservation of public health.

Special Sanitation Against Yellow Fever.—Havana had had a bad reputation as the center for yellow fever, and therefore its sanitary condition since the proclamation of independence deserved to be considered. In Havana in February, 1901, was made the first proclamation of a doctrine which had been experimentally demonstrated with no room for a reasonable doubt as to its correctness. The doctrine of the mosquito propagation of yellow fever had since been abundantly proved in Vera Cruz, in Sao Paolo, and in Rio Janeiro. Many did not yet acknowledge that *Stegomyia fasciata* was the only agent through which the disease would be propagated, but the author claimed that this was the only method, and that to keep yellow fever patients from being bitten was the only means of suppressing the disease. Havana had had thirty-six months of uninterrupted immunity, during which not a single case of yellow fever had originated in the city. No other precautions were observed than to prevent the bite of the mosquito. Colonel W. C. Gorgas, Chief Sanitary Officer of Havana until May 20, 1902, first drove the infection from the city, and since his régime and up to the present date, December, 1904, notwithstanding the importation of twenty-two cases from foreign ports, not a single case of yellow fever had occurred in Havana, nor until two months ago in any other part of Cuban territory. On October 20, 1904, an American, who had arrived at Santiago on September 27, was reported as taken ill on the 17th and first seen on the 20th of October. The diagnosis was confirmed. The source of the infection could not be traced to the neighborhood. It was assumed, therefore, that it might have been caused by some infected mosquito from one or other of the vessels held in quarantine in Santiago Bay. Some wind may have blown the mosquito ashore. A careful inspection was made; the houses were fumigated, and breeding places as far as possible destroyed, and all non-immunes were quarantined. Thirteen or fourteen days after this invasion another non-immune American was taken ill, and reported as a suspect of yellow fever. He was removed, and the previous measures of disinfection repeated. The diagnosis was confirmed. No other case occurred.

Special Sanitation Against Other Infectious Disease.—The acute quarantinable diseases with which the Island of

Cuba was particularly concerned were yellow fever, smallpox, cholera, and plague. None of these diseases, except those cases mentioned, and one case of smallpox, due to an accidental contagion which did not spread, had occurred. Physicians in Cuba were obliged to give notice of forty-one diseases, but many of these were listed for the purpose of avoiding errors in diagnosis, or to obtain information which might throw light on the uncertain cause of a disease responsible for a large proportion of infantile mortality. Against smallpox they trusted to isolation and vaccination. Against diphtheria, isolation and antidiphtheritic serum prepared in Havana had given excellent results. Cases of infectious diseases were isolated at home or in some special hospital, like Las Animas in Havana. At Santiago, the establishment of a similar hospital had been authorized.

General Sanitation for the Preservation of Public Health.—The Cuban Government had maintained the Sanitary Department established by the United States, and brought to its aid all that science could furnish, but outside of Havana, no permanent sanitary improvements had been achieved, although plans were well devised in a satisfactory way. The country was as yet too poor to do very much, but the mortality over the whole island had been low compared with even favored regions outside the tropics.

Dr. Purnell, Acting Assistant Surgeon of the Marine Hospital Service at New Orleans, congratulated Cuba and the United States on the work accomplished. Although he accepted the mosquito theory, he did not do so absolutely. He thought there were cases not explained by this theory, and that measures of prevention besides the attack on the mosquito should be adopted. The great epidemic in Memphis in 1879 occurred after a severe cold winter, but not until the 9th of July. If the mosquitos alone were the cause, it ought to have appeared in April. He had known in 1897 of several epidemics in small towns in Mississippi. In one 299 cases occurred among 355 whites, which could hardly be explained by the mosquito alone; but the epidemic was suppressed, although the mosquito was not attacked. Why was it that in the Island of St. Thomas the disease was so deadly, and yet ordinary cleanliness had driven the fever away? In New Orleans, yellow fever was nearly obliterated during the control of the Marine Hospital Service by cleanliness, but it recurred. He criticised the statement that the mosquito biting the Santiago patient was blown from the sea. In Jackson, Mississippi, he had known of an outbreak among men working in buildings which ten years previously had been infected by yellow fever. It certainly was the tradition of the Mississippi valley that fomites had something to do with the spread of yellow fever.

Dr. R. H. Carter, Chief Quarantine Officer of the Isthmian Canal Zone, said he was sure that yellow fever was borne by the bite of a mosquito from sick to well and thus only. He, himself, had helped to stamp out epidemics, by methods not necessarily directed against the mosquito, such as isolation, fumigation, etc., but he knew that their efficacy had destroyed the mosquito incidentally. Many former methods were still in use, and applied in the same way, but they were now directed against the mosquito. Sulphur, for instance, was a good insecticide, but it was not much of a disinfectant. Saint Thomas was no longer a port of call, so that there was no immigration or emigration to or from the Island, no change of population, no new blood, and yellow fever could no longer be propagated when the infected stegomyias had died out. In New Orleans, to be sure, the city was well cleaned, but at the same time commerce was stopped. He remembered in June, 1900, speaking to Major Reed, and advocating Finlay's mosquito theory. Reed then quoted Sternberg that the theory was admitted, but not established. It had never been proved that fomites played any part in the disease. A negative argument was easy, but something more was needed for a demonstration. For instance, Havana was cleaned clean. For ten years before that the death rate per 1,000 had averaged 210.6; from March, 1898, to March, 1899, there were 121 deaths. The next year, after Havana had been cleaned, yellow fever spread and there were 315 deaths—the worst epidemic in eighteen years. In this case, cleaning had not helped; but when the fight was made only against the mosquito, and isolation was practised, the fever stopped without any cleaning.

Dr. Stern of Jamaica and Panama agreed with Dr. Purnell in not accepting the mosquito theory as the only cause.

Dr. Cook of Panama could not accept the mosquito theory alone, because epidemics ceased spontaneously, and yet when there are plenty of mosquitos, sometimes, no outbreaks occurred. Also he had seen single cases from which no others in the neighborhood were infected.

Dr. Chassaignac of New Orleans accepted the mosquito theory as irrefutable. He believed the Havana experiments to be positive, and there was no other means of conveying the disease; but we should sympathize with those who still held to other beliefs, and not insist upon acting too radically.

Dr. Hughes of St. Louis had had experience with yellow fever in his early practice. He now accepted the definiteness of the results of the mosquito theory, but was not convinced that this insect was the only means of propagation. He thought flies might transmit the disease.

Dr. Carter, in responding to the question of his opinion regarding fomites, said that there could be only two ways in which they could convey the infection, one was by direct contact as when one opened a trunk, the other by environment. If either means were admitted, infection should take place anywhere. Yet for twenty-one years, no baggage from Cuba or Vera Cruz had been kept out of New York. In Spain, for twenty-eight years, no baggage had been protected. He estimated that probably 600,000 persons with 1,000,000 pieces of baggage had traveled from infected ports during that time. The United States sent many soldiers from Cuba back to Spain, where they met no detention, and yet from all of this, there was not one single case of infection. Havana and Vera Cruz are in close touch, and yet for four years, with no attempt to sterilize baggage, Havana had escaped infection.

Dr. W. C. Gorgas acknowledged that at one time he thought fomites to be the only means of transmission of yellow fever. He then differed thoroughly from Dr. Finlay, but Major Reed had finally argued him around, and the proof offered in Havana was enough to convince him thoroughly. Another instance of the harmlessness of baggage was seen in Havana, where people from the suburbs were constantly moving back and forth, but never brought infection with them.

Dr. Lewis Balch said, in answer to a question as to the best means of fumigation, that he now relied upon 2 lbs. of pyrethrum to 1,000 cubic feet, with two hours' exposure; this gave absolute results in killing mosquitos. He had just disinfected a room where the mosquitos were picked up dead on the floor. It was customary to burn them whether dead or not.

Dr. Thomas, resident physician Mississippi Valley Quarantine Station, Louisiana, said that he had used pyrethrum but found it valueless. Sulphur was now employed exclusively in Louisiana. He asked how, if Santos, in Brazil, had been freed from yellow fever by cleaning alone, while the mosquito was not attacked, its present immunity could be explained on the mosquito theory. In the Mississippi river stations they were compelled to accept other means of explanation besides that of the mosquito. Many people in the State still clung to that belief, and it would not be right to ignore their feelings.

Dr. Echeverria of Costa Rica upheld the mosquito theory, and said that yellow fever had never been known to occur where *Stegomyia* could not be found.

Dr. Martinez, in closing, called attention to the fact that the old reviews and description of methods of disinfection did not mention mosquitos at all, but they may have been killed without any attention being paid to them. To explain isolated outbreaks, it was assumed that children preserved the organism in the blood (as they did that of malaria) and thus offered a source of supply to the mosquito. The study of the development of the parasite in the mosquito showed that an intermediate host was necessary, just as it was in the case of the tapeworm. He said that one reason Santos was not so infected, was that even if the town had not been cleaned, Rio had; and that there was therefore less transmission of the disease from one city to another. It must be remembered that the U. S. A. Commission had studied the question of fomites very thoroughly. In its report, one instance was given in which the blankets, clothing, and bedding of patients ill or dead from yellow fever had been stored in a room and used by two sets of non-immune fresh arrivals in Cuba, any yet no single instance of infection from this clothing had occurred.

Dr. Charles Chassaignac of New Orleans offered a resolution that, "owing to the suffering and to the serious danger to health and life for which the mosquito is known to be chiefly, if not solely, responsible, it is the imperative duty of all communities and governments to use all the means in their power for the destruction and gradual annihilation of the pestivorous insect in question."

The resolution was adopted.

The evening was spent at a ball given the delegates, officials, and townspeople, at the International Club.

FRIDAY, JANUARY 6—FOURTH DAY.

The morning was spent, by the courtesy of the Panama Railroad and Isthmian Canal Commission, at Culebra and Empire in looking at the work and progress under the Americans. At 10 o'clock word was received that the *Athos* had just arrived. Those who were already at Culebra were entertained at luncheon by Dr. Bell of the Navy and Captain McKinney of the U. S. Marine Corps, stationed at Empire. At 12 o'clock a special train bearing the *Athos* delegates arrived at Culebra, where they remained, while those who had already seen the canal returned to Panama.

The scientific session was called to order at 8:45 P. M., Dr. Icaza in the chair. He said it was a freak of fate that the largest meeting should be called after the Congress itself had virtually adjourned, but he had to seize the opportunity of calling for responses from the various delegates present. These responses were given by Martinez of Cuba, W. W. Keen of the United States, José Ramos of Mexico, Azurdia of Guatemala, Biffi of Peru, Cordova of Honduras, Echeverria of Costa Rica.

Care and Cure of Epilepsy.—Dr. Hughes of St. Louis read this paper. He claimed that epilepsy could now in many cases be listed with the curable diseases. He reported ten cases under observation for twenty-five years in which there had been no recurrence. In treating epilepsy, he always demanded an agreement that the patient should be under control at least two years, during which time he would treat every function of the individual so as to keep his general health in the best possible condition. Of course, institutional treatment was better in most cases than private treatment.

Dr. A. E. McDonald of New York made a report for the delayed passengers on the *Athos*. He said that when they realized that it would be impossible to reach Panama on time, the delegates and members decided to hold meetings on board. This was done; papers were read and discussions carried on, of which records were kept, and he moved that such papers and discussions be allowed to be entered on the minutes of the Congress as part of the regular transactions. This resolution was adopted by a vote of 23 to 7.

Permeability of Filters to the Protozoa of the Waters Used in the City of Lima.—Dr. Hugo Biffi of Lima read a paper on this subject, detailing the results of various experiments. The idea of these experiments was to see what filters were serviceable not only in providing good drinking water to those using them, but in securing sterile water for laboratory purposes. They found that some amebas and flagellate bacilli passed through all filters. Most filters suffered from prolonged use. The Berkefeld and Grandjaen filters allowed the passage of cilia of 30 to 40 microns and everything smaller. They considered this the best filter.

Suppression of Plague.—Dr. José Ramos of Mexico explained the methods by which the Mexican Government had been able to suppress the outbreak of plague at Mazatlán in 1900. They did not hesitate to resort to the most energetic and radical measures. Complete isolation of plague patients was insisted on. Disinfection was thoroughly carried out; destruction of rats was attempted on a very large scale, and even houses were destroyed by fire to reach results. By these measures the plague at Mazatlán was entirely overcome so that it did not spread out of the original infected area. They had established two zones of quarantine, so that no one could leave the city without two thorough examinations. They had found the use of antiplague serum very efficacious in suspected cases.

SATURDAY, JANUARY 7—FIFTH DAY.

A meeting was called to order at 8:45 A. M., Dr. Icaza presiding.

Trachoma in Mexico.—Dr. José Ramos of Mexico read this paper. The disease was gradually spreading in the Republic, and there were certain well recognized areas where it was more frequently found, but there was no doubt that the elevation at which most of the people live had a good influence on the disease, and that it was rather more benign there than in other parts of the world. However, as the disease was spreading, he thought such methods as had been found useful in Germany ought to be adopted in Mexico, viz., the institution of courses of lectures for general practitioners throughout the country on the diagnosis and treatment of trachoma.

Dr. Calvo then read by title all of the papers presented, the authors of which were absent or had had no time to read their communications.

Dr. Obarrio reported the action of the secretary and treasurer of the local committee.

Dr. Izaca then announced the Congress adjourned.

Dr. Ramon Guiteras then called a meeting of the Executive Committee, at which the following resolutions, proposed by Guatemala and seconded by Peru, were carried:

(1) That the next Pan-American Medical Congress arrange (*a*) for an International American Pharmacopeia; (*b*) for an International Code of Sanitation; (*c*) for an International Code on Temperance, and (*d*) as a sequel to the above, for the establishment of sanatoria for the treatment of alcoholism; (*e*) for the formation of lectureships on Medicine, in the required Studies of Jurisprudence.

(2) That there be formed at the next Congress a Section on Tropical Diseases.

(3) That there be created Red Cross Branches, both Civil and Military.

(4) Finally it was resolved that encouragement be given to those engaged in the campaign against tuberculosis.

It was decided to hold the next meeting in the City of Guatemala, Guatemala, in 1908.

THE NEW YORK STATE MEDICAL ASSOCIATION.

NEW YORK COUNTY.

Stated Meeting, January 16, 1905.

The President, Dr. Francis J. Quinlan, in the Chair.

Health of the Nation.—Dr. Walter Wyman, Surgeon General of the United States Public Health and Marine Hospital Service, read this paper. He said that the topic that had been assigned him was a rather broad one, and in dealing with it he would limit himself to an expression of general ideas and principles rather than take up the time of the Association by going into the details of sanitary work, and giving statistics of disease which could be found in the medical journals, and public health reports. It was a somewhat trite idea, but one whose significance was of great present import, that the nations of the earth to-day were more nearly related than ever before in the world's history. All the world had become one neighborhood, so far as related to distances. In no manner had this been better shown than in the warfare against contagious disease. Only a few years ago a violent epidemic of yellow fever in Cuba would excite no more than passing notice, while to-day the news of two cases in Santiago was immediately wired throughout the United States and foreign countries. A few cases of bubonic plague in the Orient, which a few years ago would have received no attention, were instantly reported, and published throughout the United States, and one case of cholera on a ship in the Mediterranean, was likewise telegraphed to the principal cities of the world. International congresses, conferences, and conventions were frequently bringing the nations together as one family, in the struggle against these foes of mankind. We heard much of international peace conferences, and arbitration treaties. Was it too much to expect, as a corollary or parallel movement, the cooperation of nations to prevent and suppress communicable disease? International sanitation might well be considered as adjunctive to the movement for universal peace. If, as Tolstoi said, the only substitute for war was religion, international sanitation would be a powerful weapon in the hands of religion. It surely would furnish a plane upon which nations might meet. It suggested a common enemy, disease, against which all might combine without fear of international complications, and which furnished a more worthy object than war for the expenditure of energy and money.

Health of the State.—Dr. Daniel Lewis, Commissioner of Health, State of New York, first called attention to the fact that the old State Board of Health, which was established about twenty-five years ago, and consisted of nine members, was abolished four years ago, and in its place was established the State Department of Health, with a single head, the Commissioner of Health, upon whom devolved all the duties which formerly belonged to the State Board of Health. Dr. Lewis then described in detail, the work of his Department, and the various State institutions that were under its jurisdiction. This included the cancer laboratory at Buffalo, and the antitoxin laboratory, in which diphtheria and tetanus antitoxin was manufactured, and supplied gratis to the State health officers, providing it was intended for patients who were unable to buy it. There was also a pathological laboratory where blood, sputum, etc. were examined for the State health officers. There was also a chemist, whose work was chiefly confined to the examination of drugs and illuminating oil. Twenty years ago the duties of the chemist of the State Board of Health were far more important than they were to-day, a part of his work having been since relegated to the Agricultural Department of the State. Dr. Lewis said there were about 1,400 health officers throughout the State, and he regarded their establishment upon a permanent, substantial basis as one of the most important things accomplished by the new Department. In addition to the sanitary inspection done by the local health officers, there were consulting engineers who examined and approved or disapproved of the sewerage systems throughout the State. No village could instil a sewerage system until the plans had been approved by the engineers of the State Department of Health: not even the bonds for the payment of such improvements could be disposed of until that formality had been complied with. In speaking of a pure water supply, Dr. Lewis referred to a law that had been passed in 1902, making it a misdemeanor to pollute any of the brooks or streams or water-beds of the State. This law, the speaker said, would in time, provide pure water for the people of the State. It was encouraging to note that the public at large was beginning to take more interest in this subject.

Health of the City.—Dr. Thomas Darlington, Commissioner of Health, City of New York, said that the work of the Board of Health was so extensive, embracing, as it did, forty-four separate and distinct lines, that he would confine his remarks principally to a consideration of the death rate and the general health of the city. The health of the City of New York had been far from satisfactory during the past year. The number of deaths reported during the year 1904 was 77,985, an increase of 10,121 as compared with the previous year, and of 9,403 as compared with the average for the preceding five years. The year 1903 was remarkable for the lowest death-rate on record for the city, namely, 18.18 per thousand, and for the remarkable absence of a severe epidemic in any of the communicable diseases, an experience shared by all the principal cities of the world. On the other hand, the year 1904 was remarkable for the directly opposite condition of affairs. This increase in the number of deaths was due, first, to the increase in population. The speaker thought there were at least 200,000 or 300,000 more people in the City of New York than were accounted for in the increase in the census returns of the year 1900. The principal increase in the deaths had been due to the acute respiratory diseases, pneumonia, bronchopneumonia, and acute bronchitis. The total number of deaths from these causes was 14,518, as against 11,540 in 1903, showing an increase of 2,978, or nearly one-third of the total increased number of deaths. The prevalent influenza during the first quarter of the year, the severe epidemic of measles, and the unusual severity of the weather, accounted largely for the increased number of cases. During the second quarter of the year, the severest epidemic of cerebrospinal meningitis for thirty-two years served to increase the deaths 1,200 over the previous year, and there was an increase of 200 deaths from simple spinal meningitis (which were probably cases of cerebrospinal meningitis), making the increase from this source probably 1,400 deaths. The next factor in severity as a cause, was the increase in diarrheal diseases, especially among children under two years of age. The exact reason for this outbreak had not yet been ascertained. There were more inspectors on the Summer Corps, and more nurses than ever before, and they did as good work, if not better, than ever before. The increase in deaths from diarrhea among children under two years of age was 1,196 or one-ninth of the whole death rate. The increase in deaths from pulmonary tuberculosis was 475. From nephritis there was an increase of 568 cases, and from cardiac diseases 226 cases. From both of these causes there had been a steady increase in the deaths since 1868. Possibly, a slight proportion of this was due to better diagnosis, but undoubtedly the greater portion of it could be attributed to the pace at which the average New Yorker was living, taking too much food, too little proper exercise, too many stimulants, and too much worry and fret. The number of cases of typhoid fever were 300 fewer than usual; fully 25 per cent. of the cases, if not more, acquired the disease outside of the city, while the rest were accounted for by the water, milk, the use of green vegetables and oysters. The number of cases of diphtheria were about 500 less, and the mortality rate had decreased one per cent. of the whole death rate. Dr. Darlington said that while the general mortality of New York City, and of the United States, as a whole, had steadily decreased in the last thirty years, owing to improved sanitary conditions, and the increase in our knowledge as to the cause and nature of diseases, yet in the case of several diseases the mortality had not fallen, but had actually increased. Of these, the most notable and important examples were pneumonia and cancer. The death rate from pneumonia had risen steadily from 1.95 per thousand in 1870, to 2.89 per thousand in 1903. In 1870 deaths from this cause constituted only about 7 per cent. of the total death rate; in 1903 it constituted 15 per cent., having more than doubled, and in 1904 it constituted 19.5

per cent., and this in spite of the fact that the disease in some respects had been quite thoroughly studied. It had been known for some years that lobar pneumonia was an infection usually caused by the pneumococcus; the predisposition to it was usually due to exposure to sudden changes of temperature, or cold, or to over-exertion, exhaustion, alcoholism, etc. It was especially fatal in waterside and low, damp districts, and was very prevalent among negroes and persons of Irish descent, and in those whose occupations kept them out of doors, or subjected them to sudden changes of temperature: as a rule, it was feebly communicable, but might even become epidemic. The problem of the prevention of pneumonia, Dr. Darlington said, had become the most urgent one in preventive medicine. At the request of the Board of Health, the Board of Estimate and Apportionment had appropriated a sum of money for the special investigation of the acute respiratory diseases, and the Board of Health had appointed a commission to conduct the inquiry. The investigation of this commission would proceed along two main lines, clinical and bacteriological. For the attainment of a solution of this all-important problem, the assistance of every physician in New York City and elsewhere, was most earnestly and confidently solicited.

Health of the Port.—Dr. Alvah H. Doty, Health Officer of the Port of New York, was unable to be present at the meeting, and his paper was read by Dr. Charles E. Denison. The writer stated that the health of the port of New York could best be considered in connection with a description of the diseases which were dealt with at the New York Quarantine Station, and the methods employed to prevent their entrance into this country. It might be truthfully said that in the past no disease which had visited the United States had caused such consternation, and so great a loss of life, or had been responsible for such stringent rules and regulations on the part of health authorities, as yellow fever. Not only just, but unjust means had been employed to prevent its extension. They had been carried to such an extent during the presence of epidemics in the South, that the commerce of that section had been at times practically paralyzed. The enforcement of drastic measures was largely due to the belief that yellow fever was transmitted by personal contact with the patient, by discharges, by the clothing and effects of the sick, cargoes of vessels, merchandise, etc. Even iron rails had been regarded as a medium of infection, and had been subjected to disinfection. To-day, Dr. Doty said, we knew that such regulations were unnecessary, as it had been conclusively proven by the most careful and thorough investigation that yellow fever was conveyed from one person to another by the mosquito. While there were some who still believed that there might be other means of transmitting the disease, there was at present no proof of this, and for practical purposes it might be regarded as safe to assume that the mosquito was the only means by which yellow fever was conveyed. The importance of this knowledge could not be over-estimated, inasmuch as it placed in our hands means by which formidable and dangerous epidemics of yellow fever could be prevented. These consisted principally in confining the yellow fever patient in an apartment completely protected by screens to prevent the entrance or exit of mosquitos. This measure of protection was easily carried out, and in order to be eminently successful, it required that cases of yellow fever should be detected very early. Aside from the use of agents such as sulphur dioxide in apartments to destroy the stegomyia fasciata, disinfection was now regarded as unnecessary. Exhaustive experiments which were made at the New York Quarantine Station had conclusively proven that the mosquito could not live in closed trunks, bags, and other receptacles for a longer period than twenty-four or thirty hours; therefore, the disinfection of baggage that had been in transit more than two days, would seem to be uncalled for. Another factor which had recently made considerable change in quarantine methods, particularly at the port of New York, was the means employed to prevent the entrance of bubonic plague into this country. Formerly, we had very meagre knowledge of the character and habits of this disease. In order to detect its presence, it was necessary to bear in mind that it might appear either in the "bubonic" form, which was associated with enlargement of the superficial glands, particularly those in the inguinal and axillary regions, or in the "pulmonary" form, which principally affected the lungs. Aside from the transmission of the disease by personal contagion, it was necessary that proper consideration be given to the rat, which had been regarded as a common means of conveying the disease from one person to another. Although there was no doubt as to the truth of this, there was also no doubt that the importance of the rat in the transmission of bubonic plague had been over-estimated. In addition to vermin, we had yet to consider the probability of the disease being conveyed by insects. The pulmonary form, which was common, and very fatal in India, was not usually seen on ship-board. In vessels arriving from cholera ports, great care was taken to detect that disease in its various manifestations. Fortunately, vessels coming from cholera and plague-infected ports as a rule carried no passengers. Typhus fever and smallpox, which completed the list of the five diseases that were specially subject to quarantine regulation, were also carefully watched for, particularly if there was reason to believe that they existed at the ports of departure. In order to insure the detection of infectious diseases during the stage of invasion, all persons arriving at this port on foreign vessels who had fever, as indicated by the thermometer, and which could not be satisfactorily accounted for, were subject to removal to Swinburne Island for observation. In this manner, many cases of infectious disease had been prevented from reaching the city. Dr. Doty said he felt confident that the clothing worn by well persons, textile fabrics (other than those used about the sick), merchandise, cargoes of vessels, etc., rarely acted as a medium of infection. The inspection of passengers and crews at the New York Quarantine Station was of the most rigid character. Neither the bill of health, the statement of the ship's captain or surgeon, nor of anyone else, was taken in lieu of a careful personal examination when called for by the regulations of the Department. In cases where disinfection was necessary, steam at a temperature of 230° F., with an exposure of fifteen minutes, was used for the treatment of clothing, bedding and other textile fabrics, inasmuch as steam was the only agent that could be depended upon to thoroughly penetrate the material referred to. When furs, silks, satins, and other delicate fabrics, and also leather goods, etc., which would be destroyed or injured by steam, were to be disinfected, formaldehyde gas was used. In those cases, every article was carefully hung up and spread out, in order that all surfaces should be exposed to the gas. Formaldehyde was also used in the disinfection of saloon apartments which contained fine fabrics, gilding, etc. Hot water and soap, sulphur dioxide, bichloride of mercury and carbolic acid were variously used in the cleansing and disinfection of the ship's forecastle and other apartments after the removal of merchandise, etc. The thorough use of soap and water by scrubbing, followed by the generation of sulphur dioxide or formaldehyde gas in a closed apartment were as a rule, all that was required to insure safety against infection. In transatlantic mail steamships the deposition of the captain and surgeon that the saloon passengers and crew of the vessel were well, was under ordinary conditions, and where no epidemic of infectious disease was prevalent at the port of departure, accepted in lieu of an examination. Under no conditions, however, were the steerage passengers exempted from examination.

Dr. Stephen Smith said that forty years ago there was no health organization of an administrative kind in the United States that was accomplishing any good, neither were there any health laws of a systematized kind. So far as he knew, the organization of the New York Department of Health in 1866 was the first practical step taken towards the enactment of health laws that ended with the complete unification of the sanitary administration of the entire country, as it existed to-day.

Dr. S. A. KNOPF said that many persons died of tuberculosis, not because it was an incurable disease, but because there was no adequate provision made for the care of these patients. He referred to the tenement house evil, and said that an important step to remedy it had recently been inaugurated by Mr. Henry Phipps in donating one million dollars for the erection of model tenements. In the prevention of pneumonia, the study of the individual, his habits, occupation, etc., was an important factor, also the proper ventilation of public buildings, theaters, schoolrooms, and even of the New York Academy of Medicine itself.

Dr. CHARLES S. BENEDICT described the work of the experimental tuberculosis sanatorium that was being conducted by the New York Board of Health on North Brother Island, and said that excellent results had been achieved there thus far.

Dr. Wyman, in closing, paid a high tribute to the part played by Dr. Stephen Smith as an advocate of sanitary reform. The great value of Dr. Smith's services were highly appreciated, and among the health officials at Washington he had long been regarded as one of the staunchest friends of the public health.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held January 26, 1905.

DR. A. PALMER DUDLEY IN THE CHAIR.

Election of Officers.—For *Chairman,* Dr. Charles F. Adams; for *Secretary,* Dr. Arnold Sturmdorf.

Presentation of Bullet Wound of Spleen, and Report of Case.—Dr. A. PALMER DUDLEY reported the case of a man who had received three bullet wounds, one through the shoulder, which shattered the acromial process, one through the thigh, and the other through the spleen. The spleen was presented for inspection. The post mortem was performed by Dr. Shultz at Bellevue Hospital. The patient had been shot in Little Italy. The bullet through the shoulder had lodged behind the scapula. The one through the thigh came out, although the Coroner thought the scar showed a point of entrance rather than exit. The third bullet had entered through the side, below the diaphragm, and had passed through the spleen. It had evidently gone behind the kidney and carromed off and gone twice through the diaphragm, and through the lung, and the man died of compression of the lung. His chest was filled with blood. A double hole was made by this bullet through the diaphragm, the holes being about one inch apart. There was no hole through the thoracic wall above the diaphragm. The bullet could not be found. The patient died from a gradual leakage from a small artery. It took two days for enough blood to leak to affect the heart. The curious thing regarding this accident was the fact that there was no opening above the diaphragm.

The After-Treatment of Abdominal Section.—Dr. DANIEL H. CRAIG of Boston addressed the Section on this subject, speaking only of the actual details of the after treatment of abdominal section with eserine. He thought it would be a very wise thing if more attention was paid to these little details, apparently trifling in their nature, yet a thorough familiarity with them would show improvement in results obtained. He said there was no absolute routine to be followed in giving eserine salicylate, but one should, whenever possible, follow the individual requirements of the case. In order to regulate bowel activity he administered hypodermically 1-60 of a grain of eserine salicylate, and repeated this dose in some instances, and he got very good results. If there was given a history of chronic constipation the dose should be 1-30 of a grain; if there was much atony then 1-24 or even 1-20 of a grain might be given. It was his practice to give hypodermically 1-40 of a grain of eserine salicylate, and, if the dose was inadequate, to repeat it. But, as a matter of fact, he had been obliged to give a second dose of eserine only twice. Eserine salicylate should *never* be given except with atropine sulphate; atropine antagonized the disagreeable effects of eserine, and should never be omitted. The time to give atropine was of the utmost importance; it should be administered hypodermically prior to giving the anesthetic. Or 1-100 of a grain should be given by the mouth one hour before the anesthetic. If there was no time to choose, the eserine should be given while the patient was being put under the anesthetic. There were really no contraindications unless there were strong adhesions, in the liberation of which the muscular tunic of the bowel might be injured. Again, in intestinal resection or anastomosis there should be rest. In pelvic surgery of simple kinds, where there were no adhesions, eserine should be given two to five minutes after the initial incision. Eserine should not be given before the operation was begun. He said there was another class of cases in which eserine should be withheld, viz., when septic material was left behind; then nothing should be given which would prevent walling off by adhesions taking place. He said that the necessity of administering eserine in every case had been questioned, and that Dr. Stone, in a recent paper, had cited him as using it in every case. It should be remembered that the abdominal cavity was never opened without interfering more or less with the normal peristaltic action. When they possessed a remedy as harmless as eserine he believed they were perfectly justified in administering it. Dr. Craig then considered the exact method of the action of eserine in combating postoperative intestinal paresis, and referred the members of the Section to his previous papers on this subject. He said that some advocated the giving of eserine at a later period than he, but for what reason he did not know. So far there had been no untoward effects reported by anyone, but there had been reported many instances of an early restoration of intestinal peristalsis, and a marked amelioration of the postoperative vomiting. The action of this agent in increasing the pharyngeal secretion did away with the postoperative dryness of the throat which resulted from the giving of atropine. Dr. Adams had reported a feeling of muscular depression and weakness after eserine; if atropine had been used no such effect would have been noted. If eserine be used in the after-treatment of abdominal section, somewhat the same effect would be had as after the administration of saline cathartics. The day on which the bowels should move was to him a matter of no importance. A semi-solid diet was permitted on the third day, and a full diet on the fourth. But since he had come to a knowledge of the proper dose of eserine, in no case had the bowels failed to move within twelve or twenty-four hours. With regard to eserine itself, only the salicylate should be used. The sulphate was deliquescent and unreliable. The other preparations of physostigma should not be used either, because they contained the other alkaloids of calabar bean. Eserine being the vegetable active principle, it was probable that failures might result at times through some idiosyncrasy or peculiarity in the drug itself. The drug should be obtained directly from the makers, and in small tubes. Dr. Craig closed his remarks by speaking of the absolute comfort and feeling of wellbeing which followed the administration of eserine; the pain in the abdomen was not the rule. In any case in which there was pain, and morphine was required, it could be given with the greatest freedom when eserine had been administered.

Dr. EGBERT H. GRANDIN said that one month ago (see page 116) he had outlined the methods that had given him the best results in all his abdominal work, and he then stated that he had not used eserine, although he had been familiar with its use after reading Dr. Craig's previous papers. He had never used it because he had not found occasion to do so. What he had always used was a fair sized dose of colomel a few hours before the operation in every case in which he expected or suspected the possibility of infection. He said he wished to thank Dr. Craig for coming from Boston and telling what he did in these cases. Dr. Grandin said he had been taught that through the proper use of eserine we should probably not be required to resort to laxatives after operation, and that he believed it to be a most valuable point. All knew how difficult it was to introduce into an irritable stomach calomel or salts. If it was found that the judicious use of eserine made it unnecessary to give calomel or sales for thirty-six or forty-eight hours after the operation, he thought that Dr. Craig was entitled to the gratitude of both surgeon and patient. Still, whenever he was called upon to operate where he thought that septic material might soil the peritoneal cavity, he would continue to use calomel. As a routine measure, and as a result of hearing Dr. Craig's remarks, he said he would start right in and use eserine according to the directions stated.

Dr. Hermann J. Boldt said that he had resorted to the use of eserine only two years ago as a remedy against the possibility of intestinal paresis, but he had not given it as Dr. Craig advocated. He began using it in all instances of meteorism in doses of 1-60 of a grain when there were no evidences of an inflammatory process. He soon changed the dose to 1-40 and then to 1-20 of a grain. In some instances the dose was repeated. As a result, in nearly all cases when the distension was not of inflammatory origin, he had been perfectly satisfied with its action. He said he would now use this agent as Dr. Craig advocated. With regards to diet, so soon as vomiting had ceased he gave a full diet, and did not restrain his patients at all, giving them liberty to move about as they felt like it. The patients were out of bed on the fifth or sixth day, and he had never regretted it unless the condition of the abdominal wound contraindicated it. It should be borne in mind that meteorism that was inflammatory or of septic origin would not be affected by any medicament.

Dr. William S. Stone said that, granting that the septic cases were not affected by the administration of eserine, it was the general experience in all cases that, if not septic, the patients got well whether eserine was given or not; so while they praised the results of Dr. Craig's work, misstatements and misrepresentations should be guarded against, and it should be borne in mind that the method Dr. Craig was offering was not a life-saving one. Cases of intestinal paresis ordinarily got well.

Dr. Philander Harris said that the administration of eserine did more than merely give comfort to the patient; by lessening the tympany it removed a factor in the production of, or intensity of, sepsis. He considered the suggestions made by Dr. Craig as being most valuable, although he did not think that he would adopt its use, preferring the treatment outlined by him at the last meeting of the section.

Dr. John Douglas said that during the last two months eserine had been used at St. Luke's Hospital, but mostly in an experimental way. Unquestionably the after-effects (50 per cent. of these were gynecological cases) showed less tympany, and the patients appeared to be in better condition. This agent had also been used on the medical side in typhoid fever.

Dr. Daniel H. Craig closed the discussion by stating that his remarks were simply elementary, and could not be else, because the subject was such a big one. If anyone intended to try it, he advised them first to study the method carefully, and read over his previous papers on the subject. It was with some trepidation that he arose to differ with Dr. Grandin regarding the employment of calomel in either large or moderate sized doses. If there was an agent which could be given after the operation to procure rest to the intestines when it was indicated, it would be far better than giving something before the operation. He said that cases of paresis were sometimes apparent, and sometimes real, and often cases of apparent paresis would turn out to be cases of real paresis of the intestines. Anyone who had seen a severe case of intestinal paresis, and who believed he had an agent that would prevent its occurrence, would always use it. He asked attention to the way salts acted, drawing fluid from the patient's own vessels; in other words, one simply bled the patient into the intestines. He strongly advised them to *let the patient alone* after the proper use of eserine, until there appeared distinct indications for something to be done. With regard to diet, he had no rule to give. If the patient wished a full diet he usually got it. He cautioned against giving eserine in septic cases, because then one would possibly get an action that would prevent walling off of the condition by adhesions, or would break up existing adhesions. It was his custom to have the patients under observation for thirty-six hours prior to operation, when he gave a dose of calomel, followed next morning by a dose of salts. He was not insistent upon having a certain number of movements, but he kept working until the bowels had discharged the accumulations.

Philadelphia County Medical Society.

At a stated meeting, held January 11, Dr. Anna M. Fullerton read a paper entitled "Medical Experiences in India." She spoke of the great poverty of the people, of the evil results of child marriage, and of the disadvantage at which women are placed because of the prohibition preventing the medical attendance of men.

Dr. B. Franklin Royer read a paper entitled "The Antitoxin Treatment of Diphtheria." He cited statistics showing how marked in a number of the largest cities of the world had been the reduction in the mortality of diphtheria since the introduction and general employment of the antitoxin. He dwelt also on the prophylactic value of the antitoxin and he commended large doses.

Dr. M. Graham Tull read a paper, entitled "An Unusually Severe Case of Acute Chorea Treated Successfully with Apomorphine." He reported the case of a young girl presenting symptoms of chorea, with active delirium, which failed to yield to established treatment, but subsided almost immediately after the administration of apomorphine in small doses at frequent intervals was begun. Equally satisfactory results were obtained with the same drug in the treatment of other disorders, namely, alcoholic intoxication and capillary bronchitis in children.

Philadelphia Neurological Society.

At a stated meeting held January 24, Dr. Wm. Pickett exhibited "A Case of Cervical Hypertrophic Pachymeningitis" occurring in a young woman, who presented pain in the upper extremities, with weakness and wasting.

Dr. Chas. W. Burr exhibited "A Case of Epilepsy with Myoclonus." The patient was a young man who had had attacks of petit mal in early life, and later developed also attacks of grand mal. At times he would exhibit symptoms of great mental excitement, but the special feature he presented was jerky incoordinate movements in the face and extremities, occasionally with difficulty in walking. There were no distinctive symptoms of hysteria, although some of the manifestations were suggestive of that.

Drs. W. G. Spiller and E. U .Buckman exhibited "A Case of Myasthenia Gravis in which the Paresis is Confined to the Ocular Muscles." The patient was a man, 33 years old, occupying a clerical position, without a history of syphilis, who for some nine months had noticed a drooping of one or other upper eyelid and the development of diplopia, after use of the eyes. The conditions were better in the morning after rest, and became pronounced as the day progressed, quite disappearing when the patient lay in the recumbent position.

Dr. Joseph McCool read by invitation a paper entitled "Four Cases of Beriberi."

Dr. T. H. Weisenburg read a paper entitled "The Pathology of Cerebellar Tumors."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 4, 1905:

	Cases.	Deaths.
Measles	185	8
Diphtheria and Croup	311	49
Scarlet Fever	233	15
Smallpox	1	1
Chickenpox	135	.....
Tuberculosis	343	180
Typhoid Fever	32	10
Cerebrospinal Meningitis	......	33
Typhus Fever	.....	....
Yellow Fever	.....	....
Cholera		....
Totals	1,240	296

The Protozoön of Scarlet Fever.—Charles W. Duval has undertaken a search for the protozoön-like bodies, discovered by Mallory in the skin of autopsied scarlet fever cases, in the fresh serum of scarlet fever patients. He believed that if these "bodies" lying free in the intercellular lymph spaces represented stages in the life cycle of a protozoön they could be drawn into the contents of an artificially produced vesicle. In all, eighteen cases were studied. The protozoön-like bodies were found in five cases among those last examined and during the stage of the disease when the eruption was at its height. The majority of the "bodies" found in the serum were identical in structure and in form with those in the skin described by Mallory. The protozoa were not found in the vesicle contents of normal individuals. Moreover, a careful search of the contents of artificial vesicles produced on chemically injured skin failed to show them. Again, the "bodies" were not found in the serum from artificial vesicles produced on the skin of other acute exanthemata. The writer describes the production of the vesicle as follows: A bit of sterile absorbent cotton, about 2 cm. in diameter, is saturated with ammonia and closely applied to the selected skin area. In from two to five minutes the patient feels a "biting" sensation, and the cotton is removed, and the area carefully coated over with sterile vaseline. This is left until the vesicle is fully developed. This is complete in five or six minutes. The vaseline is dissolved off with xylol. From the vesicle, a clear, straw-colored serum, free from red blood cells and leucocytes, is obtained. It is drawn off at once by means of a bent sterilized glass pipette, by inserting the capillary tip into the base of the vesicle at the upper side, to avoid loss of serum. A full reports of this work will appear later.—*University of Pennsylvania Medical Bulletin.*

The Prognosis of Epilepsy.—William Aldren Turner says that sex plays little part in the general prognosis of epilepsy. It appears that a larger percentage of women escape the deteriorating influence of epilepsy upon the mind than men, but that when dementia supervenes and reaches its most pronounced form, a somewhat higher percentage of women are affected. A family tendency to either epilepsy or insanity materially increases the likelihood of the disease becoming confirmed, and the supervention of dementia. Epilepsy beginning in infancy and childhood is the least favorable for arrest of the fits and the most favorable for the production of the confirmed disease. The common type of epilepsy, or that commencing during puberty, is the most favorable form of epilepsy, both as regards the arrest of the seizures and the absence of mental infirmity. Adult epilepsy is unfavorable, but senile epilepsy is tractable. In general, the earlier a case is brought under systematic treatment, the more hopeful the prognosis and the greater the probability of improvement. The longer the interval between the attacks, the greater the prospect of arrest or improvement. Major attacks are more readily influenced by drugs than the minor seizures. Remissions are a frequent, if not a characteristic feature of this disease. Long remissions may occur under bromide administration, to be followed by a relapse when the drug is omitted. Again, a remission of long duration may be broken by an accidental circumstance, such as a fall or a blow on the head. Thus, long periods of arrest, though as a rule indicating a favorable prognosis, are not synonymous with the cure of the disease. It may be said that epilepsy is sometimes cured. The writer regards it unsafe to consider any case cured in which the seizures have been in abeyance for a period less than nine years after the disease has become satisfactorily established. A very small percentage of cases do relapse after an arrest of nine years. If any given case of epilepsy is capable of improvement, a satisfactory response will be apparent within a short time of commencing treatment. The writer gives a series of cases of a total of 147, of which 15 were arrested for nine or more years, giving a percentage of 10.2 of cures.—*The Edinburgh Medical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended February 3, 1905:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
Arkansas, Jacksonville	Jan.	21	(Present.)	
Helena	Jan.	21	″	
Little Rock	Jan.	21	″	
Lonoke County	Jan.	21	″	
McAlmont	Jan.	21	″	
North Little Rock	Jan.	21	″	
Pulaski County	Jan.	21	″	
Sweet Home	Jan.	21	″	
Ward	Jan.	21	″	
Wrightsville	Jan.	21	″	
Illinois, Chicago	Jan.	21–28	22	1
Danville	Jan.	21–28	3	..
Kansas, Topeka	Jan.	21–28	1	.
Massachusetts, Boston	Jan.	21–28	2	..
Mississippi, Gulfport	Jan.	20	2	..
Missouri, Saint Louis	Jan.	21–28	20	4
Ohio, Toledo	Jan.	14–28	6	..
South Carolina, Greenville	Jan.	7–14	5	2
Tennessee, Memphis	Jan.	21–28	12, two imp'd.	
Nashville	Jan.	21–28	5	..

SMALLPOX—FOREIGN.

Brazil, Bahia	Dec.	1–31	64	..
France, Paris	Jan.	7–14	21	..
Great Britain, Belfast	Jan.	7–14	..	1
Dundee	Jan.	7–14	1	..
Glasgow	Jan.	13–20	1	..
Hull	Jan.	7–14	6	..
Leeds	Jan.	7–14	21	.
London	Jan.	7–14	1	..
Manchester	Jan.	7–14	1	..
Newcastle-on-Tyne	Jan.	7–14	8	..
Nottingham	Jan.	7–14	1	..
South Shields	Jan.	7–14	6	1
Italy, Palermo	Dec.	24–Jan. 7	31	6
Norway, Christiania	Jan.	7–14	10	..
Russia, Odessa	Dec.	31–Jan. 7	2	..
St. Petersburg	Dec.	31–Jan. 7	7	2
Warsaw	Nov.	12–19	..	1
Spain, Cadiz	Dec.	1–31	..	3
Straits Settlements, Signapore	Dec.	24–31	..	30
West Indies, Island of Grenada	Dec.	29–Jan. 11	4	..

YELLOW FEVER.

Mexico, Merida	Jan.	15–21	1	1
Tehuantepec	Jan.	15–21	1	..
Panama, Panama	Jan.	25	..	1

CHOLERA.

Russia, Erivan	Dec.	21–28	25	26

PLAGUE—INSULAR.

Philippine Islands, Manila	Dec.	3–10	1	

PLAGUE—FOREIGN.

Argentina, Santa Fe	Dec.	27	..	1
Australia, Townsville	Dec.	9	1	..
British East Africa, Port Florence	Jan.	1	3	..
British South Africa, Durban	Nov.	27–Jan. 3	1	1
Egypt, Port Said	Dec.	24–31	1	..
Suez	Dec.	24–31	7	4
Tukh	Dec.	24–31	5	3
Russia, Ural Territory	Dec.	26–28	35	35

Medical Record

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Original Articles.

A REPORT OF EIGHTY-FOUR OPERATIONS ON THE KIDNEY AND URETER.*

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THE writer's experience in renal and ureteral surgery extends over a period of ten years and consists in eighty-four operations. Nine only of these operations were performed during the first five years; seventy-five during the last five years, and of these thirty-nine were performed within the past twelve months. The object of this communication is to present a report on the results of these operations, to enumerate the pathological conditions found, and to call special attention to certain groups of cases which presented features of unusual interest or difficulties in diagnosis.

Of the eighty-four operations there were twenty-seven nephrotomies, with eight deaths; twenty-seven nephrectomies with one death; nine nephrorrhapies with no mortality; ten decapsulations on five patients, with two deaths; five operations on the pelvic portion of the ureter without a death, and six emergency operations on traumatic cases with one death.

Of the twenty-seven nephrotomies the following pathological conditions were found at operation: pyonephrosis in three cases, pyelonephritis in one case, tuberculosis in two cases, intermittent hydronephrosis in one case, multiple septic infarcts in four cases, calculus in eleven cases, while in five cases of exploratory nephrotomy no lesion was found.

Of the twenty-seven nephrectomies there were two cases of primary carcinoma, two cases of hydronephrosis, two cases of early tuberculosis, seven cases of pyonephrosis, six cases of stone, two cases of ureterovaginal fistula following hysterectomy, one case of septic pyelonephritis, one case of general infection following traumatic rupture, one case of early rupture, one case of severe hemorrhage following exploratory nephrotomy, and two cases of multiple septic infarcts from blood infection.

As these two groups deal largely with the same classes of lesions, and as there is still much doubt in the minds of surgeons regarding the choice of operation in many cases, they will be considered together.

Carcinoma.—CASE I.—A young man, thirty-three years of age, referred to the writer by Dr. W. L. Culbert, of this city. First symptom: spontaneous hematuria followed by left-sided pain of a very mild character; two months later another attack of a similar nature. Examinations: slight tenderness in the left costovertebral angle; kidney not palpable. Cystoscope showed clot adherent to the left ureteral orifice. Ureter could not be catheterized. On operation a large, highly vascular kidney found presenting pronounced outgrowth on upper half. Nephrectomy. Pathological report, adenocarcinoma involving upper half of organ, but not perforating capsule. Patient now well four years and ten months after operation.

CASE II.—Naval officer, fifty-nine years of age, referred by Dr. John Stanton of New London. First symptom, right-sided colic followed by hematuria, three attacks in six weeks. Physical examination negative; x-ray showed only extreme calcification of all the arteries. Nephrectomy. A small nodule of carcinoma was found in upper half of organ. Convalescence normal. Last seen eight and one-half months after operation. No signs of recurrence.

Tuberculosis of Kidney.—Four cases of primary tuberculosis of the kidney were operated upon, two by nephrectomy and two by nephrotomy. Of the two operated upon by nephrotomy one proved to be a case of general miliary tuberculosis presenting signs of acute general sepsis with pain over the kidney as the only localizing symptom. The kidney was exposed and incised and found to be studded with small abscesses. The second case was one of tuberculous pyonephrosis, which was opened and drained. Both patients died within two weeks after operation from uremia. In both instances the condition was supposed to be of septic rather than tuberculous origin, and the opposite kidney was assumed to be functionally competent. In neither case were the separated urines examined. Had this been done, a correct diagnosis would have been made.

Of the two operated upon by nephrectomy, one, a boy seventeen years of age, had well marked signs over the left kidney, with pus and tubercle bacilli in the urine secreted by that organ. The other patient, referred by Dr. O. T. Osborne, of New Haven, also a boy seventeen years of age, had complained only of malaise and slight afternoon fever for several weeks. An examination of the urine showed a few pus cells and tubercle bacilli, which were later found only in the urine drawn from the right ureter. Both submitted to nephrectomy and both made satisfactory recoveries.

Pyelonephritis.—Two cases of acute septic pyelonephritis were operated upon—one by nephrotomy and drainage and one by nephrectomy. The former patient died, while the latter recovered. The fatal case was one of my earliest, and as my records are defective, no data could be found to help us to determine the cause of death.

Pyonephrosis.—Ten operations were performed for conditions supposed to be pyonephrosis, three nephrotomies and seven nephrectomies.

Of the three treated by simple incision, the first case was in an old man, who was admitted to the Mt. Sinai Hospital suffering from grave septic symptoms, with the signs of an enlarged and painful kidney on the left side. The kidney was exposed by a free lumbar incision and an opening made through its cortex, evacuating about a pint of pus. The septic symptoms were at once relieved, but the sinus showed no tendency to heal. Several weeks later he submitted to a secondary nephrectomy, which was followed by a complete recovery.

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*Read at a meeting of the Surgical Section of the New York Academy of Medicine, January 6, 1905.

The second case was in a young man about thirty years of age who was referred to me for treatmnet of a supposed left-sided empyema. There was flatness over the left chest wall as high as the angle of the scapula. An exploring needle inserted in the eighth intercostal space drew creamy pus. A more careful examination, however, showed a large left-sided abdominal tumor bulging the flank, which was oval in shape with well-defined borders, and apparently moved with respiration. The tumor was exposed by a large Koénig incision, an aspirating needle introduced and the presence of pus demonstrated. An incision was then made through what was supposel to be the cortex of a huge pyonephrotic kidney, and nearly two quarts of pus evacuated. A large rubber drainage tube was introduced and the wound closed. He made a satisfactory recovery from the operation, but an abundant discharge of pus continued for several weeks, which led us to advise nephrectomy. On entering the retroperitoneal space we were surprised to find that the original pus cavity was not the pelvis of the kidney but an enormous suppurating cyst, which arose from the anterior surface of the organ. Both cyst and kidney were removed, and the patient made a prompt recovery. The specimen was unfortunately lost, but from gross appearances the writer is of the opinion that the lesion was probably a suppurating echinococcus cyst.

The third case was one of extraordinary interest, not only on account of its obscure etiology, but on account of the anatomical conditions found at operation. The patient, a man forty years of age, was referred to the writer by Dr. N. R. Hotchkiss of New Haven. There was a history of a gradual deterioration of health for several months associated with loss of weight and an increased frequency of urination. For several weeks before he was seen by the writer there had been irregular attacks of fever followed by the presence of a large quantity of pus in the urine. As the symptoms progressed, it was noticed that there would first be a period of pain in the left flank with a tender mass in the kidney region associated with chills, fever and sweats—the urine remaining comparatively clear. Finally the urine would appear loaded with pus, the pain and fever would subside, and the mass would disappear. During this period the urine always contained a quantity of sugar. Roentgen-ray examination showed a very faint shadow over region of left kidney. A diagnosis of intermittent pyonephrosis from calculus was made and operation advised.

On exposing the kidney region by incision, all the tissues were so infiltrated with inflammatory exudate that recognition was extremely difficult. After incising the muscular layers, however, a fluctuating mass presented having the appearance of renal cortex. This was incised and about one pint of thick pus evacuated. As the patient's condition was extremely critical, no further exploration was made. The cavity was drained by a large rubber tube and the wound partly united and dressed. All of his symptoms were at once relieved, the pain and fever subsided, the pus disappeared from the urine, and the excretion of sugar ceased. He gained rapidly in strength and weight. Believing that he had a very much damaged kidney, which would undoubtedly give more trouble, I advised nephrectomy.

On exposing the kidney region for the second time the same matting together of the tissues was noted as at the first operation. As no kidney was found, the incision was enlarged and the tissues were carefully separated until the quadratus and psoas muscles were exposed and the transverse process of the vertebra could be felt. The entire retroperitone space from the diaphragm to the brim of the pelvi was thus exposed without encountering any tissu which resembled a kidney. During these manipula tions the peritoneum was divided and an oval bluis organ seen under the costal arch, apparently presen ing an almost complete peritoneal investment. A suming this to be the spleen, it was held out of t way by gauze packing and the search continue When it was evident to all that the retroperitone space contained no kidney, this intraperitoneal org was again examined and as the spleen could palpated beyond and above this mass, it was dra outward and found to be the kidney which had e dently been pushed inwards by a large perineph abscess, and received its peritoneal investment fr the posterior parietal layers of that membrane. the abscess had on several occasions evacuated it through the urinary passages, I assumed that it arisen primarily in the kidney, or at least had a tinct communication with it or the ureter, and th fore performed a hasty nephrectomy. Examina of the specimen showed only an almost healed in the posterior surface which was in contact the abscess cavity. On splitting the organ there only the appearance of a moderate cloudy swel of the parenchyma with no stone or suppurat focus.

As the other cases of this series presented features of special interest, they will not be repor in detail.

Multiple Septic Infarcts from Blood Infection That the kidney may be the seat of multiple me static abscesses as a result of a general pyemic pr ess, the abscesses being caused by numerous se emboli conveyed to the organ by the blood curr is a fact well recognized by the profession; tha single kidney may be the chief seat of such lesions the opposite kidney and other organs escaping being but slightly involved—is a fact not genera recognized by the profession. That such is the ca and that an early nephrectomy constitutes the treatment for this condition, the following facts attest: Six cases of multiple blood infections been operated upon by the writer, four by phrotomy, all fatal, and two by nephrectomy, b recovering.

Case I.—A girl eighteen years of age, sustained fracture of both thighs, no signs of other inju Three weeks later, during an apparently nor convalescence, she complained of pain in the ri renal region radiating downward to the groin labium. This was followed by a rapidly advanc fever, chills and sweats. There was marked tend ness on bimanual palpation over the right kidn the urine was scanty, albuminous, and contained few pus cells. The symptoms continued for seve days and her general condition became alarmin No other septic focus could be discovered. On posing the kidney through a lumbar incision, it found studded with small cortical abscesses and highly congested. It was removed from the wo and bisected—several small abscesses were found innumerable minute infarcts. The hemorrhage severe and only controlled by replacing the kidn packing the incision tightly and the entire sp around the organ. She died the following day.

Case II.—A woman thirty-one years of age p sented the symptoms of severe general sepsis a tenderness over the right kidney. On operation kidney was incised and found to be the seat of m tiple minute cortical abscesses. The wide kidney cision was drained with a large gauze pack and organ replaced. She died the following day. A topsy showed a general pyemia.

Case III.—A young woman, seen at the City Hospital with general septic symptoms and pain and tenderness over one kidney. Nephrotomy; multiple abscesses. Death.

Case IV.—Man, twenty-one years of age, complained of general abdominal pain and frequent micturition with hematuria. The symptoms temporarily subsided, but three weeks later the pain became localized over the right kidney region and was accompanied by a gradually rising temperature and other symptoms of progressive sepsis. On examination, there was tenderness and some muscular rigidity in the right flank, the urine was albuminous and contained some pus, a few red blood cells and casts. No evidences of other septic foci could be found. The right kidney was exposed by a lumbar incision and freely opened by a cortical cut. The entire parenchyma was studded with minute abscesses. Gauze drainage was inserted, the incision partly closed and the wound dressed. There was considerable temporary improvement in the symptoms, but this improvement was succeeded by a gradual return of the septic manifestations with diminution in the secretion of urine, and death three weeks later. On autopsy a general pyemic condition was found with numerous but more recent infarcts in the other kidney.

Case V.—A woman, aged twenty-eight years, experienced an attack of chills, fever and general prostration and was treated for malaria. An examination of the blood revealed no plasmodia, and upon subsequent examination an enlarged and tender right kidney was easily palpated. Under chloroform anesthesia the kidney was explored and incised. The cortex was studded with small areas the exact nature of which could not be determined at the time. The organ was removed and on subsequent examination was found to be the seat of numerous infarcts. She made a complete recovery.

Case VI.—A woman, twenty-two years of age, experienced a severe pain in the epigastrium and right side of abdomen, with vomiting and high fever. Was sent to the Roosevelt Hospital with a diagnosis of acute appendicitis. On examination the appendix region was free from evidences of inflammation. There was, however, pain and muscular rigidity in the right hypochrondiac region with tender points over the gall-bladder and costovertebral angle. Temperature 105°, pulse 120, leucocytes 18,000. The urine was slightly albuminous—no blood or pus. The diagnosis rested between an acute infection of the gall-bladder or kidney. Small anterior incision; gall-bladder and liver found normal, but the right kidney seemed enlarged. Anterior incision united and the kidney explored by the lumbar route. The perinephric fat and areolar tissue was edematous; the kidney enlarged, highly congested and the seat of innumerable small infarcts. Nephrectomy. After operation the temperature fell from 105.5° to 97° within twelve hours, and thereafter remained practically normal. She made a satisfactory convalescence. Microscopical examination of the specimen showed it to be filled with minute embolic abscesses.

As the cases of hydronephrosis, uretrovaginal fistula, severe hemorrhage following nephrotomy, etc., presented no difficulties in diagnosis, they will not be considered at length. We will therefore pass to the consideration of those cases in which calculus was suspected, as that group of cases furnishes the largest number of mistakes in diagnosis. With this group it is well to consider also the five cases in which operations were performed on the lower or pelvic portion of the ureter, as in all of these the diagnosis of arrested calculus had been made.

It might be said that in nearly every case subjected to nephrotomy or nephrectomy, the possibility of calculus as a causative factor was considered; as the chief complaint in the majority of those cases was lumbar pain. In eliciting the histories, however, we were able to exclude at once a number of cases, and although many of these were subjected to an *x*-ray examination, cystoscopy and catheterization of the uterers, we shall not include them in this group for the reason that the history clearly pointed to another diagnosis.

In thirty-six cases, however, the history led us to strongly suspect the presence of calculus either in the kidney or ureter. In twenty-one of them only did subsequent operation reveal a stone. In the remaining fifteen, nine showed other lesions which clearly were the causative factors in the production of the symptoms, while in six no lesion could be found.

It will thus be seen that in 41 per cent. of our cases giving a clinical history of calculus, and this in many instances confirmed by physical signs, urinary analysis, cystoscopy, uretral catheterization, and in a few by a positive *x*-ray plate, our diagnosis was wrong.

It is only fair to say in this connection that during the earlier years of the writer's experience, before the discovery of the *x*-rays, and before the general employment of the cystoscope and ureteral catheter, reliance was placed wholly upon the history, physical examination of and the urinary analysis. During the first six or seven years covered by this report, the number of errors in diagnosis in this class of cases was relatively greater than during the last few years, in which the modern methods of examination have been employed with increasing frequency.

Being impressed with the large percentage of errors in diagnosis in this class of cases, I have carefully reviewed the histories of the thirty-six cases in which the diagnosis of calculus was seriously entertained, to find, if possible, the cause or causes of these mistakes.

We will therefore consider (1) the subjective symptoms, as pain, frequent and painful micturition, vomiting; (2) the objective symptoms, as fever localized tenderness, and the presence of a renal tumor; (3) the results of urinary analysis with reference to hematuria and pyuria; (4) the results of *x*-ray examination, and (5) the results of cystoscopy and ureteral catheterization.

Pain is, perhaps, the most constant and characteristic symptom of renal stone. It was present in some form in twenty of the twenty-one cases in which stone was found at operation. Its absence was not recorded in a single instance, but the history is defective in one case. Regarding the character of the pain, it is somewhat difficult to classify the cases, as it frequently changed during the progress of the disease. I have therefore made four classes: (1) severe paroxysmal pain, radiating downward from the kidney along the course of the ureter—the typical renal colic; (2) mild paroxysmal pain, radiating less constantly downward; (3) severe constant pain, backache; (4) mild constant pain or discomfort. Of the twenty-one cases in which stone was found, thirteen had severe paroxysmal pain, or typical renal colic, four had mild paroxysmal pain; one had severe constant pain; two had only mild constant pain.

In three of the thirteen cases having severe paroxysmal pain it began in the epigastric region, shifting later to the region of the kidney and continuing thereafter in that location.

In the two cases complaining only of mild constant pain, one had an open sinus from a previous nephrotomy, leading to a pelvis full of stones, and the seat of a purulent inflammation; the other patient was profoundly septic from an enormous pyonephrosis.

The point of greatest intensity of the pain was not infrequently located somewhat below the kidney, in several instances at or near McBurney's point on the right side, or at a corresponding point on the left. This was particularly the case in a patient with a stone which frequently became impacted in the upper portion of the ureter and was found there at operation; also in another case where a small stone was found in a calyx at the upper pole of the kidney. Both of these cases had been subjected to operation for the removal of the appendix. In a third patient, who also underwent the operation of appendectomy, the cause of the inguinal pain was found to be a stone arrested in the lower ureter near the bladder.

In three other cases of stone arrested in the lower ureter, the point of greatest pain and tenderness lay below McBurney's point, about one inch above the external abdominal ring. This was also the case in a patient in whom the x-ray constantly showed a shadow over the lower ureter but in whom no operation had been performed. In this case and in one other of stone in the lower ureter (both females) there has been a numbness at times of the labium on the side corresponding with the lesion. In one case of stone in the lower ureter, there was a constant pain near the umbilicus with occasional attacks of acute paroxysmal pain in the kidney.

Of the fifteen cases in which no stone was found at operation, five had severe paroxysmal pain; one mild paroxysmal pain; five severe constant pain; one mild constant pain, while in three the history is defective.

Of the five cases with typical renal colic, one had an intermittent hydronephrosis from movable kidney, one a chronic interstitial nephritis, one an acute blood infection with multiple abscesses, while two presented no discoverable lesions of the kidney or ureter. In addition to characteristic and unusually severe renal colic, these two patients also had vomiting, and the presence of blood in the urine. The cystoscope showed in each instance an edematous and everted ureteral meatus, into which a catheter could not be made to enter. The x-ray in one case showed a dimly-defined shadow over the lower ureter, in the other no shadow in three exposures.

Of the other patients, one with mild paroxysmal pain had a perinephritic abscess. The x-ray in this case led us astray by showing a distinct shadow in the renal region (only one exposure). Two patients with severe constant pain showed no lesion of the kidney, two had suppurative disease of the kidney, and one had a chronic diffuse nephritis with intermittent hematuria coming from the ureter corresponding with the painful and tender kidney.

The case with mild constant pain, which was located over the lower ureter, showed on x-ray examination a distinct shadow in the pelvis. Operation revealed the presence of a large calcareous body adherent to but outside the ureter, near the bladder.

Vomiting was found to be a very constant accompaniment of severe colic. Of the twenty-one cases where stone was found, eleven had vomiting, nine had no vomiting, and in one the history was defective. Of the fifteen cases in which no stone was found, vomiting occurred in seven, was absent in four, and unrecorded in four cases. That it is not a very reliable symptom of calculus will be appreciated when we observe that it occurred in a greater percentage of the cases in which no stone was found.

The combination of severe vomiting associated with violent epigastric pain is misleading, and in the writer's experience has once led to an unnecessary laparotomy. Severe colic due to stone in the lower ureter is less likely to be accompanied by vomiting than in those cases in which the lesion is in the upper ureter or kidney.

Frequent or painful micturition, occasionally associated with severe tenesmus, was present in twelve of the twenty-one cases of stone; it was absent in seven and unrecorded in two. In the cases without stone it was present in four, absent in seven and unrecorded in four cases. Of five cases of stone in the ureter, this symptom was constantly present. If we exclude these, it will be found to be present in one-half the cases of stone in the kidney. This fact would tend to disprove the statement made several years ago by Bryson, that lesions of the kidney and upper half of the ureter rarely give rise to frequent or painful urination.

Fever is rarely a symptom of uncomplicated stone in the kidney or ureter, but is frequently present where infection is added. It was present in eight of the twenty-one stone cases, absent in twelve, and unrecorded in one. Of the eight cases in which it was present, all had pyuria or other evidences of septic infection.

Mild and even moderately severe cases of calculus pyelitis will often run a normal temperature while the ureter remains patent, but will show an immediate rise in temperature if for any reason the ureter becomes occluded. This occurred in four cases of my series, in two of which the stone became impacted in the upper part of the ureter, and in two others in which the stone was arrested low down in that canal, and temporary occlusion was probably caused by some change in its position.

Of the fifteen cases in which no stone was found, fever was present in four, absent in seven, and unrecorded in four. In this group also fever was present only when infection was known to exist.

Tenderness was present in every case of stone in which the history was preserved, thus in twenty of the twenty-one cases, its presence is recorded. In sixteen cases it was present in the region of the kidney, best elicited by bimanual palpation or by firm pressure in the costovertebral angle. In one instance, the tenderness existed over the ureter, the stone being subsequently found in the kidney; in another the tenderness was chiefly over the kidney, the stone being found in the lower end of the ureter. In three other cases of stone in the lower ureter, tenderness was most marked from one to two inches above the external abdominal ring.

Of the fifteen cases in which no stone was found, eleven had renal tenderness, while in the remaining four the records do not mention it.

As tenderness is generally present where severe spontaneous pain is felt, and as in at least three cases of this series which showed no stone or inflammatory lesion marked tenderness existed, too much reliance must not be placed on this symptom.

Renal Tumor.—In only eight of the twenty-one cases could the kidney be palpated, while in twelve it could not be felt, one case being without a record. In three only of the negative cases was the kidney palpated, one of these being the intermittent hydronephrosis. In the remaining twelve this sign was either absent or unrecorded.

While the presence of an enlarged and tender renal tumor must be regarded as almost positive evidence of some lesion of that organ. The absence of this sign should not militate against the diagnosis of stone, as it is rarely encountered in uncomplicated cases of renal calculus.

Hematuria.—While blood is probably present in the urine at some period in nearly every case of renal or ureteral stone, it is often in such small amount as to be detected only by the microscope; moreover it is often entirely absent at the time of a given examination. Of my twenty-one stone cases, ten had blood in the urine, nine had none, and in two the history is defective. Of the ten cases in which blood was found, in seven it colored the urine so that it was noticed by the patient. In three it was found only by the microscope.

Of the fifteen cases in which no stone was found, five had hematuria, six had no blood and in four it is not recorded.

Of the five cases of hematuria, in three the blood was seen only by the microscope, in one it was seen by the cystoscope, issuing in a long worm-like clot from the ureter; in the remaining case, in which the hemorrhage was abundant, the lesion proved to be chronic unilateral hemorrhagic nephritis. Of the three cases in which microscopic blood was found, one was an acute pyelonephritis, one was an acute blood infection of the kidney, and the remaining one showed no lesion at operation, although there is much reason to suspect that in this as well as in the case in which blood was seen by the cystoscope issuing from the ureter, a stone was present in the ureter and passed just before operation. In calculus cases, one is apt to find traces of blood during or immediately after a paroxysm of colic.

In one instance, after watching for several weeks a patient who complained of severe attacks of paroxysmal pain and vomiting, the pain being referred to an area about the size of a silver quarter, one inch to the inner side of McBurney's point, I was able to make a correct diagnosis by observing a few red blood cells in a specimen of urine passed immediately after a paroxysm. This led me to make a second exploration of the kidney (the first exploration being performed by another surgeon several months before). At the second nephrotomy, a small calculus was found completely plugging the pelvic extremity of the ureter.

Pyuria.—The presence of pus in the urine is dependent upon so many factors, that it is of very little value in the diagnosis of renal or uretral stone.

The presence of a stone in the uninfected pelvis of the kidney or ureter does not give rise to a purulent secretion. That pus is often present—due to infection—is evidenced by the fact that in sixteen of our twenty-one stone cases, pyuria was noted, in four it was absent, and in one it was unrecorded. It was also present in four of nine cases where stone was not found.

The presence of pus in the urine from one kidney and its absence from that drawn from the other by ureteral catheterization, is of course a valuable sign of renal infection.

Cystoscopy and Catheterization of the Ureters.—To the employment of the cystoscope and ureteral catheter surgery owes much for the advances which have been made both in the diagnosis of affections of the urinary passages, and in determining the competence of the other kidney in contemplated operations.

Some five years ago I began to employ these instruments—at first irregularly and often unsuccessfully. During the past eighteen months, however, since Dr. Klotz has given his services to the hospital in this department, our results have been far more reliable and satisfactory. It is only during this latter period that accurate records of our findings have been kept.

Without entering into the details of our subject, I will simply report that in our cases of suspected calculus, thirteen cystoscopies and ureteral catheterizations have been made.

Number of cases showing typical appearances of the ureteral meatus of catheter findings, and in which stone was afterwards found on operation—five.

Number of cases in which meatal appearances suggested calculus but in which no stones were found at operation—two.

Number of cases in which catheter findings indicated renal lesion but not necessarily stone—four.

No cystoscopic or catheter evidences of stone, no stone subsequently found—one.

Generally unsatisfactory—one case.

X-ray Examinations.—This in competent hands is, in the writer's opinion, the most valuable method of examination which we possess for the diagnosis of calculus disease of the kidney or ureter. During the past five years it has been constantly employed at the Roosevelt Hospital in the routine examinations of cases of suspected stone. As most of our earlier attempts were unsatisfactory, and as the records during that period are exceedingly imperfect, the data which I will present cover only a period of two or three years, since the department has been under the direction of Dr. L. G. Cole.

Of our twenty-one cases of stone, *x*-ray examinations are recorded in twelve, of which ten were positive and two negative—the two latter being in an exceedingly corpulent individual with stones in both kidneys, which did not show in the plates.

Of the cases which did not have stone, an *x*-ray examination was made in six instances, three of which were negative and three gave shadows and led to erroneous diagnosis. Of these last three one was in the kidney region but without clearly defined edges, one over the pelvic portion of the ureter, also without clearly defined edges, and one other over the lower ureter with clearly defined edges. In this instance a calcareous mass was found adherent to, but outside the ureter, and upon examination proved to be the calcified tip of an appendix epiploica, which had become adherent by inflammatory exudate to the parietal peritoneum over-lying the ureter.

If we follow the advice of Dr. Cole, and reject all plates which do not show the outline of the psoas muscle and the transverse processes of the lumbar vertebræ, and look with suspicion on all shadows which do not have well-defined edges, only one error would have been made in this series of cases.

Several sources of error must always be considered in plates of the pelic cavity, namely: calcified lymph nodes, phleboliths, calcareous masses in the sacrosciatic ligament, and calcified appendices epiploicæ, which have not to my knowledge been observed before.

From a careful review of the above facts, I feel justified in stating that there is no single symptom nor sign, nor any group of symptoms or signs that is absolutely pathognomonic of renal or ureteral calculus, unless the calculus lies in the lower ureter and can be touched by a metal bougie or catheter.

The most important factors to be considered in making a diagnosis are pain, tenderness, hematuria, the results of radiography, cystoscopy, and ureteral catheterization.

While vomiting, vesical irritability, pyuria, fever, and the presence or absence of a renal tumor are important, and will often help us to confirm or lead us to exclude other pathological conditions, too much reliance must not be placed upon them in the diagnosis of calculus.

While pain and tenderness were present in practically 100 per cent. of our cases of stone, it must not be forgotten that they were also present in a large percentage of the cases in which no stone was found. That calculus may, and often does exist without pain, is evidenced by the statement of Bruce Clark, who reported twenty-four autopsies upon calculus patients—in thirteen of which there had been no subjective symptoms during life.

Hematuria was known to be present in 52 per cent. of our stone cases, but it was also present in 45 per cent. of the cases without stone.

Spontaneous hemorrhage occurring during rest and sleep, generally means new growth. Hemorrhage following active exercise or jolting, and accompanied by characteristic colic, in the absence of other demonstrable pathological conditions is strongly suggestive of calculus.

If we include all cases examined, the *x*-rays gave positive evidence of the presence or absence of stone in 72 per cent. of our cases. If we exclude the imperfect plates and those in which the edges of the shadow were not distinctly defined, it gave accurate indications in 95 per cent. of our cases, and must therefore be regarded as the most reliable means of examination which we possess.

Cystoscopy by enabling us to observe the conditions of the ureteral orifices, helped us to a correct diagnosis in 66 2-3 per cent. of the cases examined, while it was misleading in 33 1-3 per cent.

Ureteral catheterization proved valuable in confirming our diagnosis, in definitely determining the side of the lesion, and in estimating the competence of the opposite kidney. It might be of positive value in certain instances by enabling the surgeon to touch a ureteral stone with a metal catheter or bougie in the female. It might also be useful with the *x*-rays, by introducing a catheter bearing a metal stylet into the ureter, to determine the probability of a given shadow being within or without the canal, although this might lead to error if the object causing the shadow lay in front or just behind the ureter, as in my case where a calcified appendix epiploica lay just in front of the terminal portion of the ureter.

As my series of nephrorrhaphies presents no features of special interest, and as I am unable to report any recoveries after the operation of decapsulation for chronic nephritis, I will pass at once to the traumatic cases. Of these there were six.

Case I.—The patient sustained a fracture of the liver and kidney from a severe blow on the right loin. Abdomen opened and found full of blood, liver wound packed. Kidney lesion recognized from the presence of hematuria and a large retroperitoneal exudate, but the condition of the patient precluded the possibility of further exploration. Death. Autopsy revealed extensive rupture of right kidney.

Case II.—Male, received a severe blow over right flank; two lower branches of the renal vein torn off with but slight injury to renal parenchyma; extensive retroperitoneal hematoma. Kidney explored by lumbar incision, veins clamped and ligated. Recovery with functionating kidney.

Case III.—Severe contusion of kidney with superficial lines of fracture radiating from pelvis; moderate perirenal hemorrhage. Kidney explored; gauze drainage; recovery.

Case IV.—Child, received a blow over left loin; moderate hematuria, no pain or discomfort; moderate fullness of flank, and tenderness on palpation. Kidney explored by lumbar incision; complete transverse rupture at junction of upper and middle thirds, involving the pelvis; suture; recovery.

Case V.—Child with a transverse rupture of the kidney about middle, with considerable contusion and hemorrhage. Kidney sutured; wound packed. Infection followed requiring a secondary nephrectomy; recovery.

Case VI.—Colored man, aged twenty-eight, fell from a height injuring his left side and abdomen. Hematuria immediately after injury; second specimen of urine clear. Complained of pain and soreness in left flank; moderate tenderness and slight fullness; no shock. Several hours later complained of sharp abdominal pain, vomited and became restless and thirsty. Second examination showed abdominal muscles rigid, free fluid in peritoneal cavity, an increased fullness in left flank. Pulse 120, temperature 101°. Under ether anesthesia the abdomen was opened and found full of fluid and clotted blood, stomach, intestines, liver, and spleen examined with negative result. Abdominal cavity thoroughly irrigated with hot salt solution and wound closed. Patient's condition becoming alarming an intravenous saline infusion was given, also strychnine and other stimulants. Left kidney exposed by lumbar incision found to be divided by two transverse ruptures into three unequal portions—one of which lay free in the large collection of fluid and clotted blood; the other two were attached to the vessels forming the pedicle. The pedicle was clamped and the renal tissue hastily removed and the wound packed. Slow recovery from shock; no febrile reaction. Pedicle clamp removed on the eleventh day. Recovery.

As extensive injuries to the kidneys may occur with but slight local or general symptoms, I have been led to adopt the rule that all cases of severe contusion of the flank with hematuria should be immediately explored.

In conclusion, I desire to state that in estimating the competence of the opposite kidney in contemplated operations, use has been made occasionally of the methylene blue test—more frequently of chemical and microscopical examinations of the separated urines obtained by the Harris segregator or ureteral catheterization, and also of late with in-freezing point of the blood serum and of the urine. creasing frequency, of cryoscopy, or determining the freezing point of the blood serum and of the urine.

STANDARDIZED GRUELS: AN APPLICATION OF THE PERCENTAGE PRINCIPLE TO GRUEL FEEDING.*

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During many years gruels have been used empirically for their known beneficial effects as a dilutent of cow's milk for infants. Jacobi and others have long been advocates of the use of gruels for the purpose of rendering the milk curds softer. With the increased knowledge that has resulted from a careful study of the use of gruels in infant feeding, it has become recognized that they have other values than those of attenuants of the curd of cow's milk. The effect they produce on the general process of digestion is often marked, and close studies of physiology, digestion, and metabolism show that they may often be employed to economize the energy of the body that is being used in the effort to prepare food for assimilation. By taking advantage of this fact it is often possible to keep the body well nourished on a quantity of food much smaller than is theoretically indicated. It has been clearly established that some forms of food require so much effort on the part of the body to prepare them for the use of the cells and tissues, that only a small portion of the food really is used to repair waste or build up new tissue, the larger portion being needed to furnish the energy for digestion and similation. In such instances an enormous mount of digestive work is performed with little sulting gain. In some forms of disease the energy f the body, which may be below normal, can be sed to better advantage in fortifying the resisting owers of the organism than in carrying on the ork of the digestive and assimilative processes. t is in these kinds of cases that it is advantageous have some kind of nourishment that will be sily retained and quickly absorbed in a form that n be readily appropriated by the cells. Gruels ve long been one of the forms in which such urishment has been supplied. It is highly desirle, therefore, that there should be some uniform ndards for use in preparing gruels and that their d values and possibilities should become better own.

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* Read at a meeting of the Pediatric Section of the New York Academy of Medicine, January 12, 1905.

For the purpose of establishing some such stands the writer had made a number of different ds of gruels and then had them assayed to demine their composition in order to show the tive proportion of tissue-building and heat and rgy-producing elements. Pearl barley, prepared rley flour, wheat flour and rolled or flaked oats, h as are sold in packages for family use, were d. The Pearl barley was boiled for three hours a saucepan and then strained, a portion remaing on the strainer. The rolled oats were cooked r one hour in a double boiler and then strained, portion also remaining on the strainer. The bar-y and wheat flours were cooked for one hour in a uble boiler and strained, practically all of the ur passing through the strainer into the gruel. e gruels thus made were sent to the New York ricultural Experiment Station where they were sayed by the courtesy of the director, W. H. rdan and the following figures obtained:

PLAIN GRUELS.

	Total Solids.	Proteid (Nx6.25.)
1 oz. Avoir. Pearl Barley to quart (32 oz.)	1.483 per cent.	0.140 per cent.
1 oz. Av. Prepared Barley Flour to quart (32 oz.)	2.288 "	0.195 "
1 oz. Av. Wheat Flour to quart (32 oz.)	2.494 "	0.331 "
1 oz. Av. Rolled Oats to quart (32 oz.)	1.931 "	0.262 "

DEXTRINIZED GRUELS.

6 oz. Av. Rolled Oats to quart (32 oz.)	10.92 "	1.47 "
6 oz. Av. Wheat Flour to quart (32 oz.)	15.12 "	1.81 "

It will be noticed that the composition of the uels made with six ounces of cereal to the quart almost exactly six times the composition of the uels made with one ounce to the quart.

If an ounce of cereal is made up into a quart of uel and none of the cereal is removed by straining is evident that each ounce of the gruel will contain 1-32 ounce of the cereal and that the cereal has been diluted 32 times. From this illustration it is easy to see that if a definite weight of cereal is used in making the gruel, and none of it is removed by straining, the composition of any gruel can be readily calculated by dividing the composition of the cereal by the number of times it is diluted. This rule cannot be followed in the cases of cereals which are not completely broken up by cooking and part of which is removed by straining. However, it will be noticed in the assays of gruels made from rolled oats that practically the same proportion was removed in the gruel made with six ounces as in the gruel made with one ounce of the oats, so this amount can be allowed for.

To determine on a convenient and accurate method of obtaining different weights of the cereals, the writer had twelve different trained nurses measure them with a tablespoon made level full by sliding a knife along the edges, and also with the author's one-ounce cream dipper and the quantities weighed. Inquiry of one of the largest manufacturers of spoons in the country brought out the fact that there is no accepted standard of size for tablespoons used, and that they vary slightly in capacity although all makers keep close to one size.

It may be safely accepted, however, that

1	level tablespoonful of	Pearl Barley	weighs	[illegible]	oz.	Avoirdupois.
1	" "	"	Barley Flour	"	[illegible]	"	"
1	" "	"	Wheat Flour	"	[illegible]	"	"
1	" "	"	Rolled Oats	"	[illegible]	"	"
1	Ounce Dipper	"	Pearl Barley	"	[illegible]	"	"
1	"	"	Barley Flour	"	[illegible]	"	"
1	" "	"	Wheat Flour	"	[illegible]	"	"
1	" "	"	Rolled Oats	"	[illegible]	"	"

A sixteen ounce graduate of wheat flour weighs 8 ounces average, and the same measure of rolled oats weighs 5 ounces.

From these observations it is possible to construct a simple table for use in making gruels of any desired strength. Of course this table will not be absolutely accurate because the composition of cereals is not always uniform; and again, as the concentration of the gruels becomes greater, the increased specific gravity will slightly disarrange the calculated percentage composition. However, this table will be as accurate as the tables used in modifying cow's milk for infant feeding. The percentage methods of feeding as emphasized by Rotch are an advance in as far as they teach us to scrutinize food values. But the danger is of pushing the principle to an extreme that is liable to discredit the whole system, for undoubtedly many results that have been attributed to fine percentages have been due to other causes. It has been found that calculated milk food mixtures which gave good results when analyzed, did not have the calculated composition, and it is not to be reasonably expected that it could be otherwise, for exact results cannot be obtained unless each specimen of the milk is chemically analyzed, which is out of the question as some of the analytical processes are extremely complicated and laborious. In addition, extended experiments on animals, where perfect control was obtained, have shown that mathematical accuracy in composition of feeding mixtures cannot be made the basis of successful feeding. In considering cereal gruels in this table the only divisions made are proteids and carbohydrates. Cereals contain only small quantities of fat and mineral matter, and when made up into gruels the quantity of these elements actually present is so small as to not warrant their separate consideration on a percentage basis.

APPROXIMATE PERCENTAGE COMPOSITION OF GRUELS.

	Pearl Barley.		Barley Flour.		Wheat Flour.		Rolled Oats.	
	Proteids	Carbo-hd's	Proteids	Carbo-hds	Proteids	Carbo-hds	Proteids	Carbo-hds
1 oz. to quart	0.14	1.34	0.195	2.093	0.331	2.161	0.262	1.669
2 ozs. " "	0.28	2.68	0.390	4.186	0.662	4.322	0.524	3.338
3 " " "	....	....	0.585	6.279	0.993	6.483	0.786	5.007
4 " " "	....	....	0.780	8.372	1.324	8.644	1.048	6.676
5 " " "	....	....	0.975	10.465	1.655	10.805	1.310	8.345
6 " " "	....	....	1.170	10.558	1.986	12.966	1.572	10.014
7 " " "	....	....	1.365	14.651	2.317	15.127	1.834	11.683
8 " " "	....	....	1.560	16.744	2.648	17.288	2 096	13.352

Plain gruels cannot be made much stronger than two ounces to the quart.

Dextrinized gruels may be made up to as high as eight ounces to the quart.

The high proteid gruels are of great value in many diverse conditions. The author has employed them in persistent vomiting in patients of all ages; in the enfeebled digestive states accompanying typhoid and other fevers and in general exhausted conditions where the digestive and assimilative functions are at their lowest ebb.

There is a widespread erroneous belief that vegetable proteids are not good tissue builders and are not readily digested. A moment's thought will show that they must be nutritious for the greater part of the animal tissues of the entire earth are built up from vegetable proteids. All of the lean meat of beef, mutton, and pork is derived from vegetable proteids. The proteid of bread is vegetable and it is almost entirely digested. Recent studies on the digestibility of bread, conducted under the supervision of Atwater,[1] in which correction for metabolic products in the feces was made, show that as high as 98 per cent. of the proteid of white bread is digested by men.

Rockwood[2] has shown that the proteid of oatmeal is as thoroughly digested as meat, if it has been separated from the fiber. The reason cereal proteids are apparently indigestible is that they are enclosed in cellulose which prevents the action of the digestive fluids; or the food is so coarse that it is hurried through the digestive tract and thus escapes the action of the digestive juices. Digestive experiments *in vitro* show the proteid of cereals to be easily digested if sufficient time is allowed. Cereals in the form of well cooked gruels have the cellulose ruptured, and so expose the proteids that they may be easily acted upon by the digestive enzymes.

[1] Studies on the Digestibility and Nutritive Value of Bread at the Maine Agricultural Experiment Station, 1899-1903. C. D. Woods and L. H. Merrill.

[2] The Utilization of Vegetable Proteids by the Animal Organism. E. W. Rockwood. *Am. Jour. Physiol.*, 1904. No. 4.

51 West Fifty-first Street.

TRAUMATIC RUPTURE OF THE INTESTINE WITHOUT INJURY TO THE ABDOMINAL WALL.*

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During my service at the Lincoln Hospital, several cases of rupture of viscera without injury to the parieties have been treated by me; through the kindness of Prof. George E. Brewer, of the Roosevelt Hospital, opportunity has been afforded me to see several cases on his service at that institution, and thanks to the courtesy of several others I have been enabled to collect a series of reliable records from hospitals in and outside of New York.

The rarity of this accident and the well recognized difficulties in diagnosis led me to subject these cases and current literature to a more or less careful study. It may be noticed that the conclusions arrived at do not always correspond to the statements found in some of the standard works on surgery, where, however, the space devoted to this subject, even in the most recent books, is unduly scant.

Before entering upon a broader consideration of my theme I shall read the history of two cases which may serve in a drastic manner to emphasize the difficulties in diagnosis, and the great importance of prompt treatment in abdominal injuries of this character.

Case I (Author's). Frank Pacifico, aged 18, laborer. While he was engaged in sawing a board with a circular saw, something happened which threw the board back, striking him in the abdomen. The board was one inch thick, and 18 feet long. He walked about after the injury, but had some pain, and was given whiskey and water by his fellow laborers. Later he lay down to await the arrival of
the hospital ambulance. He was admitted to th
hospital at 11:20 A.M. and presented the followi
picture: A well developed and well nourished ind
vidual. Examination of the head, chest and e
tremities, negative; pulse 96, respiration 28, te
perature 97.6°; the respiration was thoracic. T
abdomen was normal in appearance. On palpatio
it was found to be rigid, more so in the left upp
quadrant, where there was some tenderness and pa
Almost in the median line just above the umbilic
was an irregular dull area and also a slight amo
in the left flank. The center of the abdomen seem
somewhat more tympanitic than normal. Liver d
ness intact. Urine negative.

The patient was seen by me for the first time ab
1:30 P.M., that is, about two hours after the inj
at which time the clinical picture was the same
cept that his pulse had increased a few beats, a
he had vomited once. Although the positive sig
were not many, the expression of his face was t
of a man with some serious condition, and on
strength of the abdominal rigidity, combined w
the other symptoms and signs, an immediate op
ation was decided upon.

At 2:30 the abdomen was opened—approximat
3½ hours after the injury. There were 6 or 8 oun
of bloody fluid which smelt of whiskey, some int
tinal contents, and a few blood clots.

The jejunum was torn in three places within fo
inches of each other and about one foot from
duodenojejunal angle. From these openings ca
intestinal contents. The mucous membrane p
truded and the surrounding intestine was inject
A large laceration was found in the correspond
mesentery; also a large hæmatoma. The abdom
was quickly flushed out and the injured portion
the gut with its mesentery was resected, the e
of gut being united with a Murphy button o
which the peritoneum was brought together wit
continuous Lembert stitch. The edges of the mes
tery were also adjusted with catgut and the abdom
was closed with through and through silkworm
sutures. The duration of the operation was
minutes. The patient was given a small dose
morphine, and returned to the ward in good co
tion.

During the first four days he was fed by rect
and given small doses of opium to allay any disco
fort and give the injured intestine a rest. Th
was a very moderate amount of postoperative d
tention, but the bowels moved in the evening a
on the following days he passed gas freely. T
temperature on the day after operation was 101
and after that remained about 100° until the fo
teenth day, when it suddenly rose to 104°. He h
then been on liquid diet one week. On examinat
a deep resistance was made out on the left side be
the umbilicus. On the next day the temperat
was again 100°. Nevertheless, the mass persis
and the pulse was up. An exploratory incision w
made and a small abscess opened on the left side o
the mesentery. This contained thin pus, which wa
washed out. It had no fecal odor. The cavity wa
packed. This wound drained freely.

The temperature continued at about 100°. Th
patient ate well and felt well for about thirteen day
more, when he began to have an afternoon rise o
temperature. On examination a mass similar to th
first was felt on the right side of the abdomen ne
the umbilicus. The symptoms were very slight, th
local pain and tenderness was not marked, and the
was very slight resistance. I decided that an absce
similar to the one opened two weeks previously ha
formed, and determined in the absence of any acu

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*Read by invitation before the Clinical Society of the Elizabeth Hospital, Elizabeth, N. J.

sign to wait until it tended to approach the surface somewhere. This eventually occurred in about five days, when the patient was again etherized and a Kammerer incision made over the right lower rectus. The abscess was completely walled off and contained about four ounces of pus. It did not communicate with the former abscess and was on the right side of the mesentery. These cavities drained for about four weeks. The wounds had then healed completely and the patient was discharged from the hospital. After six months he was examined by me and no hernia was found in any of the scars, due probably to the fact that the first incision healed by first intention and the second and third were Kammerer incisions. He had some paralysis of the lower portion of the recti muscles, but otherwise was perfectly well. The button was never found, but an *x*-ray plate showed no evidence of its presence.

It is my opinion that the abscesses which formed were due to infection of catgut in the Lembert stitches. There was probably enough peritoneal infection thoroughly to contaminate the sutures, and they formed a nidus on either side of the mesentery. The fact that neither abscess contained fecal matter or had a fecal odor would seem to exclude any intestinal origin.

CASE II.—The second case was treated on the surgical service of an institution in an adjoining State. The record reads as follows:

O. G., aged 32, German, carpenter. On the afternoon of admission the patient was engaged in sawing a piece of board with a circular saw, when for some unknown reason the board slipped and flew from the machine, striking him in the abdomen. The blow was quite severe and knocked the man down. He was taken to the hospital in a conscious condition and the only complaint was pain over the seat of the injury. He was found to be suffering from a moderate amount of shock, with pale face, and pulse somewhat accelerated. The abdomen showed a reddened area below and to the right of the umbilicus, this spot being very painful on palpation. There was considerable rigidity of the entire abdomen, almost equal, but a little more on the right side. The percussion note did not vary. The patient was catheterized and no blood was found in the urine. Examination of the heart, lungs, and extremities gave negative results.

The patient was put to bed and seemed to be quite comfortable. About seven o'clock the bowels moved slightly. He vomited at nine o'clock and was complaining of considerable pain over abdomen, this coming in paroxysms, and the patient sleeping in the intervals. At ten o'clock he voided apparently normal urine. The abdomen still remained rigid. At eleven o'clock he vomited again, so all mouth administration was stopped. White blood count taken at twelve o'clock normal. After this until morning the patient had a comfortable night.

The following morning the patient seemed to be resting quite comfortably. Examination elicited pain and tenderness over the seat of the injury; the rigidity of abdomen still persisted. Occasionally the patient would spit up mucus and at five o'clock the vomitus was fecal. White blood count at three o'clock 14,000. At five o'clock a well defined mass could be palpated in the right iliac fossa, and as a rupture of intestine was suspected patient was got ready for operation.

An incision five inches long was made in the median line below the umbilicus, the peritoneum was incised, and considerable bloody fluid escaped. Examination of the intestines showed them to be much congested and covered with considerable lymph. A small rupture about ¾ inch in diameter was found in the ileum; around this was considerable exudation, and patches of necrosis were found in the mesentery, where it was attached to the gut. Here and there on the gut were small patches of deep congestion. At the point of rupture considerable fecal matter was and had been coming through. The rupture was closed with double layers of Lembert sutures, black silk being used, the intestines were all cleaned off, put back, and the cavity well washed out with saline solution. The patient received about 500 c.c. of saline solution intravenously with other stimulation. A number of drains were left in and stitches were taken at the ends of the incision. The patient's condition was not very good, the pulse being very rapid and weak. The remainder of the night the patient was very restless, gradually growing weaker, and at nine o'clock the following morning he died.

I beg to call attention to the striking similarity of the conditions surrounding both cases up to the hour of interference. Here we have expressed in the line of treatment a marked difference of opinion. The boy referred to in the first case was operated upon in all possible haste after having been seen, whereas, in the second case it was thought best to defer operation twenty-five hours. Although the amount of injury in the former was much greater than that found in his unfortunate parallel, yet he is now about his work, whereas twenty-two hours of delay would in all human probability have allotted to him the fate of the other case referred to.

Injury to the intestines, including the stomach, without visible damage to the parietes is generally the result of some blunt force acting over an area of indefinite size. It is not necessary that the injury to the gut or its mesentery be in the immediate vicinity of the point of contact, as shown by cases where the rupture is at some distance. A blow just above the pubes may be followed by rupture of the stomach. This event is the exception. The abdomen need not be hit at all, as when laceration of the gut follows a fall upon the feet. The momentum acquired by the distended viscus is responsible for the damage, much in the same way as tearing of the liver and suspensory ligaments occurs as the result of a fall. The variety of accidents which may be to blame for such serious intestinal injury cannot be recounted in detail. Suffice it to mention that the most common are horse kick, falling from a height, being caught between cars, blows from fists, planks, shovels, etc. It is a curious fact that a blow upon a hernial tumor is not infrequently the history obtained (3 out of 21 cases). It is important to ascertain, if possible, the direction of the blow and the condition of the abdominal muscles. A contracted state of the abdominal muscles gives some protection to the viscera. Most of the cases of rupture are due to crushing of the gut against the bony structures, the spine of the ilium and brim of the pelvis, while a few are due to a bursting of the gut and others to traction. The wounds due to bursting are apt to be small, round, and jagged, whereas the crush cases show irregular tears. Traction cases seem to be associated more commonly with transverse rupture and laceration of the mesentery.

It is quite evident that in an ordinary case it is impossible to state just what combination of circumstances led to the injury. The condition of the alimentary canal must be an etiological factor of importance. To be sure, very few patients are ever asked just when they drank or ate last, but the time of injury is frequently given, as in 15 of the 21 cases upon which these remarks are based. Eighteen were in working men, and if we assume that the average laborer eats at 6:30, 12 and 6 o'clock, the injury occurred in 12 cases within three hours of the last meal; in three cases more than three hours had elapsed, while in three cases the time was not given. The other three cases were in children. It is frequently claimed that distention with gas is a predisposing factor. This is theoretical, and if we are to theorize it would be more reasonable to assume that distention with fluids or semisolids is of greater importance. Fluids and semisolids are practically noncompressible and would have much more difficulty evading pressure than the gas. One need only remember that it takes but a comparatively slight blow upon the abdomen to cause the escape of flatus, whereas the escape of fæces following such moderate violence is certainly not a common accident.

As already indicated, males are far more frequently affected—only one female, and that a child of nine years, being among the 21 cases alluded to. Nearly 50 per cent. of the patients are between 20 and 50 years of age, and 50 per cent. of these between 30 and 40 years—these being the years of a man's greatest physical activity. Childhood is the age next in frequency.

The anatomical relations of the intestines are of etiological importance. The stomach and flexures are protected by the overlying thorax, whereas the rest of the intestine, with the exception of the rectum, is much exposed. The portion of the gut most frequently involved is the ilium, possibly because the contents are fluid and because of its exposed position in the center of the abdomen with the spine immediately behind. The jejunum is next most frequently injured, then follow the large intestine and duodenum. Fixation is of importance in the case of complete rupture which occurs most frequently in the region of the duodenojejunal angle.

Contusions may be of any degree, from those producing slight ecchymosis to those followed by extensive necrosis, and are dangerous when not operated upon because of the secondary perforation or hemorrhage. Most of the cases of secondary hemorrhage follow a contusion of the stomach. Hyperacidity and reduced functional activity of the bruised peritoneum in the region are factors of importance in this connection. Perforating rupture of the stomach is apt to be of the anterior wall and along the lesser curve and in some cases seems to be the result of very slight trauma.

Certain contusions of the intestines are followed by the formation of extensive hæmatomata. The effusion of blood is generally submucous and may be very extensive, forming large blood cysts. Incomplete ruptures may involve any combination of the three coats. When the mucosa alone is left intact, it protrudes sooner or later as a hernia, whereas the serosa when left does not remain long before perforating. Perforations of the gut are more common on the side opposite the mesenteric attachment. Small complete perforations may be plugged by the protruding mucosa and in this manner the escape of the intestinal contents prevented for some time. The contraction of the muscular coats of a completely torn-off piece of gut may temporarily close the lumen entirely. Rupture occasionally takes place in a retroperitoneal region of the intestine such as the posterior wall of the colon or duodenum—in which case extensive suppuration in the cellular tissue follows. It also happens occasionally that the escaped intestinal contents become walled off and give rise to a local peritonitis only.

Over 45 per cent. of the cases of injury to the intestine are combined with injury to some other intra-abdominal structure. Aside from the mesentary, the kidney is most frequently involved, then the liver and then the spleen. Other regions which may be involved are the omentum, mesocolon, a peritoneal fold, such as the gastrohepatic ligament, large vessels, pancreas, bladder, and bile-ducts. Several of these structures may be involved at the same time.

There is no individual symptom or any combination of symptoms always present which would allow us to make a diagnosis of rupture of the intestine, or even to determine in many cases whether the intestine had been injured at all. In a series of cases it will be found that shock, pain, nausea, vomiting, rigidity, tympany, regional dulness, and thoracic breathing are the symptoms most commonly found. Abdominal abrasions, hæmatoma, and lacerations of muscle may or may not be present.

When considering symptoms we must confine ourselves to those that occur in a case before any secondary condition such as peritonitis has complicated the picture, and as much as possible independently of symptoms and signs referable to other complicating injuries.

There is no means of standardizing shock unless we rely on the readings of the Riva-Rocci blood pressure apparatus, which have but a relative value. The amount present in a given case is measured solely according to the judgment of the surgeon in charge. During the first two hours the temperature rarely ranges higher than 101.5° to 102° and in cases with much shock and immoderate hemorrhage it may be subnormal. The pulse in an average case will not be over 100—again excepting extreme shock and hemorrhage. The expression is anxious, the skin is cool and covered with cold perspiration, the mucous membranes, tips of the ears, and the nose are blanched. The patient prefers to lie on his back, maybe with legs drawn up somewhat. The breathing is thoracic and somewhat increased, any motion of the trunk being carefully avoided. There are extreme cases in either direction, those with almost no symptoms at all, the patient having continued work or walked some distance before becoming aware of any unusual sensation; and there are those in which death occurs in a state of collapse within a few hours after the injury. The anatomical conditions may be identical in these extreme cases, so that it seems reasonable to conclude that the amount of concussion sustained by the abdominal nervous system is responsible for the variation in the clinical picture. The seat of an injury does not bear any relation to the amount of shock, neither does the amount of shock indicate the amount of damage to the gut. When the patient is seen after some time the symptoms due to shock may become continuous with those due to peritonitis.

Hemorrhage is present usually to a moderate degree, and in over 75 per cent. of the cases when the intestine alone is injured it is not sufficient to influence the symptom-complex. When the stomach is torn there is apt to be more hemorrhage. The conditions are quite different when the liver, spleen, kidney, pancreas, omentum, mesentery, mesocolon, or some other peritoneal ligament is torn. In these cases the symptoms of most importance may be those due to internal hemorrhage. There is at times quite a marked lack of proportion between the amount of blood found in the abdominal cavity on operation and the almost complete absence of symptoms (aside from dulness) suggesting an internal hemorrhage. It should also be remembered that the clinical picture of the most vicious type of peritonitis occurring within a few hours after rupture of the intestine, so-called "peritoneal septicæmia," resembles the symptom-complex of internal hemorrhage at times so closely as to defy differentiation. Vomiting of blood occurs sooner the nearer the injury is to the stomach, but even when the stomach is injured vomiting may be absent or no blood may be found, only on microscopic examination. Blood could be passed immediately by the rectum only when the injury is in the lower part of the bowel. Dulness varying with position is due either to blood or to extravasated intestinal contents. When the amount of fluid is great, the intestines may be pushed up in the median line, and when they are somewhat distended they may partially cover up the liver dulness. Tympany is a symptom upon which great stress has been laid. It is pathognomonic when occurring in a circumscribed region at the highest point of the abdomen, and is due to gas outside the gut within the peritoneal cavity. Various surgical tricks have been played with this gas. One well known European surgeon passed a trocar and then ignited the escaping gas, a procedure that neither added useful data for diagnosis or increased the patient's chance for recovery. The injured man was extremely drunk. His overdistended stomach had been ruptured. Splashing sounds and the transmission of cardiac and respiratory murmur to the abdomen are signs of slight value. When the amount of gas within the peritoneal cavity is great or when the intestines are much distended, the liver dulness may be much diminished if not obliterated. This sign is quite uncommon in the early hours, and is either due to intestines and gas being interposed between the parietes and liver or to the liver being turned up, "on edge," as it were, presenting only its sharp margin for percussion.

Pain and tenderness may be present to any degree and may be local or general. Absence of pain proves nothing, and the presence does not indicate the kind of injury or enable one to differentiate between some evident complicating injury of the trunk and damage to the abdominal contents. In most of the cases seen early there is apt to be found an area where the pain and tenderness are greatest. Later on the secondary pain of a spreading peritonitis blurs the margin of this area. One must always be mindful of the treacherous cases where pain and tenderness are so slight as not to annoy the patient, especially when other evidence is scant. When pain is localized, it is generally referred to the immediate vicinity of the injury.

The degree of distention present immediately after the injury is due to the amount of gas within the intestines at the time of injury. Distention becomes more marked, however, very soon and may be due to increased accumulation of gas within the intestine or to gas within the peritoneal cavity combined with extravasation of blood and intestinal contents. When the injury to the intestine is high up, combined with a plugging of the opening by mucous membrane the segment proximal to the section of gut the motor function of which is interfered with, alone distends. This fact accounts for the absence of marked tympany and distention so common in injuries in this region. Several hours have generally elapsed before the case gets into the hands of a surgeon, which explains why the majority when seen in hospital practice show some distention. But even under these conditions there are cases in which the abdomen is perfectly normal in appearance, or even retracted. The duration of this state depends on the section of the bowel involved, the character of the injury, infection, and the gas-producing conditions of an individual case. Dulness indicates hemorrhage or the escape of intestinal contents. The dull regions may be both flanks and irregular patches throughout the abdomen. Vomiting is present in over half of the cases, and nausea is still more prevalent. The vomiting occurring immediately after the accident is reflex and due to the local damage to peritoneum and intestinal nervous apparatus. Few patients vomit immediately. The majority do not do so until after a few hours. In cases of perforation this is due to spreading peritoneal irritation. The late vomiting may also be due to intestinal obstruction. Even in cases in which the stomach is ruptured vomiting may be absent, as already mentioned, and in rupture of the duodenum vomiting of blood occurs in about half of the cases.

Rigidity is a sign of the greatest importance, of more importance than any other symptom because it is indicative of some severe injury to the peritoneum, whether traumatic or due to infection, but aside from this it does not tell what the character of the damage may be. In one case there may be simply a contusion of the abdominal wall with very marked rigidity, while in another with little rigidity there may be a rupture of the gut. Cases without any rigidity and resistance are uncommon. Pressure increases the resistance. The rigidity is not necessarily uniform; on the contrary, in the early cases one may find some area as a rule where it is most marked. The diffuse uniform rigidity of general peritonitis is quite different. The cremaster muscle is said to partake of the early contraction. Emphysema of the abdominal wall is a symptom occasionally observed in retroperitoneal injuries and when the abdominal wall has been injured on the inner side.

It is impossible to make an absolute diagnosis of the exact intra-abdominal conditions. A probable diagnosis is the best we can make. It is not generally possible to rule out injury to liver, spleen or pancreas, and frequently it is not possible to exclude injury to the kidneys. Although a complicating injury to the bladder may be impossible to detect, still a complete rupture is apt to be indicated by a pretty distinct symptomatology. It is at times impossible to state whether the condition of the patient is not due to a contusion of the abdomen alone. The hemorrhage from a liver is at first confined to the right side, and that from the spleen to the left, going into the pelvis. Pain in the shoulder and an increase of urobilin in the urine are in favor of liver injury, while pain in the left shoulder and a change in the quality of the voice may be present with injury to the spleen (right vagus—splenic plexus). The positive signs of injury to the kidney are well known. It is a dangerous procedure to give a patient much to drink after an injury, as is done at times to elicit reflex vomiting in cases of injury to the stomach. Provided the stomach is injured no particular good can come from washing the stomach contents into the peritoneal cavity. The same applies to enemata. The sluggish peristalsis of the large intestine combined with the character of the contents, and maybe plugging of the opening by mucous membrane, give an individual a certain amount of protection until he receives aid. There is no particular point in breaking down even this slight protection by washing the contents of the sigmoid through the wound of the gut. Such diagnostic measures are dangerous.

We should not neglect to examine the spine, especially when the history is that of a fall. Rigidity of the parietes, pain in the abdomen, and almost no deformity of the spine may lead to an embarrassing error awkward to explain.

The question which presents itself to the practical man is: Has the patient sustained any injury to his abdominal contents? Where there is shock, rigidity, pain, vomiting, perhaps of blood, or bloody stools, abnormal dulness, and areas of tympany, the question is easily settled. In many cases we have no such clear picture and we are faced at once by the second question—how much must a man injured show to justify an exploratory laparotomy to determine what has happened?

Personally I am of the opinion that with a history of trauma, a patient need only have moderate rigidity of his parietes to justify interference. If he has pain, vomiting, and the rest of the symptoms common in an average case, then it is easier to decide, even if the symptoms and signs are but slight.

Given an individual with rigidity and not much else, a quick exploratory operation is practically devoid of risk. If a rupture is found, no better condition could be asked. If we wait till secondary signs of peritonitis or a secondary hemorrhage makes it clear beyond doubt that an intra-abdominal injury has occurred, then we have missed the golden moment and must operate when the patient's chances are incomparably worse. Every minute is valuable, for the number of cases recovering after a wait of twelve hours is exceedingly small. The cases in which the symptoms of abdominal injury are well marked may be subdivided into three classes: those with average symptoms, those with excessive shock, and those moribund when first seen.

The first class with average condition, we stimulate and operate on immediately; those moribund we let alone, and those with excessive shock constitute the only cases in which a moderate wait is justifiable. Here we make an endeavor to overcome the shock, as much as possible, with saline infusion, heat, stimulants, auto-infusion and Cryle's shock jacket, and try to bring the condition to the point where a patient may stand the additional shock of surgical interference. The moment for interfering is hard to choose and no general rules can be laid down. The conditions of the individual case rule, as well as the individual surgeon's sense of proportion between what he thinks he may be called upon to do and the patient's condition.

It is difficult to decide at times whether the continued shock is due to lack of reaction on the part of the patient or whether it is due to hemorrhage, or when it occurs still later, perhaps to peritonitis. A rising pulse and falling temperature are, of course, strongly in favor of the former; whereas a rise in temperature with increasing local signs will incline us towards the latter.

So far as the operation itself is concerned the main thing is to get through quickly, but without haste. Everything should be ready before the anæsthetic is started. Infusion apparatus, stimulants and heaters; the surgeon should be washed. If there is local pain or some sign or symptom that attracts us to a particular region, it is well to make the incision in this area, otherwise a median incision, or rather one a little to one side of the median line in the vicinity of the center of the abdomen, will be preferable. One can then enlarge in any direction. Blood and intestinal contents furnish us the trail. If excessive we wash out with a large tube—one with a return flow arrangement is an unnecessary refinement. The fluids are usually not accommodating enough to take this prescribed return route. One essential is to have a tube which will furnish a stream about the size of an index finger. We waste no time then. To wipe out the abdomen with dry gauze sponges is objectionable, for it injures the peritoneum, and experiments on animals have demonstrated that this greatly diminishes the functional activity of this structure. Small holes in the intestine are closed according to their conformation—longitudinal, transverse, or puckered. I prefer silk for my first suture and bring the peritoneum over with catgut. If there are several rents near together, it may be quicker to resect. Whether a button or a suture is used depends on the condition of the patient, the custom of the operator, and the region operated upon. Buttons may be used in the small intestine. Sutures in the stomach, duodenum, and large intestine. If there is a large pear-shaped hæmatoma of the mesentery, or if the mesentery is torn extensively from the gut, it is best to resect.

The duodenum is difficult to close, especially if the retroperitoneal region is torn or the vicinity of the ampulla of Vater is damaged. Injury to other viscera will have to be treated according to circumstances. The absence of blood and intestinal contents does not exclude a perforating injury—the opening may be plugged for the time being, as already mentioned. Because of this and because of the contusions, it does not do simply to open the abdomen, and on finding no blood, close up again. Contusions should be carefully sought for and turned in with Lembert sutures. It should also be remembered that complete lacerations are frequently multiple. It is an advantage to sew a piece of omentum down over the suture line, so that in case of infection we favor walling off. Provided there is no injury to some other viscera demanding drainage, and provided we are reasonably sure of our junction, it is my opinion that the abdomen should be closed tight. Drainage may be used when we close a piece of intestine not entirely covered with peritoneum, or when we have opened into an extensive peritonitis.

Any structure with sufficient circulation does not yield readily to infection. The peritoneum is well supplied and its cells are perfectly able to take care of a number of bacteria. It will even digest to some extent and remove blood clots and other material. When there are sloughs, large pieces of fibrin, or pieces of intestinal contents left behind, these form a good medium for bacteria. The peritoneum is powerless, its only efforts being to wall off the offending material if possible by adhering about and diminishing peristalsis in this region. When, therefore, there is no dead material left behind and no extensive peritonitis, we prefer to close the wound, after careful washing, with salt solution. A moderate local peritonitis is no contraindication. I prefer to use opium in small doses after these comparatively clean operations. The peritoneum has about the same number of square inches as the skin. There is in all perforating injuries some infection in one or more of the five main pouches. If we give cathartics we increase the motion of the intestines and favor a spreading of the virus from one place to another. The intestines are "kept on the move," as it were. To be sure, cathartics do somewhat increase the functional activity of the peritoneum, but the increase in the region infected does not offset the damage done by favoring a spreading of the bacteria; neither does opium, in keeping the intestines quiet, abolish its activity. This does not apply where the amount of infection is great to start with. Here we have passed the stage of spreading the virus, the peritoneum is extensively damaged, and the aid we derive from cathartics offsets any disadvantage due to stirring up the immediate vicinity of the wound.

If we have operated on a leg we use a splint, and opium in small doses, to my mind, is a good splint for the intestines. During the first week, in accordance with the idea of resting the wound, we give but little in the way of liquids by the mouth, and rely chiefly on rectal feeding, provided this section of the bowel is not involved. When there is much distention of the gut due to gas, we are forced to meet this with a cathartic.

The prognosis depends greatly upon the time of operation. The average wait before operation in the six cases which recovered was 8½ hours, while the corresponding time in nine fatal cases was 22½ hours, which clearly indicates that the earlier the operation the greater the chance of recovery. Injuries to the stomach and large intestine have a better prognosis than injuries to the small intestine, possibly because the stomach contains comparatively few bacteria, or because the colon's sluggish peristalsis and solid contents do not hasten peritoneal infection. The prognosis of rupture of the duodenum is bad, partly because the gut is not entirely covered by peritoneum, and partly because of complications referable to the ampulla of Vater, bile-ducts, or pancreas. Complications present must effect the final results according to their nature. Cases not operated upon are hopeless, and if all sorts of cases be considered the death rate will be found to be between 75 and 80 per cent.

To summarize tersely we may say:

1. Any injury to the abdomen may be associated with damage to the intestine or other viscera.
2. An exploratory operation is justifiable in cases with distinct rigidity.
3. An operation is absolutely indicated when there is, besides rigidity, pain, tenderness, vomiting, shock, dullness, or other symptoms indicative of some intra-abdominal disturbance.
4. Cases not operated upon are lost.
5. The importance of early operation cannot be emphasized too strongly.
6. At present the death rate is about 75 to 80 per cent.
7. When a greater proportion are operated upon early, the death rate will be much lower.

COLD FRESH AIR TREATMENT OF PNEUMONIA IN INFANTS AND CHILDREN.

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As the fresh air treatment of acute infectious diseases with marked toxemia, fever, and prostration is so much before the professional mind just now, I beg to submit report of two cases bearing directly on the point. I believe it is about to become the fashion to treat pneumonia more on hygienic lines, and to rely largely on the supporting power of cold fresh air.

In the treatment of a case of pneumonia in a child in a Hudson River town, I had the windows of the sick room taken out and cheesecloth put in their places. Besides that, an electric fan drew the air from the room into the hall, in order to ensure a free inflow of outdoor air at the windows. The month was March, and very dusty, hence the cheesecloth. This was not a robust hospital man, but a marantic baby, a poor little thin, pale thing. It was no baby to experiment with, from a physical or social standpoint. How to give this scrap of mortality a chance to live through its pneumonia was the only question, and I was to answer it. My convictions were sufficiently strong, and I followed them. Recovery was perfect.

Incidentally I may mention that the town was soon informed that the poor little baby, the mayor's child, was dead. Poor thing! The bedding, it was said, was airing from the back windows! This rumor was contradicted, and the news circulated again that this was only the method of a crank doctor from town, and to the surprise of all the baby got well.

Someone asked—Now would you treat your best family patient thus? Can you get people to allow you to let cold flowing air in upon the patient acknowledged to be suffering from pneumonia? Have you the courage to air them thoroughly?

I submit in answer the history of the following case, which has been reported previously, in an address delivered at a joint meeting of the Chicago Medical Society, and the Chicago Pediatric Society (*Chicago Medical Recorder,* for November, 1904). It was far from being a hospital case. The father and grandfather, and other members of the family were all total strangers to me, the infant was the one offspring of young, anxious parents, but both parents were sensible. The force of this word will be appreciated as I proceed.

The history of the case was as follows: female, fourteen months. It had had rickets and scurvy, could not make the first effort at walking. Its legs hung down like empty stockings. It had a well marked rickety rosary and prominent abdomen. Its general appearance, however, was that of a "pot bellied," feeble, perspiring child, with much curly hair; in coloring, in the fairness of skin, with delicate touches of rose in the lips and occasionally in the cheeks, in darkness of eyes and hair it was a beautiful child. Even one less near to it than fond young parents, doting grandparents, and loving aunts, of which it had a full quota, could not help feeling a strong attraction.

The diagnosis was bronchopneumonia. Pulse, 180-140; respiration, 60-40; temperature, 105°, delirium. One would not call this a mild case.

On my first visit I told the parents frankly that the lungs were the part affected, that it would be pneumonia probably, that it would run a course of five to twelve days, would terminate in recovery. That was the rule in cases of primary pneumonia, and though the patient was very young and not very strong, I hoped and expected it would do just as I had said.

I may confide to the reader that I had anxieties unconfessed, and that my external appearance of hopefulness and confidence was partly born of a desire to be kind, and to allay their fears. Frankly, I considered the child hardly a first-class risk, and had my own anxieties the whole time. At any rate I proposed to give one night's sleep to the household before laying down my verdict that it was surely pneumonia.

At my visit on the following morning, I confessed the whole truth, that it was pneumonia, that I had individual ideas as to the care of pneumonia patients, and I wished to talk it over with the father and mother. I told them that the one thing which would help the anemic little one to bear her poison, eliminate it, redden her blood, and sustain her heart, was cool, flowing fresh air, day and night. I said the child had a sore lung, a limping respiration, diminished breath room, that to air its blood it had to pant, and panting was hard for the heart. To be kind to the patient, we must give her oxygen-full air, not second-hand breaths. She must not be made to breathe five time where three would do. "If your wife fainted in a theater," I added, "you would not gather a crowd about her, and shut the doors and windows? If her heart failed because the bad air had saturated her blood and smothered her, you would not suffocate her more? You would face her into the cool, flowing fresh air, you would wet her brow and moisten her lips with cool, fresh water, you would refresh, refresh, refresh. In other words, you would stimulate her heart with cool fresh air, and cool fresh water.

"The child," I said, "could not catch cold from air touching her face. The dry skin of a fever patient was not susceptible to cold. A fever patient in bed was quite safe. Cool, fresh air reddens the blood, stimulates the heart, quiets restlessness, favors sleep, improves secretions and digestion, in short, meets most of the indications for treatment of pneumonia in infants."

I then descanted upon the need of water, inside and out. I told the parents that water dilutes and cools the body fluids, washes the blood and pores and kidneys, favors elimination of poison, and refreshes the system. Externally it cools the temples, moistens the lips, quiets the nervous agitation induced by hot, dry skin and mouth. Further, since I was not exhibiting any medicine, I explained about the use of hot foot baths. "If the feet are cold, ten chances to one," I said, "the head is hot, the face flushed, perhaps dusky. There is a disturbance of the blood tide, the tide has set toward the head; the lungs, face, and brain are flushed, and nervous restlessness or stupor or delirium is the result. The indications are obviously to distribute the congested blood, to draw the blood down into the feet, and away from the brain and head. The foot bath does it best. I know no drug so good."

I watched the faces of my new-found friends, and went on explaining, and ended by saying, "All I can add is, that if that child were my own, I would give it air, air and water." Then I waited. The parents had German blood. Their parents were born where the night air was made to be shut out. After a single moment's reflection these anxious parents made this answer: "What you would do for your own, that's what we want you to do for ours."

From that day on the parents were almost silent. They kept from offering suggestions, meddling in any way, or asking any questions. They simply came to the door as I went out, and with a furtive gripping of each other's hands, they waited in suspense my report. Nothing more.

The largest room practicable in the house was selected, the crib was placed near the middle wall opposite the two windows and two doors; one window and one or two doors were constantly open. The month was December, and the weather was exceptionally cold. The windows were open night and day, and one night the thermometer in the room reached 28° F. In compassion for the nurses the friends of the family produced two automobile fur coats, which they wore night and day. I seldom removed my overcoat in visiting the patient. One of the many friends of the family, I was told afterwards, on coming into the house exclaimed, "Ugh! Where's that cold? Pneumonia too? Well, all I've got to say is, that if I had too large a family and wanted to get rid of them quick, I'd do that." How about the patient? She was fired to an internal heat of 105°. Her pretty little face was bathed by cool, flowing air, and she slept. If, by reason of necessary exposure, the windows and doors were closed temporarily, she showed restlessness, which disappeared when the windows were again opened.

There were two tendencies of the case—one to become flatulent and distended, the other to have cold feet. Each time either condition prevailed the face became dusky, restlessness was marked, and at times there was delirium. For these two conditions the sovereign remedies were the foot bath and high hot saline injections. For heart stimulant, a hot foot bath; for flatulence, a hot, high saline injection; for restlessness, either or both of these. These two afforded relief, followed by three hours of sleep. In giving the foot baths, the child was elevated on a firm pillow, and the feet were let down into a basin under the bed covers, hot water was added a little at a time, with constant friction of the feet. The action of these two derivatives, hot foot baths and hot high salines, was enough to remove all untoward symptoms.

The case ran a course of twelve days, recovery taking place by crisis. The best is yet to be mentioned. The digestion in this case had given great trouble. At the onset of the pneumonia there was diarrhea with green mucous stools. The toxins of pneumonia disturbed the digestion still further, and the tendency to flatulent distention was marked. It was a constant problem to find anything which would be digested. But as soon as the crisis had passed and the fever was gone, the child simply opened her eyes, smiled, and began to digest her food as though nothing had happened. She was a trifle pale and rather weak, but a less damaged baby I have never seen. Here is a striking illustration of the peculiar feature that the disturbance of intestinal digestion ceases with the ending of high fever.

After the first twenty-four hours the parents were satisfied with the treatment and my explanations. Nothing more was said until the temperature had been normal for twenty-four hours. The tension was then past, and for the first time, you know how it is, all began to talk. I asked the nurses what they thought of the fresh-air treatment for pneumonia, and they confessed that at first they were horrified, and thought they themselves would catch cold and get sick. To their relief they soon found that they endured their vigils much better, were fresher and wider awake from having constant good air. They were truly delighted. They declared that my prognosis was fully justified and believed that the patient passed through with less exhaustion than any other they had ever known.

This point I wish to reiterate: This feeble child passed through her serious infectious disease with less injury to her general nervous system than any other I have known.

When all was over we took account of stock. In order to be ready for all emergencies we had a can of oxygen standing in the room, strychnine and whiskey standing on the table, and a loaded hypodermic waiting. When the child was well there were wanting four strychnine tablets—one-sixtieth grain each, and one drachm of whiskey. These were all the drugs used.

For the characteristic toxemic condition of pneumonia in infants and children, my experience leads me to set forth again certain conclusions recorded in the *Medical News*, April 30, 1904, as follows:

How to cure a baby with bronchopneumonia.—

1. Castor oil to clear the field of operation. It is the first aid to the injured.

2. Fresh air, cool and flowing. It reddens the blood, stimulates the heart, improves digestion, quiets restlessness, aids against toxemia. Regulate the temperature of the air in the room inversely to that of the child. The patient's feet must always be warm, and the head cool.

3. Water, plenty, inside and outside. Temperature of the water as indicated by child's temperature.

4. Quiet and rest. Tranquilizing influences about patient. Undisturbed sleep.

5. Correct the feedings to prevent fermentation

and the formation of gas in the abdomen. If there is need, give high hot salines.

6. Antipyretic: Water; no coal-tar products.

7. Heart stimulants: Fresh air, hot foot baths, relieving tympanites and crowding. Hot foot baths and hot salines can be given in a cold room; both can be given under the bedclothes.

8. Drugs: Whiskey and strychnine. These are the first drugs mentioned, unless that household remedy, castor oil, be included. Promote general comfort in every rational way.

How to Kill a Baby with Pneumonia.—Crib in far corner of room with canopy over it. Steam kettle; gas stove (leaky tubing); room at 80° F. Many gas jets burning. Friends in the room, also the pug dog. Chest tightly enveloped in waistcoat poultice. If child's temperature is 105° F. make a poultice thick, hot, and tight. Blanket the windows, shut the doors. If these do not do it, give coal-tar antipyretics and wait.

57 EAST SEVENTY-NINTH STREET.

PREVENTIVE MEDICINE: A STUDY IN EDUCATION *

BY LAWRENCE T. ROYSTER, M.D.,
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Mr. President, Members of the Commission, Ladies and Gentlemen:

I feel that I am especially honored in having the privilege of speaking before such an illustrious and important body as the Cooperative Education Commission of Virginia. The subject which I introduce for your consideration this morning seems to my mind of signal consequence; for what could be more important than teaching students the proper care of their health, since we well know that we cannot have a sound mind without a sound body.

A somewhat lengthy introduction to a very brief discussion of the matter is necessary to a proper understanding of the intents and scope of the paper. If medicine and the physician appear to have been given an undue prominence I ask your indulgence, reminding you that this is only as the matter appears through a pair of medical spectacles.

Preventive Medicine (Prophylaxis, Hygiene) is a term which may be used in either of two senses; the difference, however, being one of application. The prevention of infection, for example, by the proper application of the rules of asepsis—Prophylaxis; or the prevention of the spread of communicable diseases in communities, through such measures as quarantine, preventive inoculation (*e.g.* vaccination), etc.,—Hygiene. In both of these applications of the term the same principle obtains. It is in the larger and broader sense—its application to Public Health—that I use the term Preventive Medicine.

When Moses had led the Children of Israel out of Egyptian bondage across the Red Sea into the Wilderness, he laid down certain laws concerning personal and public cleanliness, through a due observance of which the camp was to be purified and a hygienic condition maintained.

These laws applied to the isolation of the sick of certain (contagious) diseases for periods of time varying with the disease; the quarantine and subsequent disinfection of infected houses with, in some instances, even a scraping of the plaster from the walls; the removal of refuse out of the camp or city limits; and the burial of excreta. These laws were so rigidly enforced that the penalty in extreme cases was ostracism or even death.

The method of executing these laws was of course crude, and some of the laws themselves showed a generous admixture of superstition, yet the principle involved is identical with the most improved hygiene of modern times, and when we consider the primitive nature and low grade of development of the people of that time, we are led almost irresistibly to see the influence of a supreme being, not even losing sight of the education of Moses, who was "a proficient in all the learning and arts of the most civilized nation of the earth"—the Egyptians.

We read also that "Empedocles of Agrigentum, one of the most famous of ancient philosophers and physicians, finding that pestilential fevers periodically ravaged his native city, and observing that their appearance coincided with the return of the sirocco, which blows in Sicily on its western side, advised closing by a wall, as by a dam, the narrow gorge from which the wind blew on Agrigentum. His advice was followed, and his city was made free from the pestilence."

"Again the inhabitants of Selinus were ravaged by epidemic disease; a sluggish stream filled the city with stagnant water from which mephitic vapors arose. Empedocles caused two small rivulets to be conducted into it, which made its current more rapid; the noxious vapors dispersed, and the scourge subsided."

It is beyond question that these are two instances of an effort to rid a locality of disease-bearing mosquitos or other insects.

Passing over many ancient and interesting examples of Preventive Medicine, we come to more recent events along this line of which I will mention but two before considering matters of vital interest to us at the present time. One, the discovery by Jenner of vaccination whereby we are enabled to combat the severest epidemic of smallpox; by its proper application the ravages of this disease would probably be stopped entirely. The other, a well directed effort to prevent the spread of venereal disease through a control of prostitution by means of license and inspection, which has been done principally in Paris and Vienna. Good results were hoped for from this effort, but experience has shown that it has failed of its purpose.

But whereas apparent failure has been met with in many instances by those endeavoring to work a benefit to mankind, numerous successes have been scored, and of these and the further possibilities in the direction of Public Health, I will now treat.

Laws have been made by most if not all municipalities of this country concerning proper systems of sewerage and drainage; sanitary plumbing has been introduced and is required almost universally; boards of health have been created and invested with powers looking to a control of infectious diseases by isolation, quarantine, vaccination, etc., the filling up of stagnant pools and unsanitary cisterns, and the inspection and disinfection of private residences and public buildings.

The water supplies of our large centres of population are under the supervision of such boards, who by the aid of well-equipped bacteriological and chemical laboratories, and approved filters, are enabled to keep the water free from contamination, and thereby eliminate a large element of danger of the spread of at least one disease—typhoid fever.

The public is at last becoming aware that tuberculosis is a communicable disease with the result that popular crusades against the "white plague" are becoming the order of the day, and it is hoped that by this means eminent success may be achieved in reducing the present fearful mortality from this disease.

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*Read in part before the Cooperative Education Commission of Virginia, at its Norfolk Session, December 6 and 7, 1904.

For obvious reasons, in the delivery of this address, some of the paragraphs were either changed to suit the occasion or omitted altogether.

Many examples could be cited of what has already been done towards securing a healthy state of affairs in many sections of our country, but I hasten to a consideration of what is yet to be done, and may be accomplished through concerted action and harmonious cooperation between physicians (both individually and collectively) and the public, through its representatives in our legislative bodies.

Laws must be enacted and together with those already in existence enforced. Concerning our health boards, nothing definite will be accomplished so long as competent men are turned out with each change of administration, and incompetent ones substituted. Under this system, even if good men are appointed, they have to spend most of their term of office learning what their predecessor knew, only to be themselves replaced when they have acquired a sufficient familiarity with the duties of their office to make them useful to the community.

The various positions held by medical men should pay a salary sufficiently large to justify the holders in giving up their whole time to their official duties. This could be done, certainly in the smaller cities, by combining several positions. Nothing is to be deplored more than the general tendency to fill such positions as sanitary inspector and the like from the rank of "ward heelers" and superannuated politicians, as a reward for their efforts in the political arena, without regard to their fitness for the important positions they are to occupy. Only active, intelligent, and conscientious men who have the interest of the community and the welfare of their fellowman at heart should be chosen for such positions, and when found to be efficient and capable should hold office indefinitely.

Ordinances prohibiting expectorating on sidewalks and the floors of public buildings and conveyances, should be rigidly enforced. This measure alone would materially diminish the spread of tuberculosis. Food inspection should receive special attention, preventing the sale of unsound meat and infected and unclean milk. The latter is particularly important because of the large number of infants who are wholly dependent on this article for sustenance. The inspectors should see that the cans, hands of the milkers, udders of the cows, and in fact everything pertaining to the handling of this article of food is scrupulously clean. The milk should be put into clean bottles, sealed at the dairy, and delivered to the consumer at a temperature not exceeding 50° F. Such procedures as this would largely prevent the spread of various bowel disturbances and typhoid fever, and reduce to a minimum the mortality form of the summer diarrheas of infants.

Great benefit has already been derived from vaccination, but before this measure can be said to have fulfilled its mission, its practice must be made compulsory by rigidly enforced laws. The indiscriminate sale of poisons, especially opium and its derivatives and cocaine, without a physician's prescription should be stopped at all hazards. Laws on this subject have been made in many States, unfortunately only to be totally disregarded even in many instances by supposed reputable druggists, with the consequence that our towns contain vast numbers of "drug fiends," and the columns of our daily papers tell of the poor unfortunates who are found dead with the usual laudanum or carbolic-acid bottle lying near.

One of the greatest curses in our land to-day is charlatanism, carried on through the quack advertisements of "specialists" in "diseases and weakness of men" or "female irregularities." The former having for their victims either men worn out from excess, or young men who from ignorance do not consult the family physician, fearing that their parents might know of their condition, and so seek aid from these base and unscrupulous charlatans who give their advice under the protection of "plain and sealed envelopes." The latter prey upon a still more unfortunate class, viz., young girls who have perhaps "loved not wisely but too well," and dreading parental and public censure are ashamed to seek protection in properly conducted institutions; and also, and I blush to think of those married women who, not caring to give up their worldly pleasure to assume the honorable rôle of motherhood and fulfill their mission in life and do their duty in the home, preventive measures having failed, are pregnant and seek relief through these "specialists" and their remedies, both of which are destructive to body and soul alike. And yet our administrations not only permit these things to flourish, but often add their stamp of approval by granting a license, and the public looks on in smiling approval.

Nothing demands the attention of our legislators more than the patent medicine "craze," for such it seems at present to be. Many of these articles contain noxious and deleterious ingredients, whiskey, opium, cocaine, and the like, which undermine the constitution; others are harmless in that they contain nothing that is positively detrimental, but are injurious in that they cause suffering humanity, through a reliance on the false claims for their virtues in cleverly written circulars and advertisements, to delay seeking advice from intelligent and reputable physicians until they are beyond the reach of legitimate medical aid, which, if rendered sufficiently early, might have saved them from much suffering or even perhaps an untimely end. Certainly the vast majority of these nostrums are vaunted cure-alls to extort money from an ignorant, trusting, and gullible public.

If the sale of these articles cannot be stopped, we can certainly emulate the example of our German friends and require every bottle or box to bear in plain print the exact formula of its contents, attested to before some person whose business it is to make such analyses as may be required.

The various "pathies," "cults," and "sciences" which either deny the existence of disease or handle it on absolutely unscientific principles, and thereby menace the health of a community, should receive careful consideration from our legislative bodies, and should be made to conform to rules and regulations of the boards of health. These are too numerous to mention separately, but the most potent is Christian Science, that aggregation of ancient, arrant, and palpably pagan principles, reincarnated in a cunningly devised modern Christian (?) charlatanism, which, exercising authority over its followers through the strongest of all human instincts—the religious, holds in contempt all known laws of physiology, pathology, and hygiene, and hurls defiance in the face of our courts of law and justice.

In a general, superficial, and desultory way I have outlined the more important instances in which legislation would materially aid in maintaining a healthy condition of our centers of population; but the great difficulty in the way of attaining even an approximate degree of ideality in this direction is in getting our lawmakers sufficiently interested to see the vast importance of such measures. This difficulty—and only those who have tried to secure the passage of health laws know how great the difficulty really is—arises from two powerful causes, the one ignorance (of the laws of health) and the other political graft, and the public, of whom these legislators are but the representatives, are themselves too ignorant to demand a better state of affairs. Naturally the question arises: How are these difficulties to be overcome, the health conditions of our country improved, and a sanitary state of affairs maintained?

The answer to this momentous question as it suggests itself to my mind, is (1) by sending educated and conscientious men to our town councils and general assemblies, and (2) by educating the public in the laws of health so they will recognize the cause of unhealthy conditions and know the proper methods of overcoming them. By attending to the second part of this answer the first will follow as a natural consequence.

It has been said by one of England's foremost scientific men—Forbes Winslow—that "it is an admitted fact that ignorance prevails to an alarming extent, and that its only corrective is education." Hence it will be seen that in the one word, Education, lies the secret of performing what is apparently a gigantic and stupendous undertaking. A plea then for the education of the people along lines of personal and public cleanliness and health, is my apology for presenting this article for the consideration, and may I hope, approval of a generous public.

Two general lines suggest themselves through which we may attain the object of our endeavors. First, the public can be taught much that relates to the care of individual health, that of the household, and finally that of the community in which they live. Physicians whose mission, it must be remembered, is just as great in preventing as in curing disease must be ever mindful of their duty in instructing those among whom they move concerning the care of the household in health as well as in sickness, how to keep sinks, cesspools, toilets, drains, and the premises generally in a healthy condition; and in short what constitutes a sanitary and what an unsanitary state of affairs, teaching them to maintain the one and prevent the other.

The various societies and associations of medical men, while assembled for the purpose of an exchange of ideas among themselves and of promoting scientific research, enabling them to alleviate the suffering of afflicted humanity, should not lose sight of their responsibility to the public in disseminating such knowledge as will be instrumental in securing a cooperation from the people which is essential to the success of the undertaking under consideration. This can be done by publishing such information as pertains to the public good; this information appearing as published extracts from the proceedings of the meetings.

Popular lectures have done much towards educating the public in medical subjects and can be made one of the most fruitful sources of benefit to the masses of the people. Likewise articles by well-informed men, touching on the hygiene of the person, household, and community, could appear in our magazines and daily papers, written not in technical phrases but in such language as could be understood by people of limited education and even moderate degrees of intelligence.

Concerning our daily newspapers, let such news as will be of service in improving the mind and uplifting humanity take the place of attractively-written articles with glowing headlines that tell of crime, degradation, and misery, which shock the sensibilities of adults and poison the minds of youths.

Second, and I come to the climax of the subject, the education of the youth of our land. Truly "the child is father to the man." The boy of to-day is the man of the future. The girl who to-day is playing with her dolls and toys in a miniature household, will in the next generation be laying a foundation of principle (good or bad) in the minds of her real family whose influence may be felt throughout the universe. How vastly important is it, then, that these young people, many of whom are destined to be the rulers of men, should be taught how to care first for their own health, and second for that of the community.

The first place where a child should receive this necessary instruction is in the home. To this end parents must be instructed how in turn to teach their children so that their first impressions of life, which are the most lasting, may be the correct ones; and as the mother teaches the child at her knee of the Creator and its duty to him, let her also teach it cleanliness (both personal and public) which is next to godliness.

The second place for this instruction is in the schoolroom. In the introduction of the study of hygiene, properly taught, into our school systems, lies, I believe, the keynote of success in securing and maintaining a sanitary condition of our centers of population. This branch of study must be taught thoroughly by competent teachers and might with advantage be supplemented by lectures by medical men; these lectures should be considered a part of the regular course and form a part of the subject matter for examination.

The scholars should be taught what disease is as opposed to health, its causes and results, how it is spread by such means as infected water and food, particularly milk, unclean utensils in the kitchen, and, not the least important, that special abomination, the public drinking cup; what constitutes a sanitary and what an unsanitary condition of the home, school, public building, or municipality; together with the means to be employed in correcting existing evils and preventing the spread of disease, through individual effort as well as legislative cooperation.

All of these things should be taught in our schools as thoroughly as are grammar and arithmetic, so that when these children grow up and become the men and women of the future, and especially our law makers, these first principles, which will have then become an integral part of a "national conscience," will outweigh all others and cause laws to be made that will bring about a universally sanitary state of affairs, and when this has been done, to be so enforced that such a condition can be maintained.

It is perhaps very noticeable that up to this time nothing has been suggested concerning the prevention of the spread of venereal disease. I have hesitated because I hardly knew what to suggest on a subject which has had so much thought given it and so many efforts made in its behalf, all apparently but to fail. Prostitution exists, has existed from time immemorial, and will exist so long as there are sexes; and so long as there are prostitutes there will be venereal disease. What, then, can be done to check its spread? License and inspection have failed signally, and even if they were effectual in the case of professional prostitutes, we would still have the vast army of clandestine prostitutes, who I sometimes think are a greater source of danger than the professionals.

There are two measures, however, which, if properly carried out, would materially diminish the spread of this evil. The first is circumcision. In regard to this procedure, I will simply say that its abolition (from a hygienic standpoint) is the only retrograde step that I know of for which Christianity is responsible. Its practice should be universal.

The second is the same remedy that has been offered for the correction of all the other evils—namely, education. Teach the youth what venereal disease means, its nature, effects on the system, and ultimate results, how it is contracted and how avoided. There is no subject on which the public as a whole is more ignorant than that of venereal disease. They should know all about it, since nothing is more important. They have kept themselves or been kept too long in darkness concerning it. Now let there be light.

What has been said on all the phases of this great subject may seem a hard problem, and a state of ideality difficult of accomplishment may have been pictured, but *"Nil tam difficile, quin diligentia vincat."*

If our physicians, medical bodies and school boards alone will work together with untiring efforts much can be done. It may require a long time, perhaps as long as two generations, to bring about a condition even approximately perfect, but such a condition can be brought about by keeping at it, remembering that *"Gutta cavat lapidem, non vi sed sæpe cadendo."*

Kala-Azar, or Tropical Splenomegaly.—Guy R. Ruata defines this affection as an infectious disease running a subacute or chronic course, nearly always fatal, characterized by fever of an intermittent or remittent type, anemia, wasting, enlargement of the spleen and liver, and not infrequently hyperpigmentation of the skin. This disease is met with in many parts of India, South China, and various tropical countries. It was at one time considered peculiar to the Province of Assam. It prevails in Assam during the rainy season, from April to September. Infection proceeds along the lines of communication. Isolated villages, although situated in the center of a region where an epidemic of this disease is raging, may not be affected. Kala-azar attacks both old and young, with no distinction of sex. Opium smokers do not seem so subject to attacks as do other members of the community. There are two clinical types of this affection: Subacute and chronic. The subacute form is characterized by decided symptoms. The fever is of a severe remitting type, marked anemia develops, and later cachexia. Rigors usher in the attack, after which the temperature rises and profuse sweating takes place. The spleen and liver enlarge and death supervenes in a few months from acute or subacute enterocolitis, pneumonia, or thrombosis of a cerebral vessel. The symptoms in the chronic form are less severe. Edema about the feet and ankles develops in the course of time, and fluid is effused into the serum cavities and into the subcutaneous tissues of the face. There are, besides these symptoms, rheumatic pains in the joints and muscles, frontal headache and neuralgia, hemorrhage from the gums and intestines and loss of hair. The skin becomes pigmented; this may be general or limited to definite areas. Emaciation progresses, accompanied by the loss of muscular energy, and drowsiness. The abdomen is swollen and puffy, due to the enlargement of the liver and spleen, and to the ascites. The arterial ocular circulation is deficient. Respiration is quickened. Sexual power is paralyzed. The disease was first described by Clarke in 1882. It was called "black fever," from the cutaneous pigmentation. The writer, in studying blood slides from a case of this disease, observed Leishman-Donovan bodies. These were never found in the peripheral blood. The writer gives a table showing the results of a blood examination made in the laboratory of the London School of Tropical Medicine, as well as Marchand and Ledingham's description of the parasite found in the spleen, liver, and bone-marrow. According to these observers, these bodies, under high power, were generally distinctly ring-shaped, with a clear center.—*Journal of Tropical Medicine.*

A Large Fibrosarcoma Treated by Röntgen Radiation.—Clarence Edward Skinner, after giving the details of this case, briefly summarizes it: The patient, a woman 34 years of age, was suffering from an abdominal tumor, the nature of which was a spindle-celled sarcoma. The growth measured ten inches in the horizontal from-side-to-side, eight inches in the vertical, and five inches in the antero-posterior diameters. It was inoperable, and had resisted every measure applied for its relief, and was rapidly developing lethal symptoms in the patient. It was entirely removed and the patient was restored to a condition of unimpaired usefulness and apparently perfect health by 136 applications of *x*-rays of high penetration from a tube excited by a static machine, the treatment having extended over a period of 849 days, being an average of one application every 6.2 days. The writer concludes that Röntgen radiation sometimes brings about the entire disappearance of large, deeply seated, malignant neoplasms, which have been proven to be hopelessly lethal in their tendencies under any other treatment, and simultaneously restores the patient to apparently perfect health. The lack of satisfactory influence which attends its employment in so many cases is not due to weakness inherent in the remedy itself, or to mere thickness of the tissues intervening between the pathological focus and the source of rays, but to some at present undetermined factors which remain to be identified, and which it seems justifiable to hope may sometime be eliminated. There is probably a direct and intimate connection between systemic toxemia and the disappearance of malignant growths under Röntgen radiation. The writer advocates persistence in the application of the Röntgen rays to a malignant growth of the same class as the one here reported, as long as the patient's condition will permit, even if no benefit is observable. In this case no material effect upon the tumor was demonstrable until after the radiations had been systematically and regularly carried out for six months. The writer believes that the difference between the rays derived from a tube excited by a static machine and those derived from a coil-excited tube will sometimes constitute the difference between success and failure in the treatment of deeply seated malignant processes. The patient was first brought to the writer in January, 1902, so that the question of recurrence still remains to be eliminated. However, even if the growth should recur, the patient who was doomed to death two years ago has for two full years been restored to a condition of unimpaired usefulness and comfort.—*Archives of Electrology and Radiology.*

Aids to Diagnosis in Renal Disease.—R. Steer-Bowker gives the following summary of his paper: In most cases, after studying the physical signs and symptoms, and having an *x*-ray photograph taken, it will be necessary only to segregate the urine with Luys' segregater, and then have an ordinary chemical and microscopic examination of the urine made. But in a doubtful case, where it is essential before operating that one should know whether the least affected kidney or other kidney has sufficient functional activity to carry on life, if it should be advisable to remove the one operated upon, then the urine should be segregated and tested by the "freezing point" or "Wright's test," and this evidence should be corroborated by the indigo-carmine test. By the use of these combined tests, and the simple form of segregation, the cystoscope is not required at all in renal diseases (unless there is some special indication for its use), time is saved, there is less danger of infecting a healthy bladder, the patient is saved some pain, and a deal of inconvenience. The cystoscope, then, can be relegated to its proper sphere of usefulness—examination of diseased conditions of the bladder itself.—*Australasian Medical Gazette.*

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DIET IN PULMONARY TUBERCULOSIS.

THE main features in the successful treatment of pulmonary tuberculosis are fresh air and diet. Drugs have been relegated to the background. Perhaps by some enthusiasts the fresh air treatment has been carried to the extreme, such as recommending the heroic remedy of sleeping out of doors in every kind of weather, yet on the whole the principle of fresh air treatment of consumption is the only rational one. Opinions diverge more widely as to diet in pulmonary tuberculosis. Upon the quality and description of food there is a general agreement, but upon the important point of quality the wise men of the medical profession are not of one mind. Some believe in stuffing consumptives, while others think that no more food, as a rule, should be given than can presumably be properly digested.

The *Practitioner* for January, 1905, contains a series of three articles written by experienced English physicians, treating of the question of diet in pulmonary tuberculosis. The first of these, by Dr. R. W. Philip, considers the subject of zomotherapy in pulmonary tuberculosis. Zomotherapy has been defined by Professor Richet as the systematic, continued exhibition of raw meat in the treatment of the disease. Hericourt and Richet were the first to place this method on a scientific basis, and demonstrated by means of experiments with dogs inoculated artificially with tuberculosis, that raw meat was a most beneficial and remedial diet. Observations made upon human beings suffering from consumption would seem strongly to confirm the result of these experiments. The raw meat is administered in various forms, the essential point being that it must be fresh and freshly prepared before use. Philip supplements this dietary with raw eggs. The writer states that patients quickly become accustomed to raw meat as a food and soon learn to devour it with avidity. His conclusions with regard to the efficacy of this diet are in part as follows. 1. General aspect —The patient's color quickly improves. The pale, anemic look disappears. The tissues gradually—often rapidly—assume a firm, vigorous character. 2. Weight.—It is pointed out that increase in weight is no sure criterion of a patient's improvement. On a raw meat diet, the weight generally increases—an increase which is accompanied by firmness of tissue. 3. A prominent feature of treatment by zomotherapy is a remarkable increase of muscularity, with a correspondingly more active sense of well-being. 4. Circulation—The effect of the régime on the circulation is rapid and strikingly beneficial, one of the best indications that the treatment is proving effectual. 5. Temperature.—The temperature tends to improve. 6. Gastrointestinal functions.—The functions of stomach and bowel are rendered easier and more effective. Gastric uneasiness, pain, dyspeptic phenomena, and flatulence tend to lessen. Intestinal metabolism is rendered easier and more complete, as may be judged by the improved character of the stools. 7. Blood.—The blood presents a rapid increase in hemoglobin and Dr. Philip states that in no instances has he seen hemoptysis follow the institution of the method. 8. Local Lesions.—Local lesions are conspicuously benefited by the treatment. It is pointed out that the only disadvantages which have been urged against the method are: (1) The natural distaste which many persons have to such raw products; and (2) the possibility of the introduction of intestinal parasites along with the raw meat. The writer is of the opinion that the latter danger is not a likely one if reasonable care be taken in the selection of meat, and even if a parasite be so introduced the actual harm to the patient is infinitesimal compared with the risk involved in the presence of the disease. The other objection is hardly worth considering, as not only does repugnance to raw meat quickly disappear, but is often transformed in a veritable like for this kind of diet.

The next article is by Dr. F. W. Burton-Fanning of Norwich, England. He is not an advocate of over-feeding in consumption, and says that "apart from the risk of over-straining the organs of digestion, the general health may suffer in consequence of too great addition to the body weight. The cardiovascular balance becomes deranged and the already feeble heart is unable to perform the extra work necessitated by the more ponderous frame." Dr. Fanning does not believe that full feeding has any special influence upon the reduction of fever, but thinks that air and rest are the most effective agents to bring down temperature. The greater part of the article is taken up with a consideration of dietary tables, a matter which has been so fully dealt with in the past few years that it would be superfluous to quote from them here. The writer holds that milk is the sheet-anchor in the treatment of pulmonary tuberculosis, and that it is by varying the quality of milk that we can most readily affect the ordinary patient's weight.

The last article of the series is from the pen of Dr. Arthur Latham, who is one of the most commonsense and practical authorities and writers upon consumption living. Considering the question of diet in pulmonary tuberculosis, he divides consumptives into two broad classes: (1) Those who have sound digestion and who are able to take exercise; and (2) those who are suffering from high fever or any disorder of digestion. With regard to the first class, Dr. Latham says: "Patients who come under the first heading may be given the ordinary diet of health, together with an extra quantity of fat, and two or three pints of milk daily. If the weight is much below the normal, the total amount of food given must be increased to what it should be if the weight were normal. If the patient's weight is normal, it is a mistake to press unduly the amount of food, as this sometimes leads to a disastrous interference with the physiological balance of the cardiorespiratory functions and body weight. Dr. Latham is of the opinion that milk is the most perfect food for a consumptive, but that it should not be given as his sole diet. With regard to patients who are suffering from high fever, anorexia, or disordered digestion, the question of diet may be a formidable one. In such instances, however, the writer states that, whenever it is possible, cases of febrile tuberculosis should be treated by means of an ordinary diet. When this cannot be done, our aim must then be to supply, in the first place, sufficient nourishment in a suitable form to keep the disease in check; and secondly to place the patient on a solid diet at the earliest possible moment. In cases of febrile tuberculosis in which solid food is not retained, milk should be the staple diet, and at least four pints of it should be given. By far the most interesting part of Dr. Latham's article is the expression of his views as to the value of alcohol in pulmonary tuberculosis. He thinks that in those cases in which the digestion is good, the temperature is normal, and exercise is possible, there is no necessity to give alcohol, although small quantities in many instances are of undoubted benefit, but experience has shown that alcohol is of the greatest possible service when fever is present. It spares the body proteid, stimulates the appetite, and, in small doses, hastens gastric digestion. It facilitates the absorption of fat, and tends slightly to lower the body temperature. In addition, it stimulates the heart and the central nervous system, and favorably affects the night-sweats and the sleeplessness. The writer lays stress on the point that the alcohol should be pure and of best quality. In febrile cases red wine is especially useful. It may be given also with good effect in certain cases of tuberculous diarrhea. Referring to the amount of alcohol to be given, the writer states that while this must depend upon the individual case, nothing but good results from the administration of large quantities when fever is present, so long as the pulse is becoming slower, the appetite better, the skin and tongue moister, and the patient quieter. Careful examination of each individual case will show whether this food is overstepping physiological limits, and so causing pathological effects or intoxication.

The three articles in the *Practitioner* contain instructive matter, for although old ground has been necessarily gone over, yet the question of diet in pulmonary tuberculosis is well presented. The salient features of these articles would appear to be that zomotherapy is beneficial in the treatment of consumption, that milk is the most important article of diet, and that the use of alcohol is indicated in very many cases of pulmonary tuberculosis, and almost always when fever is present. Perhaps the trend of present-day treatment of consumption is against the use of alcohol, and especially in large quantities, even if fever is present. It is probable that the wave of temperance which has been sweeping through the world during the past few years, and which has been rightly helped along by scientific and medical men, has in the case of the use of alcohol in disease swung the pendulum of professional opinion too far. At any rate, it is refreshing to have the views of a well-known authority, as is Dr. Latham, who has the courage of his convictions and states the same in plain, unvarnished language.

Hospital Ships are to be exempted from the payment of port dues during the course of any future war, according to an agreement of the powers.

PROTECTIVE INOCULATION AGAINST ASIATIC CHOLERA.

The Bureau of Government Laboratories has just published Biological Laboratory Bulletin No. 16, by Dr. Richard P. Strong, treating of protective inoculation against Asiatic cholera. The experimental study described by Dr. Strong was based upon experimental work for the greater part performed during the spring of 1903 in the Institut für Infektionskrankheiten of Berlin.

The Philippine Islands have recently afforded excellent opportunity for studying Asiatic cholera, owing to the severe epidemic which has prevailed. The history of cholera in a tropical country has demonstrated the fact that it is impossible to eradicate or even satisfactorily control—according to Dr. Strong—the disease by ordinary hygienic methods—that is, by measures solely directed towards the purification of the food and water supply of infected districts. It was shown by studies made in the Manila laboratory, during the period of the most widespread infection, that in Manila at least the disease was not usually transmitted directly by water, but probably more often by food infection. Preliminary trials with Haffkine's method of protective inoculation showed the impracticability of using it in the Philippines. Consequently the experimental study now described by Dr. Strong was undertaken in the Biological Laboratory in Manila, with the view of obtaining some practicable and efficacious form of protective inoculation against the disease.

The account given in Bulletin 16 is an exhaustive one, occupying 46 pages, with numerous tables, and is far too long to review in detail here. It may be said, however, that the result of the investigation seems to have been on the whole satisfactory.

The following are the conclusions arrived at: 1. By the autolytic digestion of carefully killed cholera spirilla in an aqueous fluid the receptors become separated from the bacterial cells and may be filtered off in solution. 2. The injection of these free receptors into both man and animals furnishes a means of producing high bactericidal and agglutinative blood sera. The antitoxic value of these sera is, however, moderate. 3. The subcutaneous infection into man of such free receptors is a process which is not only free from any danger, but one which produces practically no local disturbance and only a slight general reaction. 4. Hence the method is a practicable one for producing a cholera serum in man. 5. It is highly desirable that the cholera prophylactic be given a thorough, practical test. 6. It would appear hopeful that by the application to the pest bacillus of a slight modification of this method a more satisfactory prophylactic against bubonic plague could be obtained.

A thorough, practical demonstration of the method described above will be necessary before any definite statement can be made as to its immunizing properties. Owing to the absence of cholera on a wide-scale in the Philippines at the present time, it has been impossible to give the serum such a test. Arguing from the numerous statistics of Haffkine in India, and from the more recent work of Murata in Japan, that simply by the injection of a small amount of the killed organisms a certain degree of immunity against the natural mode of infection is acquired, Dr. Strong thinks it probable that by the use of his prophylactic human beings may acquire a good active immunity against the disease.

THE CENTENARY OF THE "EDINBURGH MEDICAL JOURNAL."

THE part played by Scotland in the development of medical knowledge is so important that a review of the achievements of her medical men during the last century forms most interesting and instructive reading. The names of the Munros, the Duncans, the Bells, Liston, Syme, and Simpson, are all so intimately connected with the history of medical progress that they are familiarly known the world over, yet they are but a few of those who have caused Scotland to shine with the reflected glory of their attainments. How much work was done by these men and their colleagues may be appreciated by inspecting the centenary number of the *Edinburgh Medical Journal*, issued to commemorate its one-hundredth anniversary. It was under the editorship of the younger Andrew Duncan that the *Edinburgh Medical and Surgical Journal* first saw light as a quarterly magazine in January, 1805. After various vicissitudes and changes of name, in 1855 the Journal was amalgamated with a younger monthly rival and called *The Monthly Journal of Medical Science*, and after July of that year the successor of the two periodicals received its present title, as the *Edinburgh Medical Journal*. The January number of this year contains a general historical survey of the growth of the journal, together with thirteen portraits of its various editors during the century; the remainder of the space being occupied by special articles devoted to each branch of medical work, and outlining the purport of the more important contributions on each subject that have appeared in the journal. These pages make fascinating reading as they record the many controversies waged on such hotly contested topics as the value of venesection, the methods of performing lithotomy, the interpretation of heart murmurs, the nature of nephritis, etc.; or recall Astley Cooper's celebrated case of ligation of the abdominal aorta, Colles' description of the fracture that bears his name, Liston's account of the famous case in which he amputated through the thigh, single-handed and without a tourniquet, Syme's many memorable essays, including his description of the first amputation at the hip-joint done in Scotland, which he performed at the age of twenty-four, Lister's studies on inflammation, Simpson's work on anesthetics, etc. To do justice to the list of famous contributors and epoch-making papers would require reproduction of the entire one hundred and thirty-six pages of the original, which forms a most scholarly contribution to the history of medicine. It is a pleasure to congratulate our venerable contemporary on a past so replete with greatness, and to express the conviction that its future will prove to be not less brilliant.

EVOLUTION OF PSYCHIATRY.

IN an interesting paper with this title, read by Dr. William Francis Drewry, of Petersburg, Va., at the fourth annual meeting of the Tri-State Medical Society of the Carolinas and Virginia, it is stated that the first movement on this continent toward establishing an asylum by public authority was made by the Colony of Virginia in 1769. By the end of the eighteenth century there had been built in this country four public asylums for the insane, one each in Pennsylvania, Virginia, New York, and Maryland. To-day there are about one hundred and sixty public and many private institutions for this class of unfortunates. About 1840 marked the beginning of a new epoch in the care of the insane. In 1844 the Association of Medical Superintendents of American Institutions for the Insane was organized, and since that time State hospitals have sprung up in all parts of the United States. The colony system, initiated in Gheel, Belgium, has also taken firm root here. Dr. J. W. Babcock of South Carolina was the first to advocate separate provision for the insane who were suffering from tuberculosis. Recently, this plan has been adopted in several State hospitals, notably at the Manhattan State Hospital, New York, and in Indiana. Many of the States have established separate institutions or made special provision for the criminal insane. Among such States are New York, Michigan, Massachusetts, Illinois, North Carolina, Iowa, Maine, and Ohio. Separate institutions have also been established in different parts of the country for sane or insane epileptics, or for both classes. Dr. Drewry calls attention to one conspicuous blot in the administration of State Hospitals, namely, that the practical politician has seized the opportunity to come in for the "loaves and fishes." On more than one occasion the MEDICAL RECORD has referred to this matter editorially and deplored the fact that such should indeed be the case. One would think that the spirit of greed might at least be held in restraint in dealing with those unfortunate beings whose reason has been overthrown. If, however, selfish considerations continue to prove stronger than humanity, the only remedy would appear to be so to influence public opinion that the people at large would insist that all public charitable institutions, and especially State Hospitals, should be administered solely in the interests of their inmates, irrespective of political influence.

PERIPHERAL NERVE INTOXICATION.

A FEW years ago an epidemic of this condition occurred in certain parts of Great Britain. To the satisfaction of most investigators the affection was traced to the consumption of beer which, when analyzed, was found to contain arsenic in toxic quantities. *The Lancet* of December 10 has an abstract of a chemical lecture delivered by Dr. Henry Waldo bearing upon the subject. The physician in question points out that on the occasion of the wholesale occurrence of peripheral neuritis in the vicinity of Manchester in 1901, when the concensus of opinion leaned to the view that arsenic and not beer was responsible in most of the cases, Sir William Gowers drew attention to the fact that the trouble does not often follow the prolonged use of Fowler's solution in combination with bromides in epilepsy.

Dr. Waldo cites a case under his care of a young man who was attacked by peripheral neuritis, one of the symptoms of which was paralysis of the extremities. The condition was caused by alcohol alone. The writer describes the symptoms which are those of severe nerve intoxication, and mentions that the legs are so extremely paralyzed that it is often feared the mischief may have ascended to the spinal cord and invaded the anterior cornual cells. Nevertheless, the prognosis is favorable, and Dr. Waldo is of the opinion that complete recovery is the rule. Referring to treatment, the statement is made that the one all important factor is rest in bed. Morphine may be given if the pains are acute, but before this, hot-water fomentations should be tried. A daily warm bath is recommended after the acute symptoms have passed, and if the tenderness is not extreme, gentle massage may be used. In the case cited slow interruptions of the constant current battery were being used, in order to prevent the muscular substance from degenerating, but when reaction to an induced faradic current, which acts indirectly through the medium of a nerve twig, can be obtained, that form of electricity should be employed. Strychnine should not be used during the acute stage of the illness, and arsenic not at all.

LEPROSY IN THE SULU ARCHIPELAGO.

ASSISTANT SURGEON J. W. AMESSE, of the Public Health and Marine Hospital Service, contributed to its last annual report a paper on this subject. It appears that leprosy has existed in the Sulu group since early in the eighteenth century, and before the arrival of the Chinese, although it is certain that they have been an important factor in the spread of the disease since the establishment of their trading centers in 1755. Dr. Amesse thinks that the first cases were conveyed by Moro pirates, and it is also probable that Javanese lepers, escaping from their own country, where lazarettos were in vogue as early as 1657, established themselves in neighboring islands and contributed to the infection of Sulu. "Later on," says the writer, "when the Spanish Government founded penal colonies in the island of Mindanao and garrisoned its outposts with Tagalog and Bisayan soldiers recruited from provinces where leprosy was common, numerous cases appeared among the Filipinos, but at no time was segregation of these unfortunates attempted." The Moros recognize both forms of the disease under the general name "epul." They believe that leprosy can originate *de novo* or through sorcery or the enchantment of some enemy; that it may follow continued and intimate association with one already stricken with the tuberculous form, or may be caused by a fish diet, especially when restricted to one species. Another reason assigned for the presence of sporadic cases is the visitation of divine wrath following certain personal pollutions forbidden by the Koran with even greater emphasis than are similar transgressions in the Bible of the Christians.

Loss of Life at Sea.—Apparently ocean travel is becoming less dangerous, though this can hardly be said of railroad travel, in this country at least. An official return shows that fewer lives were lost at sea in 1903 than in any other year during the last twenty-five. The number of lives lost was 624, of which 599 were sailors and 25 passengers. The annual average for the last twenty-five years is 1,613 lives. Other figures show that there were 5,765 accidents sufficiently serious to be recorded. Of the 350 vessels which were total losses, 70 foundered, 188 stranded, 56 were sunk in collision, and 18 disappeared. Of the lost, 2 had been sailing safely for sixty years, 5 for more than forty years, and 21 for over twenty years. There were 5,660 lives saved along the British coasts. Of this number the rocket apparatus saved 235, lifeboats rescued 489, the coast guards picked up 205, passing ships saved 578, and 1,100 reached safety in the boats of their own ships.—*The Sun.*

The Plaquemines Parish, La., Medical Association held its semi-annual meeting at Pointe-a-la-Hache, on January 20, and elected officers for the ensuing year as follows: *President,* Dr. J. K. Johnson of Buras; *Vice-president,* Dr. V. O. Schayot of Pointe-a-la-Hache; *Secretary-Treasurer,* Dr. H. L. Ballowe of Diamond.

News of the Week.

Sanitary Legislation in Pennsylvania.—A bill has been introduced into the Pennsylvania Legislature providing that in cities of the first class the Bureau of Health shall have supervision over the sanitary condition of all premises, wagons, carts, and receptacles used for the sale and distribution of milk or any of its fluid derivatives. Permits are to be granted by the Bureau of Health for such premises or vehicles after inspection. Violation of the act is punishable by a fine of from $5 to $25, or by imprisonment for five days for each offence. Another bill has been introduced providing that in cities of the first class the health authorities may from time to time, when they shall deem it necessary to prevent the spread of smallpox, issue an order requiring all citizens to be vaccinated within such time as they may prescribe, excepting such persons as can prove that they have been successfully vaccinated within five years. The penalty for refusal to obey such order shall be a fine of not less than $5 nor more than $25, and provision is made that any person unable to pay for such vaccination shall be vaccinated free.

National Red Cross Society Reorganized.—The first meeting of the American National Red Cross under its new charter was held in Washington, February 8. Extensive plans for reorganization were discussed and the following officers elected: *President,* Secretary of War W. H. Taft; *Treasurer,* Assistant Secretary of the Treasury C. H. Keep; *Counsellor,* Assistant Attorney-General Louis Pratt; *Secretary,* Charles L. McGee; *Executive Committee,* Assistant Secretary of State Francis B. Loomis, Brig.-Gen. George W. Davis, U. S. A., Medical Director John C. Boyd, U. S. N., Chief of the Bureau of Corporations James R. Garfield, Hilary A. Herbert, former Secretary of the Navy, Miss Mabel Boardman of Washington ,and Surgeon-General Wyman of the Public Health Society. One of the suggestions made was that central storehouses for Red Cross supplies be established in various parts of the country for use in emergencies. By-laws to govern the society were adopted. It is the plan of the organization to begin an active campaign in every State and Territory for the upbuilding of the Red Cross Committees of twelve in each State are planned.

The Moscow Physicians on the Side of Liberty.—At a meeting of medical men residing in Moscow and its neighborhood, held on February 10, a series of resolutions was passed for presentation to the Moscow Zemstvo, indorsing the demands made by the workingmen of St. Petersburg on January 22. The resolutions express indignation at the methods of the bureaucracy, "whose aim is the suppression by violence of all attempts of the nation to secure political liberty," and announce the determination of the physicians to aid the liberal movement, although they cannot strike because they cannot leave the Muscovites without medical aid. The resolutions also express the opinion that the war should be stopped as quickly as possible, and say that to this end the Zemstvo ought to refuse to contribute further money to the medical service in the Far East, "thus actively opposing a continuance of the war, which is both foreign and perilous to the interests of the Russian nation."

Disinfection of Confessionals.—A telegram to the *New York Times* from the City of Mexico announces that the Government authorities, acting upon the recommendation of the Board of Health, have issued an order for the disinfection of confessionals in all churches of that capital daily.

Priests in charge of churches who neglect the order will be fined and imprisoned. The health authorities say that the confessionals help the spread of contagious diseases. A similar order has been issued in the City of Guadalajara, and it is the intention to put it into effect throughout the republic. This is an example of progressive hygiene which may well be followed by sanitarians generally.

Vital Statistics of Philadelphia.—Diseases of the respiratory tract are still responsible for a large share of the mortality. Thus, among 612 cases deaths reported to the Philadelphia Bureau of Health for the week ended February 11, 95 are attributed to pneumonia, 67 to pulmonary tuberculosis, 22 to broncho-pneumonia, 15 to congestion of the lungs, 13 to influenza, 13 to acute bronchitis, 6 to chronic bronchitis. Diseases of the heart and arteries constitute the group contributing the next largest number of deaths. Heart-disease is made responsible for 68, apoplexy for 26, diseases of the arteries 13, endocarditis for 5, angina pectoris for 3. Fifty deaths are charged to Bright's disease, 3 to acute nephritis, 2 to other diseases of the kidneys. Carcinoma in various situations caused 12 deaths, old age and congenital debility each 12, gastroenteritis in children 11, diphtheria 11, typhoid fever 8, appendicitis 8, diabetes 7, convulsions in childhood 7, meningitis 7.

The American Antituberculosis League.—The next meeting of the American Antituberculosis League will be held in Atlanta, Ga., April 17 to 19, 1905. Governor J. M. Terrell has tendered the Hall of the House of Representatives to the Georgia State Capitol for the use of the League during the meeting, and he will deliver an address to the League at the opening session. Papers have been promised by a number of physiologists of this country and Europe, among the latter Dr. Linet of Paris, who will describe a new method of treatment of tuberculosis which, he claims, to be very successful. The president of the League is Dr. George Brown of Atlanta, and the chairman of the executive committee, Dr. J. H. Hallock of Saranac Lake, N. Y. The Georgia State Commission on Tuberculosis and the Georgia Antituberculosis League will meet at the same time and place.

An Object Lesson in Rabies.—The medical class of Bowdoin, numbering about one hundred students, was imprisoned in the lecture-room the other day by a bulldog which was thought to be mad and which was running through the corridors of the building. The dog was finally killed by the janitor and the students were released.

Tuberculosis in Boston.—At a meeting of the Brookline, Mass., Medical Society, on February 8, Dr. Edward O. Otis presented a communication on tuberculosis. He said there were more than three thousand persons in Boston suffering from pronounced tuberculosis in its various stages. The deaths from the disease in 1903 numbered 1,227, and in 1904 11½ per cent. of all the deaths in Boston were caused by tuberculosis. Most of the hospitals closed their doors to sufferers from this disease, and consequently provision for the care and treatment of consumptives was totally inadequate, notwithstanding that special provision was made for them by the pauper and penal institutions of the city and that a few patients were received in the private hospitals.

Officers of the Chicago Laryngological and Otological Society.—At the annual meeting of this Society, recently held, Dr. Wm. L. Ballenger was elected President and Dr. Geo. E. Shambaugh, Secretary.

Phipps Institute for the Study, Prevention, and Treatment of Tuberculosis.—According to the report for the year 1904, 2,039 patients were under observation, of whom 1,130 were native-born and 769 were foreign, while of 140 the nativity was not recorded. Many of the foreign-born had been in this country for so short a time that it is assumed they were infected before landing. Of the entire number 6½% were negroes—a larger proportion than that of the negro to the white population of the city. Improvement took place in 537 patients, no improvement in 583, the result was not recorded in 884, and death resulted in 153.

Award of the Samuel D. Gross Prize.—Announcement is made that the Samuel D. Gross Prize of the Philadelphia Academy of Surgery for the year 1905, amounting to $1,200, has been awarded to Dr. James Homer Wright of Boston, Mass., for his essay, "The Biology of the Microorganism of Actinomycosis."

Legislation to Restrict the Sale of Cocaine.—Alderman Ryan, of Chicago, recently proposed legislation to prohibit the sale of medicines which contain too great a percentage of cocaine. His proposition was submitted to a meeting of a sub-committee of the License Committee of the City Council. It was asserted that many medicines are bought merely for the sake of the cocaine they contain, and information was obtained especially regarding one article sold as a remedy for catarrh which is used almost exclusively by those addicted to the cocaine habit.

An Epileptic Colony in Indiana.—The Legislature of Indiana has made an appropriation of $150,000 for the establishment of a State colony for epileptics. Senator Purviance was the introducer of the bill.

The Sixth District Medical Association of South Carolina.—This association, embracing the counties of Chesterfiely, Marion, Marlboro, Horry, Darlington, and Florence, was organized at a representative meeting of physicians of the district at Florence, S. C., on February 7. At the morning session Dr. J. F. McCormack of Bowling Green, Ky., delivered an address on "The Necessity of Organization Among the Medical Profession." The following officers were elected: *President,* Dr. Frank H. McLeod of Florence; *Vice-president,* Dr. A. T. Baird of Darlington; *Secretary,* Dr. J. M. Earle of Darlington. The next meeting will be held October 2, at Florence.

The Cincinnati Academy of Medicine.—At the regular meeting, on February 6, Dr. H. J. Whitacre reported a case of strangulated femoral hernia associated with a littre hernia which was gangrenous just above it, and above that a stricture of the bowel only admitting a small lead pencil. The patient recovered. Dr. Rufus B. Hall reported a case of soft myoma uteri and one of multiple myoma uteri with the ureter stretched over one of the nodules. Dr. C. L. Bonifield reported a case of very large submucous fibroid protruding through the cervix with pyosalpinx due to infection from the protuding mass. Dr. Tate read a paper on puerperal eclampsia and reported a number of cases.

Prophylaxis of Venereal Diseases.—The Ohio State Board of Health has issued leaflets to physicians, requesting that they be given to all patients suffering from venereal diseases. These leaflets contain information about the general hygienic measures that should be observed to prevent harm to the patient and his surroundings.

Indian Girls for Nurses. — Indian Commissioner Leupp has asked Congress for an appropriation of $20,000 for a new hospital at Carlisle, Pa., where the sick among the Indian students may receive treatment, and where Indian girls may be trained as nurses. There is excellent material in them for work of this kind, the Commissioner says, for they are not sentimentally sympathetic, though kind, and will obey implicitly the orders given by the physicians under whom they serve.

Spotted Fever in Maine Lumber Camps.—It is reported that cerebrospinal meningitis has assumed an almost epidemic prevalence among the lumbermen in the Maine woods. A number of deaths have occurred and many of the camps have been nearly deserted by the men who have returned to their homes to escape infection.

Calorimetric Observation on Brain Work.—One of the students at Wesleyan College in Middletown, Conn., was recently examined in one of the branches while seated in a calorimeter. The purpose of the experiment was to determine the amount of mental energy expended while working out the answers to the examination questions.

Yellow Fever in the Harbor.—A sailor on the *Orizaba* from Colon was found to be suffering from yellow fever when the vessel arrived here last week. He was removed to the quarantine hospital, and the steamship was allowed to land her passengers and cargo.

A Tax on Cigarettes.—The newspapers announce that it is the intention of State Excise Commissioner Cullinan to ask the New York Legislature to impose a special tax on the sellers of cigarettes. His alleged reason is that such a tax will add largely to the revenues of the State. But it would be interesting to know why dealers in cigars, smoking tobacco, chewing tobacco, and snuff are not also to be taxed, and whether the commissioner does not hope deep down in his boots to put a stop to cigarette smoking which he possibly thinks is more injurious than any other way of using tobacco.

Obituary Notes.—Dr. Frank Cowan of Greensburg, Pa., died at his home in that place on February 12 after an illness of several months. He was born in Greensburg in 1844 and was graduated in medicine from the University of Georgetown, D. C., in 1869. He was also graduated in law, edited a newspaper, traveled extensively, wrote verses, romances, a book on insects, compiled a dictionary of sea proverbs, and was an enthusiastic fruit cultivator.

Dr. Hollis S. Kezar of Elko, Ga., died on February 1, at the age of eighty-two years. He had practised medicine for over fifty years, and was also a large landowner and planter.

Dr. J. B. Howard Gittings died at Philadelphia on February 9 at the age of sixty-three years. He was graduated from the medical department of the University of Pennsylvania in the class of 1863.

Dr. Frederick Tuxbury died at Denver on February 5, at the age of thirty-seven years. He was born at Allen's Corners, Mass., and was graduated from the Dartmouth Medical School in 1898.

Dr. Frank H. Sims of Atlanta, Ga., died on January 29 of pneumonia, at the age of forty-two years. He was born in Mobile, Ala., and was graduated from the Southern Medical College, Atlanta, in the class of 1883.

Dr. Peter Roosevelt Johnson died at his home at Sag Harbor, L. I., on February 13, at the age of seventy-seven years. He was a graduate of the College of Physicians and Surgeons in New York, but had not practised medicine for several years.

Dr. Abner R. Wellborn died at Columbus, Ga., on January 31, at the age of eighty-three years. He was a graduate of the New York University Medical School in the class of 1841, and practised in Atlanta until his retirement from active work five years ago.

Dr. Alexander Ramsay died at Philadelphia on February 12 at the age of fifty-four years. He was for ten years superintendent of the Insane Department of the Philadelphia Hospital and he was graduated from the Medico-Chirurgical College in 1892.

Dr. Edward Dudley Arnold of Omaha died of pneumonia on February 3. He was born at Keokuk, Ia., in 1858, and removed to Brownville, Neb., in 1868. He graduated from Ann Arbor College in 1877, and from Rush Medical College in 1878, removed to Omaha in 1883, where he had since resided.

Dr. Thomas F. Padula of Quincy, Mass., died suddenly on February 9, of disease of the heart. He was born in Naples, Italy, December 9, 1859, and came to this country when a lad of ten years. He was a graduate of the Harvard Medical School in the class of 1887. He began practise in Neponset, but removed to Quincy in 1893.

Dr. James A. Freer, a well-known homeopathic physician of Washington, was found dead at a country inn on the Tennallytown road where he had passed the night. He was born in Gilbertsville, N. Y., forty-six years ago, and was graduated from the New York Homeopathic Medical School and Hospital in the class of 1881.

Dr. J. Leslie, a well-known dentist of Cincinnati, died at the age of eighty-six years on February 8. In 1877 he was awarded a diploma by the Vienna Exposition for the discovery of a crystalline form of gold for filling teeth. He was one of the professors at the Ohio College of Dental Surgery and president of the Ohio Mechanics' Institute.

Dr. Thomas H. Sherwood, for many years a medical examiner in the Pension Bureau at Washington, died at his home in that city on February 10. He was a native of Delaware, was graduated in medicine at Philadelphia, and in 1861 was assistant surgeon of the Third Pennsylvania Cavalry. He also served as surgeon of the Twenty-seventh Pennsylvania Infantry and was mustered out in 1865 with the brevet rank of Captain for faithful and meritorious service during the war.

Dr. William H. Risk died at his home in Summit, N. J., on February 7, after a long illness. He had been president of the Board of Health of Summit for two years. He was born in 1842 and was educated in Lafayette College and graduated in medicine from the University of Pennsylvania in 1866. He lived in Philadelphia many years and went to Summit in 1873. He was consulting physician to the Fresh Air and Convalescents' Home at Summit, director of the Summit National Bank and a member of the school board. He was also a member of the Morris County Medical Association and the New Jersey State Medical Society.

Dr. William Johnston died in St. Louis on January 31 at the age of ninety-one years. He was born in Oldham County, Ky., and was graduated from the Medical Department of the University of Louisville in the class of 1838. He began practice in St. Louis in 1851. About two years ago the St. Louis Medical Society, of which Dr. Johnston was formerly president, and an active member up to his last illness, tendered a banquet to the four octogenarian physicians of St. Louis then living. They were Doctors J. B. Johnson, Samuel Pollak, W. M. McPheeters, and William Johnston. Since then all have died save Dr. McPheeters.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

FEEDING SCHOOL CHILDREN—INJURIES FROM ELECTRICAL CURRENT—GAERTNER'S BACILLUS IN MILK—ASCENDING PARALYSIS IN CYSTITIS—SIR W. PREECE AND ELECTROTHERAPEUTICS—BURIAL ALIVE.

London, January 27, 1905.

Sir John Gorst is carrying on his campaign for feeding the school children, undeterred by the prospect of losing his seat in the House of Commons. One can hardly wonder that his constituents are somewhat shocked, especially at his presiding over a meeting of a socialistic association for the sake of advocating his views. Voters are asking if they are to pay for food will not the next demand be for clothing.

It is less surprising to find Mr. Jonathan Hutchinson among the socialists. On Monday he addressed the Independent Labor party, and said it was useless as well as cruel to ask attention to lessons from a hungry child. He would not stop at seeing that the scholars were none of them breakfastless, but would provide them with dinners in school at the public expense. He said it would be an excellent investment to equip the next generation so much better for the battle of life. Ratepayers are shaking their heads, and when Sir J. Gorst and others estimate the cost at a halfpenny rate, say they remember that in parliament when the great education scheme of 1870 was carried, they were told the cost would never exceed a threepenny rate, but now it is more than five times as much, and ever rising. Mr. Hutchinson says feeding the children will no more pauperize the parents than providing museums and picture galleries. He wants every school to have a museum. The more expensive objects he would let circulate from one school to another. Nor were these the only changes he advocated. He is for a sweeping reform in our examination system. He seems to have no confidence in examiners—and he certainly should know something of them. He says the candidates' chances depend too much on the individuality, not to say the caprices and prejudices of the examiner. So he would not permit any extemporary questions to be asked. Lists of carefully considered questions should be prepared and no others allowed to be put. Mr. Hutchinson has never hesitated to express views which were not likely to be generally accepted, so it is scarcely worth while to discuss whether his latest proposals will meet with approval.

With the rapid extension of great electrical works come reminders of the dangers attendant. Some accidents give rise to unexpected injuries, and others destroy life at once. An instance of the former which caused considerable comment in the papers, has now been related at the Clinical Society by Mr. Lucas, under whom the patient was received at Guy's Hospital immediately after the accident. He was a strong young fellow of 15½ years, who slipped while at work, and his right hand came in contact with the main cable carrying the current of 10,000 volts for a period estimated as thirty seconds. He was laid down, rigid and apparently lifeless, and the limbs were burnt, swollen, and stiff; artificial respiration was immediately begun, and consciousness returned. He was taken to the hospital, and soon showed signs of shock, and all his limbs were gangrenous. On the third day the right arm was amputated, and arterial thrombosis was seen up to the origin of the superior profunda. He bore the operation well, and the next day sat up in bed. Three days after the amputation, six after the accident, the gangrene of the feet and legs was spreading, and the temperature had risen to 101.4° F. Both legs were amputated simultaneously, and this operation was well borne and the shoulder wound progressed favorably. Two days later signs of toxic infection appeared and the temperature rose to 104.2°. Death took place on the ninth day after the accident. Mr. Lucas mentioned some other cases lately reported, mostly from "live rails."

Mr. F. Aspinal spoke as an engineer, and divided accidents into groups according to whether the current passed through the body or not. When a high-tension current passes, the victim may make either good or bad conduct. So, too, with low tension. He classed all currents above 750 volts as high, but voltage was not the chief factor. The contact was the point. He said patients severely burnt showed less shock than when there was little external injury. He described the "cry" in these accidents as peculiar—a sort of inspiratory shriek. He said when an arc was formed metals were volatilized, and suggested that their vapors might cause death.

Dr. W. J. Harris thought the chief factor was the amount of current which passed through the body. A low-voltage current might produce fatal shock, while recovery sometimes followed when a current of enormous voltage had passed through the body.

Dr. Jellinck of Vienna communicated through Mr. Spencer some observations to the effect that much depended on the resistance. The resistance was that of entry and that of exit. The former, referring to clothes and skin, whether wet or dry; the latter varied with the ground, and often the foot-covering. He mentioned a case of a man killed by 95 volts when standing barefoot in a mixture of potash and sugar. In contrast, another man was much injured, but not killed, by 5,500 volts. The dry, horny palm of a workman might offer a resistance of entry of 100,000 ohms; the mucous membrane of the mouth not more than 1,000. Rooms and shops containing electrical installations should be distinguished as safe or dangerous, according to the tension of the current and the nature of the ground.

Dr. E. Klein recounted at the last meeting of the Pathological Society a series of observations showing that Gaertner's bacillus is often present in cow's milk. Out of thirty-nine samples from farms in different counties, no less than ten contained the bacillus. Guinea pigs injected with the sediment developed a chronic disease—enlarged spleen with miliary purulent nodules. These contained numerous bacilli enteritidis Gaertner, as proved by cultures in all media, by standing, by agglutination, as well as by injection and feeding of mice and guinea pigs with cultures.

It was further shown that the chronic disease was produced by relatively small numbers of the bacilli in the milk. When given minute doses of cultures the animals survived and after eight days began to develop miliary nodules of the spleen; but large doses caused acute septicemic infection and death. It is not a pleasant reflection that such milk kept in a warm place or in the warm time of the year would be an excellent medium for the multiplication of the bacilli, during which process the appearance of the milk might remain unchanged.

At the Clinical Society Dr. T. J. Walker described three cases of acute ascending paralysis which terminated longstanding chronic cystitis. One was in a man who at the age of fifteen had injured his urethra by falling upon a rail and was treated for recurrent stricture and cystitis from his twenty-fifth to fortieth year. He was under treatment for such an attack when in the night he felt a numbness and loss of power in the legs. In the morning there was paresis up to the thighs and by evening up to the arms and thorax, the breathing became embarrassed and he died eighteen hours after the onset of paralysis. The other two cases resembled this—paralysis coming on in the course of cystitis of long standing, rapidly spreading upwards and proving fatal in a few hours. Dr. Walker referred to two cases he had found in the records and suggested that the cause was the extension of microbes from the bladder to the spinal cord.

Mr. C. Lucas suggested that the paralysis might not be due to the cystitis, but perhaps to exhaustion from long illness.

Dr. E. F. Buzzard said there were three different forms of ascending paralysis, one of which was a meningomyelitis. It occurred as a result of infection by various organisms and he thought Dr. Walker's cases were such.

Mr. Spencer said experimental rabies terminated in ascending paralysis. Many toxins might probably produce it.

Yesterday Sir William Preece opened a new pavilion for electrical treatment at Cardiff Infirmary. He said nothing was more wonderful than the rate at which therapeutical progress had gone on of late years. The more he used electricity the more he was astounded. The wonders of telegraphy and telephony were overshadowed by the Roentgen rays, which enabled one to see the invisible mechanism of the living body. How foolish were those who would prevent experiments on animals, sacrificing the lives of men to save a dog. Radium had not proved the good friend it was expected to be. It was now regarded rather as an enemy, because it had brought out certain dangers which were never anticipated.

There is a small society here which has for its object the prevention of live burial. It held its annual meeting yesterday and, as the papers this week had reported the case of a patient whose funeral had been arranged, but who was not dead, the speakers would indulge in unpleasant suggestions which seemed opportune. The society has now adopted a more reasonable attitude and will direct its attention to an effort to reform our registration laws, which are very lax.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

COPPER TREATMENT OF MANILA WATER—LEPROSY—CULTIVATION OF THE BACILLUS LEPRA—LEPROLIN—BOARD OF HEALTH CHANGES.

Manila, P. I., December 28, 1904.

The experiment of mixing sufficient copper sulphate with the water supply of the city of Manila, to make a solution of 1 to 4,000,000, has now been carried on for a period of eight weeks. Samples of water were taken once a week at three different sections of the city and were regularly examined. The results so far as amœbæ are concerned were not at all encouraging. Amœbæ were found in the water before copper sulphate was introduced and in the twenty-four examinations which were made subsequently they were found present each time with one exception, and in that instance the amœbæ were present in two out of three samples that were taken the same day. Furthermore, in samples of water treated with copper sulphate in solution of 1 to 100,000, over a period of three days, the amœbæ were found apparently just as numerous as in the control. Thus it will be seen that whatever other virtues copper sulphate may possess, it is practically of no service in the destruction of amœbæ. There seems, however, to have been a reduction in the number of bacteria. At the beginning of the experiment, samples of water taken at three different sections of the city showed 340, 150, and 184 bacteria per c.c. respectively; while toward the close of the experiment the figures were 120, 60, and 65 respectively. In other words, out of twenty-one bacteriological examinations made subsequent to the first one, the bacteria were found to number less than 100 per c.c., on fifteen occasions, and of the remaining six they never reached above 140. Thus it will be seen that by contrasting this latter number with the 340 originally found, a marked reduction has taken place. It is understood that before the copper sulphate was used, the bacteria were almost invariably above 100 per c.c. It has also been reported that the copper sulphate in these high dilutions caused a marked decrease in the number of infusoria.

Considerable attention has been given here to the two publications on leprosy by E. R. Rost, Capt. I.M.S., Resident Medical Officer, General Hospital, Rangoon, which appeared in the *Indian Medical Gazette*, No. 5, of May, 1904, entitled "The Cultivation of the Leprosy Bacillus;" and in No. 6, of June, 1904, "Further Notes on the Cultivation of the Bacillus Lepra and the Treatment of Leprosy by the Injections of Leprolin, Manufactured from Cultures." The author states that just as there is a class of bacteria which may be classified as anaërobic, so there is a class of bacteria which may be classified as achloretic. Of these the bacillus of tuberculosis, leprosy, and syphilis are pathogenic. He claims to have successfully cultivated lepra bacilli by growing them in media made with the ordinary beef extract, from which the salt has been extracted by distillation. For this purpose of cultivating them the lepra bacilli were obtained from fresh granulating sores of leprous subjects. After being implanted on the foregoing media the growth appeared as a white, stringy, streaky, heavy deposit at the bottom of the tube at the end of two days and was difficult to shake up. On microscopical examination the bacilli were characteristic, being very resistant to acid. He also grew them on agar, from which the salt had been extracted by dialysis. The growth appeared on the surface after two days' incubation at 37° C., as very slightly yellowish and beady. He then proceeded to make leprolin on the same general principles as the tuberculin made by Koch. The lepra bacilli were permitted to grow in the distilled beef extract at 37° C. for six weeks, then sterilized and passed through a Pasteur filter, after which glycerin was added to clear the fluid. In his second paper he claims to have improved the foregoing method by dispensing with the sterilizing, and instead refiltering the leprolin through fresh sterilized filters, then the bulk is reduced to one-tenth of the original amount by exhaustion over sulphuric acid in vacuum. The fluid is then mixed with an equal quantity of glycerin and kept on ice until used. The injection of 10 c.c. of this solution is said to cause violent reactions in cases of leprosy, the temperature rising to 104° Fahr. and the leprous patches becoming red, hot, and swollen. He states further that thirty-five lepers have been injected with leprolin. He gives notes from twenty-four of those cases and notes that in most of them the injections have been followed by marked improvement and that a few of the cases have been almost completely cured. An analysis of the notes, however, shows that the diagnosis is not well established. A careful perusal of his papers shows them to be extremely crude and the scientific data not well supported. It is, however, possible that the author has made an important discovery and has been unfortunate in his presentation of the matter. Judging by some preliminary work done here, in accordance with his published directions, it would seem that there has been an error in his technique, which has caused certain forms of streptococci to be mistaken for leprosy bacilli. It is only fair to state, however, that as yet this has not been confirmed. The local health authorities are considering the advisability of trying some of the leprolin on a few cases of leprosy and if this is done the matter will be reported upon later.

Mr. Henry D. Osgood has resigned his position as sanitary engineer of the Board of Health of the Philippine Islands, and will return to the United States in January. Mr. James D. Fauntleroy, formerly of the Bureau of Engineering, has been appointed to succeed him.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

UNFAVORABLE OUTLOOK FOR BERLIN PHYSICIANS—DER BUND FÜR MUTTERSCHUTZ—TRANSPORTATION OF THE SICK—WINTERERHOLUNGSSTÄTTE—SYPHILIS AS AN OCCUPATION DISEASE—WHEN SHALL WE OPERATE IN APPENDICITIS—THE RÖNTGEN CONGRESS.

BERLIN, January 23, 1905.

THE new year does not seem to be opening propitiously for Berlin physicians. As I have stated before, many of us are deprived of a large part of our legitimate income. Although the physicians in the more exclusive parts of the city are not affected, still, the unfavorable condition is widely recognized, as can be seen by the last state publication, which was issued in April, 1903. Up to this time, 545,347 men have become members of lodges, forty per cent. of whom have been ill. Notwithstanding their difficulties, physicians have been loyal to and have worked for the state's best interests.

The latest Berlin charity among the more prominent physicians is "Der Bund für Mutterschutz." The outlook is encouraging, and the success bids fair to continue. The pamphlet, signed by our most respected physicians, professors, and authors, explains the object of the charity. About 180,000 illegitimate children are born every year in Germany. About 28.5 per cent. of these illegitimate children die in the first year, while only 16.7 per cent. of legitimate children die. A small part of the illegitimate children become soldiers, but by far the greater number form our criminal and tramp population. On account of the decrease in birth rate, it behooves us to foster every healthy child for the sake of the state. For this purpose "Der Bund für Mutterschutz" encourages the erection of homes for unmarried mothers, where they can support themselves and their children by farming or factory work. The professional advice of doctors and lawyers is provided.

The science of hygiene is advancing in Berlin. The subject of the transportation of the sick has been undertaken by the "Verband für erste Hülfe." At present there are three places in town where ambulances can be procured. After each trip the ambulance can be disinfected. These vehicles will be used in preference to public cabs, and thus the liability of disseminating infection will be lessened.

The Red Cross has also founded a new institution. The first building has been erected in the Grunewald. It is a substantial building, with dining room and lounging rooms; in fact, a little hospital where patients come for the day, returning to town in the evening.

Of the papers read during the last year, Blaschke's is one of the most valuable. He presented it at the "Medizinische Gesellschaft." The topic was "Syphilis als Berufskrankheit der Aerzte." It deals with the origin, diagnosis, and prophylaxis of professional syphilis. The author cites twelve cases, ten of whom were in Berlin physicians. The first evidence of the disease is nearly always noted in the fingers, and is often mistaken for herpes, anatomical tubercle, and soft chancre. Herpes is preceded by neuralgia and is cured in from eight to ten days, and is followed by no sequelæ. The lack of adenitis is characteristic of anatomical tubercle. Soft chancre can be recognized by deep ulceration. In one of the cases he could find no portal of entry for the infection. But this might have been an insect bite. Blaschke has never seen or heard of infection from the puncture of a hypodermic needle. But he has seen a pathologist infected by a cadaver which he had dissected in the first twenty-four hours after death. He calls attention to the many little wounds so common on the fingers of physicians. After infection has occurred, he puts iodine into the wound or cauterizes the adjacent tissue. When physicians have syphilitic infection of the hands, they should not be allowed to do any work.

Rotter has recently read a paper before the "Freie Vereinigung der Chirurgen Berlins," entitled "Ueber die Frühoperation bei acuter Appendicitis in den ersten 24 Stunden." The opinions of the greatest Berlin surgeons were expressed on this occasion. A small number of excised appendices showed no microscopical changes, but the majority showed effects of pathological disturbance. In twenty-three cases there was no exudation in the peritoneum. Twenty-two cases were purulent. In most of the latter the appendix was perforated, six of these patients dying. On account of the difficulty of making a prognosis, immediate operation is the best therapeutic measure. In purulent exudation drainage is recommended. In the discussion, Sonnenberg advocated immediate operation only in diffuse purulent peritonitis. In the other cases he saw no better results from operation than from expectant treatment. He declared that it was impossible to operate upon every paient suffering with pains in the abdomen. The prevailing opinion was in favor of immediate operation when the cases present themselves early for treatment, but later, operation should be delayed until a period free from fever.

The same evening Dirk read a paper on "Scopolamin-Morphine Narcosis." Two hours before operation he gives 0.0005 scopolamin, and 0.01 morphine, repeating this dose in an hour. This treatment diminishes the amount of ether necessary. The narcosis is profound and there is no vomiting. The later condition is very satisfactory. Slight cyanosis is common in this treatment.

A congress and exposition will be held on the tenth anniversary of Röntgen's discovery, which will be next April. Many brilliant workers will be there. Röntgen himself will be the honorary president. This congress will be held in conjunction with our annual congress of German surgeons.

Progress of Medical Science.

The Boston Medical and Surgical Journal, February 9, 1905.

A Case of Chylous Cyst of the Abdomen.—Maurice H. Richardson describes this case. The patient was a boy of eleven years. He was rather thin and cachectic, with a very prominent abdomen. He was extremely emaciated. The thorax was much dilated over the epigastrium on both sides. The ribs were prominent. The abdomen contained fluid, and was much distended. The temperature was 100°. A diagnosis of tuberculous peritonitis was made. At operation, the writer went into the peritoneal cavity, finding none of the features which were so confidently expected to appear. Instead, there was noted a white, fragile-walled cyst covered with small blood vessels, most of them running transversely. The tumor filled the peritoneal cavity, and was seen to be retroperitoneal; it extended up under the liver, and to the right. The cyst was emptied through an incision in its wall, and the fluid from it measured eight pints. The fluid was milky. The sac was then dissected out. It did not in any way involve the mesentery. The boy made a rapid and satisfactory recovery. The writer emphasizes the possibility of mistaken diagnoses, and urges that there may be a glimpse of encouragement in apparently hopeless cases.

I. K. I. Method of Sterilizing Catgut.—F. W. Johnson advocates this method of sterilizing catgut. He declares that in every case in which the method has been criticised, it has been the fault of the user, and not that of the method. In the first place, clean, strong gut should be used. He uses gut that is almost white; it has no odor and is free from fat. Before sterilization, each strand should be thoroughly stretched. In the method he describes, the gut should be wound on wide reels if possible, and too much gut must not be put on one reel, for the solution must find easy access to the deeper layers of gut. Before using, the gut should be swashed through sterile water, but not allowed to soak in it. The reel can then be placed on a sterile gauze pad, and after the operation dropped back into the common jar. The solution is: Iodine, one part; iodide of potassium, sufficient to saturate, and distilled water sufficient to make one hundred parts. Reels made of papier maché are found to give excellent results. The writer gives the advantages of this method as being the absolute certainty of a sterile gut, ease of preparation, healing by first intention, and an animal suture material that will not slip, and that will tie like silk. Large sized gut is sterilized to its very center. Gut sealed in tubes in the I. K. I. solution and kept out of the light, will become friable in about three months. This gut should not be used in plastic work in the vagina, as to those tissues the iodine is irritating, and thus an excellent culture medium is made for microorganisms. The writer appends the favorable reports of Martina and Page on this method.

New York Medical Journal, February 11, 1904.

The Cerebellar Seizure (Cerebellar Fits), a Syndrome Characteristic of Cerebellar Tumors.—C. L. Dana refers to recent literature on the subject of fibromata of the cerebellopontine angle, and gives a report of one personal case, presenting the peculiar syndrome named in the title of his paper. He believes that vertigoes and seizures of this kind are not unfrequent. The special feature in the tumors of the posterior cerebral fossa and of the cerebellum which cause irritation and pressure, is a seizure characterized by (1) Loud, high pitched tinnitus or roaring and crackling noises, suddenly increased in intensity. (2) Vertigo, usually objective, and with or without forced movements. (3) A tendency to drop or fall in one direction or another instantly to the ground. (4) Sometimes sudden blindness and loss of consciousness. (5) In severe attacks, tonic spasms generally of an extensor type. This lasts from one or two to five or ten minutes.

The Diagnosis of Cerebellar Tumors.—According to J. Fraenkel notes that while headache, vomiting and optic neuritis are early and obstinate symptoms in cases of cerebral lesions, the opposite is true in positive and medullary lesions. Headache, if present, is generally occipital, and it together with vomiting in lesions of the posterior cerebral fossa, is most distressing in the morning after rising or a change of position. Attacks of amyasthenia and general vertigo are frequent expressions of cerebellar disturbance. Attacks of respiratory and circulatory disturbance with or without loss of consciousness, are not common. Trophic and visceral symptoms mostly accompany pontine lesions, very rarely cerebellar. Early evidences of irritation of cranial nerves, particularly the fifth and eighth pairs, are of great diagnostic importance as suggesting extracerebral disease while deafness, general locomotor incoordination disturbances of circulation and respiration, hemiparesthesias, or paralysis of conjugated ocular movements, introducing the disease, favor a diagnosis of the intracerebral origin. Of the extracerebral lesions of the posterior fossa, those originating in the basal nerves deserve distinction for various reasons. Excepting rare metastatic or primary lesions of the bone, and the less rare localized meningitis, the solid lesions of the pontomedullocerebellar angle are due to primary tumors of the fifth or eighth nerve. In many instances an exact diagnosis of an actual tumor is impossible, and the most we can say is that some lesion exists in the posterior cerebral fossa. Theoretically, it would appear that this fossa could be reached by the surgeon, but up to the present time there are on record but few instances of successful removal of growths from this locality.

The Functions of the Cerebellum.—E. Lodholz calls attention to the fact that the size of the cerebellum is not always proportionate to the variety of movements of its possessor. In frogs it is relatively small. In birds its lateral lobes are absent, while in the apes and man they are quite large. Lodholz describes the sequence of changes which follow the removal from animals of this portion of the brain, restlessness, irritability, moving or falling backwards, convergence of the eyeballs, etc. If the wound remains aseptic the tonic spasms become clonic or oscillatory, and the animal recovers locomotion and attitude to some extent. The cerebellum has no functions independent of its connection with the rest of the cerebrospinal axis. It contains the coordinating center, but if it is inactive, cells in other parts of the nervous system are capable of performing the functions assigned to it. A close functional relation exists between it and the semicircular canals. It has nothing to do with the sexual function. Motor impulses are undoubtedly strengthened in it, for its removal causes muscular weakness, described as due to three factors: Asthenia (weakening of muscular energy), atonia (lessening of muscular tone), and astasia (uncertain and unsteady movements). The organ does not, in all probability, contain any distinct center for the muscular sense.

Medical News, February 11, 1905.

Hematuria as a Symptom of Hydronephrosis; Nephrectomy; Cure.—L. Bolton Bangs calls attention to the fact that in the literature there is scarcely any mention of hematuria as a symptom of hydronephrosis. In the past few years he has found 13 cases reported, nine of which are by Israel. It would appear that hydronephrosis per se is a comparatively infrequent disease in this country. The patient whose history is here reported was a boy of nineteen years. He never had any sickness until the present one, which began about a year ago. He then complained of nausea and general malaise, and a sediment was noticed in his urine. A surgeon who was consulted said that there was blood in the urine. There was no history of traumatism, nor any history of renal colic or of pain in the left side, for by separating the urine of the two kidneys it was discovered that the left kidney was the seat of the disease. Prior to the onset of the nausea and general malaise there was no symptom indicating the beginning of the malady. The time of the first appearance of blood in the urine is vague and indefinite. The patient suffered greatly with constipation, doubtless due to pressure of the renal tumor upon the descending colon. An exploratory incision was made, and a bilobed, rounded tumor, with thin walls, was found. The walls were incised and about a quart of fluid escaped. The kidney was the seat of hydronephrosis, with comparatively little renal tissue left. Later the kidney was removed. A subacute pyelitis was present. No bacteria appeared to be associated with the kidney tissues. There was no neoplasm. At the operation there was an extreme amount of hemorrhage from the thin and expanded kidney tissue, the blood appearing to come from the interior of the sac, and not from its cut edges. The patient made a good recovery.

Two Cases of Tracheal Stenosis from New Growth.—George Emerson Brewer reports these cases. The first patient was a boy of eleven years. When five years of age he suffered from extensive papillomatous disease of the larynx, which interfered considerably with his respiration. The condition grew worse, till, on account of the extreme dyspnea, it was necessary to perform an emergency tracheotomy. By persistent local treatment the greater part of the laryngeal growth was removed, but while it left a sufficient opening in the glottis for ordinary respiration, no relief was afforded. As soon as the tube was removed the dyspnea was grave. An obstruction in the trachea, immediately above the opening for the canula, was evident. At operation there was found, immediately, above the old tracheal opening, a large papillomatous mass, completely plugging its lumen, and attached by a comparatively small pedicle to the left side of the trachea. It was about the size of a large blackberry. It was easily removed. Several papillomatous masses on and below the vocal cords were also removed. The greatest precautions were taken on account of the anemic condition of the boy, to avoid the dangers incident to such an operation. The entire larynx and the cervical part of the trachea were laid open, affording a clear view of the entire extent of the disease. The use of cocaine and adrenalin on the mucous membrane served to avoid the rapid fall of blood pressure and consequent symptoms of grave shock, and also produced a marked anemia of the tissues, preventing extensive oozing. Chloroform was used, and the patient put into the Trendelenburg position. The second patient was a physician suffering with adenocarcinoma of an accessory thyroid gland. The growth caused marked tracheal stenosis. Dyspnea at last became so alarming that immediate operation was decided upon. Chloroform was administered. The patient took it well till the position of the head was changed to allow the performance of a preliminary tracheotomy. The dyspnea then became extreme and an alarming degree of cyanosis developed. An incision in the median line was made from the cricoid to the suprasternal notch, and thence was continued down toward the right in a curved direction for about three inches. While the trachea was being exposed the patient ceased to breathe and the skin became livid. The cut surface of the thyroid bled profusely, but as soon as the hemorrhage was controlled the trachea was opened and a tube was introduced. Respiration was re-established. There was a large encapsulated tumor beneath the thyroid gland, partly within and partly above the mediastinum. This growth was removed. The patient's recovery was prompt and practically uneventful. The tumor proved to be an adenoma, probably of an accessory thyroid. In it there were slight changes suggesting carcinomatous degeneration.

American Medicine, February 11, 1905.

Some Forms of Insanity Due to Alcohol, Especially in Their Medicolegal Relations.—Chas. K. Mills briefly discusses the different forms of acute and chronic alcoholic insanity with medicolegal bearings; these including, although in relative degree, almost all types of alcoholic mental disorder. The alcoholic somnambulist may steal or kill in his abnormal sleep; the alcoholic melancholiac may commit suicide or destroy others because of his depressive delusions. The alcoholic suffering from acute mania may strike down his fellowman in his wild excitement. The victim of delirium tremens, in trying to defend himself from his tormenting hallucinations and delusions, may do great harm to others and to himself, and the alcoholic dement may be unfit to care for himself or his estate, and therefore may need the protection of the law. Chronic persecutory insanity, or alcoholic paranoia, and dipsomania are especially considered. Special stress is laid upon the fact that in the former the delusion of marital infidelity plays a leading rôle; it may be associated with delusions of poisoning, with hallucinations of sight or hearing, or it may be the only evidence of insanity and very difficult to demonstrate. Mills classes dipsomania with the impulsive insanities. He emphasizes the distinction between dipsomania and inebriety with periods of great excess, and also between dipsomania and other forms of alcoholism.

Subcutaneous Alimentation.—Arthur E. Barker gives the results of several years' personal experience in surgical cases with infusions, both subcutaneous and intravenous, of physiological saline solution and of glucose, the latter being added as a food. The advantages of saline infusion consist (*a*) in the introduction of water, which is often badly needed by the tissues, (*b*) in the dilution of toxins, and (*c*) in the increase of elimination. One special effect of the loss of water in the tissues under certain pathological conditions is the irritability of the nerve centers, requiring only some accidental stimulus to call forth explosive action. Barker prefers this to the theory of intoxication through absorption of some fermentative product. It is possible that subcutaneous injections of a half liter of saline solution with glucose produce or encourage leucocytosis and phagocytosis. Saline solution may be made the means of conveying oxygen to the blood directly, and so stimulating the heart in cases of shock. The method is to shake up with the warm saline solution about one-tenth of its volume of pure oxygen, and introduce this by puncture into a vein. Subcutaneous infusion would not answer. Oxygen is also administered by the lungs at the same time. So far it has only been a question of supplying water to the tissues safely, the sodium chloride being meerly added to make an isotonic solution. It is desirable at times to do more than introduce water. Often the rectum is unavailable for alimentation, or it is necessary to supply food more rapidly than is possible by the rectum. Barker has for many years employed pure glucose for this purpose. A 5 per cent. solution in distilled water has a freezing point of 0.56° C., isotonic with the blood. It is well not to trust the sterility of such solutions too long. They should be injected at about blood heat, otherwise they cause pain. In some cases the effects are very remarkable, and in no case could any injury be traced to the injection, when used either to prepare a patient for operation or to combat the exhaustion following the operation. Barker has had only a limited experience of the subcutaneous injection of olive oil, and is not prepared to speak definitely concerning it.

Typhoid Coxitis.—John L. Porter briefly reviews the literature and reports a case of typhoid infection of both hips in a boy of 10. The points of interest in the case are: (1) Both hips were involved; (2) infection occurred with acute symptoms during convalescence; (3) one joint, which broke open and discharged, recovered with almost normal motion and no destruction, while the one that did not rupture underwent extensive destruction and spontaneous dislocation, with extreme flexion deformity. The dislocated joint was reduced by tenotomy and forcible correction, resulting in shortening of one inch, fair mobility in all directions except flexion, a good standing position, and the ability to walk and run without support.

Journal of the American Medical Association, Feb. 11, 1905.

Chorea.—W. G. Spiller thinks that the relation of chorea to rheumatism has been greatly overestimated. In most of his cases he could not detect it. He also has not been able to recognize any peculiar facies of the disease, nor does he agree with Gordon and Eshner that there is any peculiar characteristic of the patella reflex in chorea. The arsenical treatment of the disease does not seem to be without disadvantages, and should be watched very closely. He has seen arsenical neuritis and idiosyncrasy. The pathology of the disorder is still obscure. The "chorea bodies" are not characteristic. Apoplectic hemihypertonia is distinct from athetosis; the spasm is tonic, unilateral, associated with a little weakness, but not with contractures, develops after an apoplectic attack, and is probably due to irritation of the motor fibers below the cortex. Spiller does not accept Kahler and Pick's theory of the choreiform movements being caused by irritation of the pyramidal tract. It is hard to understand the comparative rarity of hemichorea if this were the case.

Convulsive Tic.—According to H. T. Patrick, convulsive tic may be said to be a habit spasm, a sort of motor expression of an imperative impulse. It may develop from some peculiar motion incident to the patient's occupation, but its original cause is generally sensory—some uncomfortable sensation which an attempt is made to relieve by a movement which finally becomes habitual. It does not affect voluntary movements, is diminished by quiet, rest or mental diversion, and is aggravated by self-consciousness, observation, excitement, etc. The prognosis varies. In children it is ordinarily good, but in adults it is often rebellious. The patients are generally nervous and unstable, and, in cases of children, unwise parents and rearing are often responsible. With them the habit may be broken by judicious diversion or correction. With adults, the treatment is apt to be unsatisfactory, but Patrick thinks the soporific treatment, keeping the patient asleep for two or three weeks at a time, using hypnotics judiciously, with frequent changes of the drug, followed by the educational exercises of Brissaud, will be found most effective in the spasmodic torticollis of the adult.

Hysterical Movements.—H. T. Pershing gives the diagnostic points of hysterical movements, as compared with chorea and convulsive tic. One characteristic is that they are always movements which can be produced voluntarily, though this also may be the case with convulsions from organic disease. The more regular the movement, the greater the probability that it is hysterical, but the possibility of hysteria complicating other conditions must not be forgotten. The most characteristic movement is a rhythmic oscillation involving one part, and next are certain highly co-ordinated movements, such as jumping or dancing, with or without impairment of consciousness. Chorea may simulate hysteria and be due to similar emotional causes, and the diagnosis may be difficult. Hysterical movements are more likely to be regular and grouped in distinct paroxysms, and to have more of the staccato movement, but most of the rules for distinguishing these diseases require qualification. Hysterical movements of a limb may simulate Jacksonian epilepsy, but there is no rise of temperature, no paralysis nor mental deterioration. Prognosis and treatment must be guided by general principles. A cure is always possible, though the condition may be obstinate. Moral treatment is imperative. If the patient's mental processes can not be happily directed, everything else will be useless. If they are so directed, the rest will be easy.

Blank Cartridge Tetanus.—D. H. Dolley has investigated blank cartridges from several makers with special reference to their bacteriological contents, employing cultural and incubation, as well as microscopical methods. The findings were rather negative as regards the tetanus bacillus, but the *Bacillus aërogenes capsulatus* (Welch) was present in a large proportion of the cartridges examined. Notwithstanding this fact, tetanic symptoms developed in a number of the animals inoculated, and in still other animals inoculated with cultures from these. His conclusions are: 1. *B. aërogenes capsulatus* (Welch) is present in a large proportion of the wads of the three makes of the cartridges examined. 2. The wads of one make, inoculated in rats, guinea pigs, and rabbits, produced characteristic symptoms of tetanus. 3. The powder of the three varieties of cartridges examined was negative for *B. tetani* and *B. aërogenes capsulatus*. 4. Efforts at isolation of *B. tetani* from the wads have so far been unsuccessful. 5. There is abundant evidence, however, from clinical observations and animal experiments, that the wads of certain blank cartridges contain *B. tetani*.

The Lancet, January 28, 1905.

Myelopathic Albumosuria.—C. W. Paget Moffatt, in describing this disease, says that it is one about which the average medical man knows very little. He appends records of 39 cases which he has found in the literature. Bence Jones was the first to call attention to this disease. The symptoms found in every case are pains in the back and sides. Weakness and anemia are progressive, and though there may be a remission of the acute symptoms, for a time, they always recur and progress to a fatal ending. In many cases, spontaneous fractures of the ribs have occurred, and in many also, there have been noted tumors growing from the ribs, and deformity of the lumbar and dorsal vertebra. Nothing is known concerning the etiology of the disease. Of two cases seen by Bradshaw, one had a gumma of the tongue, and the other gave a history of syphilis. But notwithstanding this fact, there is no reason so far as is known for associating the two diseases. The prognosis is absolutely bad. In only a few of the cases on record, has life been prolonged for more than a year after the patient has consulted a physician. It is said, however, that in Kahler's cases, some symptoms were present eight years before death. The end may come from exhaustion or from some intercurrent disorder, of which pneumonia appears to be the most frequent. There is no known efficient treatment. The drugs that have been used seem to have absolutely no effect in influencing the course of the disease. In the differential diagnosis of myelopathic albumosuria, the following diseases must be thought of: Osteomalacia, muscular rheumatism, lumbago, sciatica, and so on, spondylitis deformans, caries of the spinal column, invasion of the vertebral column, and other bones by secondary malignant tumors, pernicious anemia or other diseases associated with progressive cachexia, nephritis, and chyluria. The pathological changes are almost all confined to the skeleton. The ribs, the sternum and vertebra always seem to be affected, and in certain cases the skull and pelvic bones. The new growth is gelatinous, soft and vascular. Sometimes it is confined to the interior of the bone, while in other instances it bursts through the compact tissue, and forms tumors of considerable size. This growth is composed of round cells with little or no intercellular substance. Fat globules are often noted in the cells, and now and then cells of a higher type are seen. Spindle cells are sometimes present. In its structure and clinical progress, there is a strong resemblance between this growth and sarcoma, but it differs from the common forms of sarcoma "in its invasion of several parts of the skeleton simultaneously, and in its showing no tendency to form metastases in other parts or organs." Besides the presence of Bence Jones proteid, there is no constant peculiarity in the urine. As to the blood, nothing beyond simple anemia seems to have been determined. There is no record of the presence either of myelocytes or nucleated red corpuscles. Interstitial nephritis has been found in some cases. In other cases the kidneys were normal. There seems to be no necessary association between this disease and pathological changes in the kidneys. The writer then gives a careful description of a case of this nature which he has had the opportunity of observing.

The Presence of Plasmodiophoræ in Carcinomatous Tumors and the Successful Culture of the Parasites.—W. Ford Robertson and Henry Wade have been studying carcinomata especially with a view to testing the validity of the hypothesis that these growths are dependent upon the growth of a parasite of the same class as the plasmodiophora brassicæ, which is known to cause tumor growths in certain plants. They have used the silver method in staining, toning the silvered sections with gold, platinum, and palladium. They have traced what appear to be three parallel lines—those of the life-cycle of the plasmodiophora brassicæ, a series of bodies found especially within the cells of carcinomata, and the stages of an organism which can be grown from such tumors. Although the last line is incomplete, still through eight successive phases, or four separate stages, the parallelism is exact. They affirm that all the stages of a plasmodiophora are accurately represented in carcinomata, and it has been impossible to construct a similar series from control tissues. Several distinctive morphological features have been observed in the supposed parasites. As to the study of cultures, in the sections of the growths in agar, tissue cells are absent, and there is present an organism which has obviously been multiplying rapidly. At least in one instance this organism has been found in four distinct forms, which exactly harmonize with four successive stages in the developmental cycle of the plasmodiophora brassicæ, as well as with that which has been found in sections of carcinomata. The writers conclude that, if further researches confirm their results, the etiological relationship of the plasmodiophoræ to carcinomata will hardly require further proof, and if a protozoan organism of this nature is the essential etiological factor in carcinomata, antibodies will doubtless be produced, by the therapeutic use of which the body will become able to overcome the parasites in such growths.

Relation between Various Atmospheric Conditions and the Occurrence of Cerebral Hemorrhage.—James W. Russell presents the following conclusions: There seems to be a slight tendency towards the occurrence of cerebral hemorrhage on days of high atmospheric pressure, and also on days of rising pressure, the former being probably the important factor. There is a very marked tendency on days of low wind pressure, and the combination of a low wind pressure with a high barometric pressure is the condition under which the largest number of cases took place. Apart from season, temperature in itself has not been shown to exert any influence, though a small excess of cases has been noted on days with a rising thermometer, and also with a combined rise of atmospheric pressure and temperature.

A Case of Severe Cough and Loss of Weight Due to Round Worms in the Intestine.—Prosper St. Leger Liston describes the illness of a boy, aged thirteen, who measured 4 feet 11 inches in height, and weighed 36 pounds. When the writer saw him he was suffering from an intense earache. He had had cough, expectoration, and night sweats. The expectoration was often bloodstained, and he was supposed to have "consumption." He was extremely emaciated. His temperature was 104° F. His abdomen was greatly distended and painful. Diarrhea was present; there was no appetite, and the boy rarely had more than an hour's rest at night. Two sisters had died from some vague stomach trouble. When the writer examined the patient's throat, he found an intestinal worm, with its head firmly wedged into the Eustachian opening. It was pulled away with great difficulty, after which the boy experienced great relief. Santonin, calomel, and scammony were prescribed, and at the end of a fortnight he voided, either by vomiting or per rectum, 603 round worms, varying in length from 4 to 9 inches. The cough has disappeared, he has gained 14 pounds in weight, and his appetite has returned.

British Medical Journal, January 28, 1905.

Tuberculous Synovitis Treated by the Röntgen Rays.—A. Gregor reports the case of a boy of seventeen years, who for the eighteen months previous to the author's first examination had gradually been growing worse. The left knee joint was the one involved. Two *x*-ray exposures were made for purely diagnostic purposes, but the patient reported soon after that since the exposures to the rays the pain and swelling in the joint had lessened, and he wished to have the rays applied again. This was done by the author, who used a coil with a 14-inch spark. The focus tube was of high resistance. The distance from the wall of the tube to the affected part was 6 in. The amount of current used was 6 ampères, at a pressure of 60 volts. The duration of the sittings was ten minutes twice a week. In all, eleven exposures were given, including the two preliminary ones for diagnostic purposes. The pain and swelling rapidly subsided, and the joint became absolutely normal, and has remained quite well ever since.

Nasal Disease as a Cause of Headache.—A. L. Whitehead considers the following facts as definitely established: (1) Nasal disease is undoubtedly the cause of headaches in a certain percentage of cases, although it is doubtful whether it is possible for headache to be produced by any nasal condition which does not give rise to discharge or to obstruction to normal nasal respiration. (2) In all cases of persistent headache, a careful examination of the nose should be as much a routine practice as the examination of the urine, the teeth, and the eyes; since in some instances the nasal symptoms may be ignored by the patient, and a careful examination of the nose will be necessary to establish the diagnosis. (3) Suppuration in the accessory sinuses and marked nasal obstruction, constant or intermittent, should be thoroughly treated. (4) Small spurs, deviations, and hypertrophies not causing obstruction should be left alone, as no relief will be given from the headaches by treatment of these. (5) If the middle turbinate bones are enlarged and pressing upon the septum, especially upon the tubercle, and if all other possible causes of headache have been eliminated, partial removal of the hypertrophied bone should be advised, since in many such instances complete relief is given.

Suppurative Frontal Sinusitis.—The surgical treatment of this condition by W. Milligan, on the basis of his personal experience with forty cases. In the majority of these the factors which have mainly decided the question in favor of external operation have been (1) the failure of intranasal treatment, (2) persistent purulent discharge, (3) severe attacks of headache, and (4) general mental hebetude. The author says that, if by "cure" we mean entire absence of pus, cessation of headache, complete healing of the primary brow incision and avoidance of diplopia, the percentage of recoveries is not particularly great. But after opening and draining the pus cavities there is a vast improvement, even though a little discharge may appear now and then in the nares. The main practical difficulties encountered in treatment are (1) the efficient removal of all disease, (2) the maintenance of free drainage, and (3) the avoidance of secondary infection. The author goes into details of operative technique, and says that of his forty cases, two died from abscess within the corresponding frontal lobe. In both cases the abscess was complicated with septic meningitis. Twenty-eight of the patients, or 70 per cent., made a complete recovery and have had no recurrence of suppuration. Four of the patients, or 10 per cent., have still a discharge, although small in amount, from the sinus. In five of the cases, or 12.5 per cent., despite fairly persistent treatment, in two of the cases, extending over a period of four years, fairly profuse suppuration still persists from both frontal and both ethmoidal sinuses. In one case the result is unknown. A good result is not anticipated, the patient having developed pulmonary tuberculosis. The intricate arrangement of the accessory nasal sinuses, the difficulty encountered in securing at any one operation a complete eradication of disease, of maintaining free drainage, and the risks of reinfection are factors which militate in no small measure against a successful issue.

Berliner klinische Wochenschrift, January 23, 1905.

The Cure of Exophthalmos and Chorea by the Removal of Adenoid Vegetations.—Holz agrees with Bamberger, Moebius, and other authors in believing that exophthalmos alone, if not due to mechanical causes, is sufficient ground for making the diagnosis of Basedow's disease. He describes two cases of exophthalmos which were completely relieved by removal of adenoid vegetations. The first case was that of a boy of seven years, with well marked exophthalmos, accompanied by both Graefe's and Stellwag's signs, and who further presented the clinical picture typical of adenoids. Ten days after removal of the pharyngeal tonsil the exophthalmos had completely disappeared. Two years later the patient reappeared with a return of all his symptoms, as a recurrence of the adenoids was again accompanied by bilateral exophthalmos. Radical extirpation of the vegetations was followed by permanent cure of the ocular protrusion. The second patient was also a boy of the same age, who, in addition to adenoids and exophthalmos, suffered from hypertrophy of the tonsils. Amputation of the latter structures was not followed by improvement in the exophthalmos, but a week later the adenoids were removed, and in the course of the next two weeks the exophthalmos disappeared completely. The author is of the opinion that Basedow's disease represents an intoxication of the central nervous system through abnormal internal secretions, and that adenoid vegetations are capable of evoking the malady. Epilepsy and chorea probably have some etiological similarity to Basedow's disease, and the author thinks that they also may be produced by the presence of adenoids. An illustrative case is cited in which clearing of the nasal pharyngeal space in a boy of seven years was followed by the cure of a well marked chorea minor. It therefore appears advisable to look for adenoids in all cases of these three diseases, and to remove them, even if there is no respiratory obstruction.

Camphor and Digitalis.—Maas says that although camphor and digitalis are usually mentioned in the same breath by the clinician, the manner of their action on the heart is totally different, and the only similarity they possess from the physiological standpoint is their regulatory action on the circulation. Although camphor has been employed as a medicament since very early times, and has been made the subject of many investigations, its mode of action is still more or less obscure. Recent work by Winterberg on the isolated heart and on the organ *in situ* seems to show that the drug has but little effect on the normal heart, and that its clinical value lies in the more favorable circulatory condition attending the well marked vascular dilatation it produces. Seligman's experiments on the Langendorff heart, that is an isolated, warm blooded heart kept in activity by artificial coronary circulation, show more direct action of the drug when the organ approaches exhaustion. As this stage is reached a condition of fluttering appears, after which it is usually impossible to produce regular contractions again, but if camphor be introduced into the circulation, the former activity is promptly restored. By the application of electricity it is possible to produce fluttering in an unfatigued heart, but not if camphor is present in the artificial circulation. The action of digitalis is complex, but has been much more precisely outlined, and now the properties of the various constituents of the drug are being studied. Digitoxin is more of a vasoconstrictor than digitalin, and is slower to produce its effects, while elimination is also delayed, so that there is greater danger from cumulative poisoning. The therapeutic and toxic doses of digitoxin are very close together, and it is impossible to slow the pulse by a single dose of this constituent without killing the animal.

The Intravenous Injection of Salicylates and Its Diagnostic Value.—Mendel urges the employment of intravenous injections of salicylates in rheumatic affections, because this method of application is the quickest, and most reliable for removing pain and fluid exudates in joints, especially in afebrile cases, because it is effectual in cases where the usual treatment fails, and because it is free from the disagreeable by-effects often accompanying the internal administration of the salicylates. The solution used consists of sodium salicylate, 8.75 gr., caffein 1.25 gr., and distilled water to make 50 c.c. It is imperative that the solution be fresh and absolutely sterile. The technic of injection must also be carefully carried out. After boiling the needle, and washing out the syringe with boiling water the solution is drawn into the syringe. The veins of the anterior aspect of the elbow are then congested by applying an elastic bandage to the upper arm, and the most prominent one is chosen. The skin is cleansed with ether, and the needle pushed flatwise into the vessel. The column of blood rising into the syringe is an indication that the vein has been entered, and the injection, consisting of 2-4 c.c. is completed. The elastic ligature is not removed until after the needle is taken out of the vein, in order to avoid all danger of air embolism. One of the most important advantages of the method lies in its diagnostic value, for if prompt relief to pain and swelling do not follow a single injection, it may safely be assumed that the affection is nonrheumatic in character. The author quotes numerous cases in which the differential diagnosis between rheumatic, gonorrheal, tuberculous, and other joint diseases was cleared up by the injections. When carefully carried out he says there is no danger from the injections, as is attested by the fact that he has made over 8,000 without any bad effects.

The X-Ray Treatment of Leukemia.—Wendel has collected from the literature thirty-eight cases of leukemia treated by the *x*-ray, and has tabulated twenty-seven of them so as to show the chief features of interest in each instance. He also reports a case of his own in which very marked improvement followed the use of the rays, so that the patient who had been in a critical condition when coming under observation, was enabled to return to work, and the leucocytes dropped from 56,000 to 16,000. Omission of the treatment for any length of time, gave rise to relapses which, however, promptly succumbed to further radiotherapy. It appears that in 90 per cent. of the reported cases the use of the rays had been of signal benefit, but it is still uncertain whether actual cures are produced.

Münchener medizinische Wochenschrift, January 24, 1905.

Formalin Onychia and Dermatitis.—Galewsky says that the applications of formalin in the industries and arts have become so numerous that the yearly product of the agent is in the neighborhood of 400,000 kg. In consequence of this extensive use, it is not surprising that cases of injury to the skin of those who work with the substance are reported

Slight degrees of dermatitis are frequently observed among patients who habitually use formalin soaps, etc., for the purpose of checking hyperidrosis, but the author describes a more severe type of lesion affecting the nails also, of which he has seen five cases. The condition followed the protracted use of 4 to 10 per cent. formalin solutions, and three of the patients were physicians, who were exposed in the course of pathological work, one was the attendant in a pathological laboratory, and one was a druggist. The effects were not visible until after six to nine months' work with the solutions, and began with a brownish discoloration of the nails. The nails soon became soft and very brittle, so that they frayed out into shreds, at the same time causing severe pain by the irritation of the swollen matrix and adjoining tissues. In two of the cases the nails alone were involved, but in the others the fingers and hands were also the seat of an eczematous inflammation. The affection was extremely obstinate, lasting from three-quarters to one and a half years before normal conditions were restored, and in one case leaving behind a susceptibility to irritation by all other chemical solutions. The treatment consists in avoiding contact with the formalin and in the use of the remedies customarily employed in eczema.

French and Italian Journals.

The Röntgen Rays in the Treatment of Cancer.—Djémil Pacha after briefly reviewing the history of this subject, reports seven cases of malignant growth, six of which were carcinomata and one sarcoma. Three of these cases were cured by means of the Röntgen rays, three were improved, while in one case this treatment was not successful. There were four cancers of the breast, one sarcoma of the breast, one epithelioma of the nose, and one cancer of the stomach. In four of the cases, the disease was far advanced, while in the other three it was more recent. Of the cases that recovered, two were cancers of the breast, the other, epithelioma of the nose. All three were recent. It is now five months since the recovery of these patients, and there has been no appearance of recurrence. Of the cases in which improvement, but not recovery followed the treatment, two were cancers of the breast, already operated upon but with recurrences, and the third was cancer of the stomach. In the first, two, after several sittings, these patients suffered no more the excruciating pain to which they had formerly been subject; their wounds which had been freely suppurating, and which were most offensive, were completely cicatrized; and appetite returned. In the case of cancer of the stomach, the growth was the size of a child's head. Operation revealed extensive adhesions, and it was found impossible to practise gastroenterostomy. Treatment by the Röntgen rays gave great relief, and the patient died without pain, two months after the operation. The results of this treatment in the case of the sarcoma of the breast, were nil. The writer inclines to the parasitic theory of cancer, and thus thinks that the x-rays have a parasiticidal action. In his experience, radiotherapy has apparently had a very favorable action on malignant tumors in general. In superficial cancers not far advanced, radiotherapy has resulted in recovery, as far as can now be told. Time alone will prove the ultimate results. Radiotherapy is a palliative treatment in deep cancers of advanced stage, and exerts a salutary influence over cachexia. In inoperable malignant tumors, with no chance of surgical intervention, radiotherapy is most valuable in offering a means of reducing the sufferings of the patients to the minimum.—*Revue de Chirurgie,* January, 1905.

Toxicity of Boric Acid.—According to Chevalier, intoxications not infrequently develop after repeated doses of boric acid during several days. Generally, such accidents occur at the end of the third or fourth day, that is, when the organism is saturated with the acid by its accumulation, by its non-elimination, or by its faulty elimination. If this drug can be employed continuously without bad effects in many cases, it is because of its difficulty of absorption, and the ease of its elimination, in the normal state. But when it is absorbed in a considerable quantity, and when its elimination is interfered with, toxic phenomena are sure to occur. Those really serious or fatal accidents are always due to the employment of this medicament in the form of powder for the dressing of wounds. The symptoms are quite variable: Sometimes cutaneous eruptions appear; again, symptoms related to the digestive or to the nervous system are the most alarming. Rarely cardiac complications occur. The writer is confident from his researches, that boric acid is not harmless when it is absorbed, and especially when it is retained. It is important to watch carefully the effects in patients suffering from renal insufficiency, and it may be dangerous to use it internally, for a long time, or in the form of powder, in dressings for wounds.—*Revue Française de Médecine et de Chirurgie,* January 9, 1905.

Blood Stains in Pernicious Anemia.—J. Sabrazès calls attention to the interesting work of Tallquist on this subject. When a drop of blood spreads out on a piece of absorbent paper, and is surrounded by a ring of watery aspect, it indicates a very marked anemic condition—a loss of at least half of the normal number of red blood corpuscles—and this phenomenon leads one to think most often of pernicious anemia. In chlorosis, even the palest, this phenomenon does not take place. The writer has also verified the importance of this experiment in the diagnosis of anemias. He has also made further observations in a case of pernicious anemia: The blood stain is more red at the periphery than in the center; the watery line that surrounds it, very clear when it is fresh, is not less clear when the stain is dry, it persists a long time after the paper has been wet; this line has a slightly oily appearance; the color of this watery line varies from a dull white to clear yellow, and shows the tint of the plasma which is sometimes relatively deeply colored in pernicious anemia. On red litmus paper, the blood stain gives a reaction far more blue at the aqueous peripheral line.—*Gazette Hebdomadaire des Sciences Médicales,* January 8, 1905.

Healing of Cartilage in Wounds.—G. Faseli, in order to establish the method of healing of cartilage, experimented on rabbits. One series of experiments dealt with aseptic wounds of the cartilage covering the condyles of the femurs. The elements nearest the wound became atrophied; the basement substance was partially reabsorbed, and substituted by a new substance elaborated by the cells; small wounds cicatrized perfectly through the activity of the original cartilage cells; these were recognizable by a zone of tissue poor in cells; the new basement substance formed was exuberant in its growth; a large wound was not entirely repaired; no cartilage formed, but the deficiency was filled by the connective tissue; if the wound extended into the bone, the medullar elements filled the wound, forming a kind of callus; if the wound was very extensive, repair did not go on, but atrophy occurred. A second series of experiments dealt with the elastic cartilage of the rabbit's ear. The cartilage cells did not undergo changes; the basement substance remained unchanged, but a callus repaired the breach, arising from the perichondrium and the surrounding tissues, which underwent proliferation; if two wounds were made, each underwent repair separately. If too great removal of tissue occurred, connective tissue filled the wound; the smaller the wound, the better repair went on.—*La Riforma Medica,* January 14, 1905.

Relation between Thyroid and Pancreas.—Alfonso Pirera experimented on dogs, producing hyperthyroidism, extirpation of the thyroid, and removal of the pancreas, then examining the organs histologically. His conclusions are as follows: (1) In dogs injected with thyroid substance, so as to be hyperthyroidized, there were destructive lesions in the islands of Langerhaus in the pancreas. (2) In dogs deprived of a thyroid, lesions of the pancreas were not constant. (3) The lesions indicated an essential nervous mechanism for the pancreas. (4) In dogs without any pancreas, the thyroid showed hypersecretion and increased function. (5) These alterations may be the cause of the manifestation of symptoms of Basedow's disease in diabetes. (6) Occasionally there was irritation and atrophy of the gland. (7) A relation between the thyroid and pancreas may be considered demonstrated, and a vicarious action of one for the other.—*Giornale Internasionale delle Scienze Mediche.* January 15, 1905.

Idiopathic Multiple Hemorrhagic Sarcoma of the Skin.—Francesco Radaeli gives us five cases of this disease observed by him, that were treated by the use of arsenic, and in all of which portions of the tissues affected were removed and carefully examined. The symptoms consisted of the appearance of patches of infiltration on the extremities, accompanied by pain and, after a time, by cachectic condition. One case died with a cachexia like that of malignant disease. The other cases were treated with arseniate, and cacodylate of soda, and he believes them to have been benefited generally, as well as to have shown a resolution of many of the affected patches, although the formation of new patches was not prevented. As to the histological findings, he distinguishes insipient from advanced patches; in the former there was produced a tissue full of new vessels and consisting of elongated cells with round or oval nuclei, similar to endothelial cells; that is, a true hemoangioendothelioma. The skin about these patches was the seat of a diffuse infiltration with thickening of the vessel walls; stasis and edema of the connective tissue occurred; and pigmentation, due to masses of changed red blood corpuscles. There were also patches of infiltration of small round cells about the vessels. The author believes the process to be a fibroplastic infiltration. In adult forms there were produced true tumors, arising from the infiltrated patches, and in structure not differing from the neoplastic infiltration already described. The author believes that in some of his cases a true resolution occurred in some of the patches. Cultures were made with the result of finding no microorganisms.—*Lo Sperimentale,* December, 1904.

Book Reviews.

POVERTY. By ROBERT HUNTER. New York: The Macmillan Company, 1904.

ONE puts down this intensely interesting book with a feeling almost of despair, so hopeless seems to be the struggle of the poor against inexorable fate, so impossible does it seem to be for them to rise above the level of actual or ever-threatening want, so invincible seems to be the ultimate merging of poverty into pauperism and vagrancy. Yet the book, with all its pessimism, is one of great value to the philanthropic and the would-be practical sociologist, for in it Mr. Hunter shows very clearly what among the alleged remedies are useless and what are harmful, and, though the author says little regarding the prophylaxis or cure of the ills he so graphically describes, his few suggestions have the merit of practicability, and at least contain the germs of what may be developed into something really remediable. The main objects of the work, Mr. Hunter tells us, are to define poverty and to estimate its extent in this country; to describe its evils and to point out the measures possible to be taken to remedy the same; and (here lies the pessimism and the note of despair) "to show that the evils of poverty are not barren, but procreative, and that the workers in poverty are, in spite of themselves, giving to the world a litter of miserables, whose degeneracy is so stubborn and fixed that reclamation is almost impossible, especially when the only process of reclamation must consist in trying to force the pauper, vagrant, and weakling back into that struggle with poverty which is all of the time defeating stronger and better natures than theirs." The book is not a scientific treatise, bristling with statistics, but rather (and herein lies its fascination for the layman and the amateur sociologist) a narrative of what the author has seen and heard and felt while himself living among the poorest of the working people and even among the scum and offscourings of society in this and other countries. No one with the power of pity in his heart, and with a longing, however vague, to help his fellows, can read this book without having his longing intensified to the point of action.

CLINICAL HEMATOLOGY. A Practical Guide to the Examination of the Blood, with Reference to Diagnosis. By JOHN C. DACOSTA, JR., M.D., Demonstrator of Clinical Medicine, Jefferson Medical College; Chief of Medical Clinic, and Assistant Visiting Physician, Philadelphia General Hospital; etc. Second Edition. Revised and Enlarged. Containing nine full-page colored plates, three charts, and sixty-four other illustrations. Philadelphia: P. Blakiston's Son & Company, 1905.

THE second edition of this book is well designed to maintain the favorable impression produced by its predecessor. The fabric of this department of medical knowledge is undergoing such a rapid growth and modification that in order to keep each successive appearance of a volume on the subject vital and practically useful, unremitting labor is required on the part of the author. That the present work has been subjected to careful revision is evident from a glance at the table of contents, which includes many new topics. The science has grown in all its branches; new diseases have been added to the list of those depending primarily on disorders of the blood, and more or less important blood changes have been discovered in maladies already known, while improvements in technique include many different staining and other methods, and new apparatus. Perfection is difficult of attainment, and even in this book, excellent as it is, it would not be difficult to select numerous points for criticism, but the general tenor of the volume is so satisfactory that it is a pleasure to commend it to those interested.

THE SURGERY OF THE DISEASES OF THE APPENDIX VERMIFORMIS AND THEIR COMPLICATIONS. By Drs. W. H. BATTLE and E. M. CORNER of London. Chicago: W. T. Keener & Company, 1905.

THIS is a book which aims to present a concise review of present-day knowledge of this most important subject, with especial reference to the surgical aspects of the disease. In addition to the etiology, pathology, and treatment, several chapters are devoted to complications and a concluding one to the subject of the relation of appendicitis to life insurance. The chapters on etiology and pathology present merely a compendium of accepted facts. In the discussion of the various operative procedures, the method of opening the abdominal cavity, first introduced by the senior author, is advocated in preference to that of McBurney. It consists of a vertical incision to one side of the median line, with temporary displacement of the rectus muscle. In all their cases, only one hernia resulted after operation, and that was in a case of extensive local suppuration. For amputating the appendix, a special form of clamp is recommended, which crushes both the mucous and muscular coats, and the remaining thinned out serous coat is then tied with silk close to the cecum. There is a great deal of interesting information gathered in this book, which makes it valuable as a work of ready reference.

MANUAL OF PRACTICAL OPHTHALMOLOGY. By GEORGE A. BERRY, M.B., F.R.C.S., Ed., Senior Ophthalmic Surgeon, Royal Infirmary; Surgeon Edinburgh Eye Dispensary; Ophthalmic Surgeon Royal Hospital for Sick Children; Lecturer on Opthalmology University of Edinburgh. Philadelphia: J. B. Lippincott Company, 1905.

THE author has given us a manual intended largely for the training of the general practitioner in practical ophthalmology. In his preface he admits the large number of works on the eye already existing, but wishes his readers to approve of still another work on the same subject. There are over five hundred illustrations, most of which are original, and in most instances they portray clearly the subject in hand. The author refers to the latest mode of treatment under the proper headings, but, as a rule, sanctions those only of a mild and conservative nature. The book contains a full table of contents, list of illustrations, and a well-arranged index.

DIE ANGEBORENE PYLORUSSTENOSE IN SAÜGLINGSALTER. Von Dr. JUSSUF IBRAHIM. Berlin: S. Karger, 1905.

THIS is a monograph based on the author's personal observations in three cases which he was able to follow very closely, day by day. The prognosis is considered doubtful by some authors and relatively good by others. The question depends largely on intelligent interpretation of the clinical symptoms and a rational internal treatment should always be tried before operative interference is advocated. The indications for operation may be stated as follows: pyloroplasty or distention in those cases in which the emaciated condition of the patient necessitates rapidity of operative attack and a brief narcosis; when the general condition is better, gastroenterostomy is preferable. The work forms a valuable contribution to the literature of the subject.

DISEASES OF THE LUNGS, BRONCHI, AND PLEURA. By H. WORTHINGTON PAIGE, M. D., Lecturer on Theory and Practice of Medicine in the New York Homeopathic Medical College and Hospital; Member of the Attending Staff to the Flower Hospital, the Hahnemann Hospital, and the Laura Franklin Free Hospital for Children; Late Assistant Surgeon to the Throat Department of the New York Ophthalmic Hospital. Philadelphia: Boericke & Tafel, 1904.

THE author has prepared this little volume to serve as a text-book on the subjects treated. Essential facts are practically told and unproved theories are not discussed. The five sections treat of diseases of the trachea, bronchi, lungs, pleura, and medidastinum. In his remarks on treatment, the author has limited himself to those remedies which have been found to be most frequently useful to the homeopathic practitioner. The book is supplied with a convenient index.

ELECTRICITÉ MÉDICALE. Par LE DOCTEUR H. GUILLEMINOT. Avec 79 Figures dans le Texte et 8 Planches hors Texte. Paris: G. Steinheil, 1905.

THE text of this volume is presented in three parts. In the first section are arranged the theoretical and technical teachings in relation to galvanic and faradic currents, currents of high frequency, static electricity, the *x*-ray, seismotherapy, mechanotherapy, phototherapy, thermotherapy, and so on. The second section is devoted to the study of the physiological effects of different forms of electrical energy, while in the third division is found the medical material, properly speaking. Each disease is the subject of a special paragraph in which are grouped the indications for technique of all interventions which are considered useful in that particular instance. The work will prove helpful to both student and practitioner, for it combines in one volume material which heretofore the reader has generally been obliged to glean from several sources.

ONE HUNDRED YEARS OF PUBLISHING (1804-1904). A Brief Historical Account of the House of William Wood & Company. New York: William Wood & Company, 1904.

THIS little brochure contains a brief historical account of the foundation and growth of the medical publishing house of William Wood & Company. The modest beginnings were made in 1894, Samuel Wood, a schoolteacher of Long Island, coming to New York and opening a little shop for the sale of books and stationery. His pedagogical instincts led him soon to begin the publication of primers and other booklets for the instruction of the young, and from this the work branched out into the publishing of more serious books of instruction, several of which are still on the firm's list, and finally of medical books. It is interesting to note that there is but one older publishing house in New York, and no medical book publishing house of longer life in the city. A series of pictures of the successive members of the house gives added interest to the little book.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held January 6, 1905.

Dr. Robert T. Morris, Chairman.

Cases of Surgical Disease of the Kidney or Ureter.—Dr. George Emerson Brewer exhibited a number of patients who had recently been operated upon for renal or ureteral lesion. One of this series had been a case of peculiar interest. The *x*-ray, ureteral catheterization, and all other signs, pointed conclusively to the presence of an impacted stone in the ureter. On section, however, no calculus could be found, even though retrogade catheterization of the ureter was performed. Dr. Brewer believed that this patient had passed the stone into the bladder during the time that elapsed between the examination and the operation. This view, he said, was endorsed by the fact that since operation there had been no symptoms. Another case of peculiar interest was one in which posterior section was done, the kidney and ureter being exposed in the expectation of finding a calculus. After having demonstrated that there was no stone in the urinary passages, Dr. Brewer observed a hard resisting nodule, which was found to overlie the ureter. On careful dissection, this was observed to be composed of two integral calcareous masses. On separating these, one was found to lie just without the abdominal cavity, while the other, within, was definitely shown to be the calcified tip of an epiploic appendix. The speaker considered this to be of the very greatest importance, because it demonstrated clearly at least one source of the annoying and little-understood bodies which cast *x*-ray shadows and which were most difficult to differentiate from true renal calculi. Another patient was exhibited to show how extensive traumatism of the kidney could be disassociated from shock. The patient had been struck and knocked down by a trolley car. He was placed in Roosevelt Hospital and kept under observation, although he presented no signs of injury, except a very slight fulness in the flank. Suddenly, and without warning, his condition became very grave, so much so that laparotomy was immediately done. The abdominal cavity was found to be normal, but there was hemorrhage from the retroperitoneal space. The abdominal wound was quickly closed; an infusion of 3,000 c.c. of saline solution was given, and the usual renal incision made. The kidney was so badly injured that one large fragment of it floated out with the blood through the wound, and the examining hand readily detected the remainder of the organ torn in two irregular pieces. The patient's condition was by this time so grave that clamps were simply applied to the pedicle and he was hurried to bed. Dr. Brewer presented this case as a striking example of extensive renal laceration without any early symptoms.

In speaking of the value of the *x*-ray in determining the presence of ureteral stone, Dr. Brewer said that the rule followed by Dr. Cole at the Roosevelt Hospital had uniformly proved satisfactory. A positive diagnosis was not to be made unless the outlines of the psoas and of the transverse processes were clearly discernible and unless the edge of the supposed stone shadow was clearly defined.

Mr. E. W. Caldwell said that he was very glad to have Dr. Brewer's explanation of these peculiar and annoying spots, which not infrequently closely resembled the shadows cast by renal and ureteral calculi. He cited a case which had been subjected to *x*-ray examination in Rochester, with a positive result. The speaker repeated the examination and obtained an exact duplicate. There were three definite shadows approximately in the line of the ureter. Subsequent operation proved that there was no urinary calculus formation whatsoever. True renal calculus shadows should be differentiated by their shape, density, and position. The pseudo-shadows occurred in the experience of the speaker most commonly near the spine of the ischium. He had for this reason believed that they might be cast by a sesamoid bone or bones, occurring in the tendon of one of the obturator muscles. An effort to prove this by changing the position of the thigh, the pelvis having been held *in situ*, had failed.

A Report of Eighty-four Operations on the Kidney and Ureter.—Dr. George Emerson Brewer read this paper (see page 241).

Dr. F. Tilden Brown spoke of the treatment and diagnosis of ureteral calculus. He endorsed a method which had proved very satisfactory in his hands for the differentiation of false from true calculus shadows. The technique consisted in passing a styleted catheter into the ureter and radiographing this *in situ*. He stated that the false shadows were most frequently seen near the spine of the ischium. The definite shadow of the stylet determined positively the course of the ureter and showed all shadows extraneous to this to be spurious. The second point made by the speaker was in connection with the case shown by Dr. Brewer, in which the calculus had been passed just prior to operation. Acting on a suggestion received from a similar experience in his own practice, Dr. Brown had in a number of cases succeeded in dilating the uterer with sounds and by subsequently injecting boric acid solution above the stone so as to increase the *vis a tergo*, had effected the removal of the stone without operation.

Dr. Willy Meyer spoke of the necessity of tying the distal end of the severed ureter after nephrectomy for tuberculous kidney. On account of the impotence of the ureterovesical valve, the other kidney might undergo secondary infection. The speaker emphasized the diagnostic value of the appearance of this valve as seen through the cystoscope. He considered nephrectomy to be an operation of distinct value in multiple abscess formation in a single kidney.

Dr. M. S. Kakels said that the value of the color scheme of the urine—chromocystoscopy—had recently been shown to be greater than generally supposed. Methylene blue, if injected anywhere in the body, would produce, under normal conditions, a urine definitely but unsatisfactorily colored. Indigo carmine, however, if injected into the glutei, would appear in the urine in about fifteen minutes. It was, however, hard to obtain in pure form and very difficult to sterilize. The chromocystoscopic results from this injection were, however, very beautiful, the urine showing a bright distinct color which could not possibly fail to be recognized.

Dr. Robert T. Morris said that he was able to add to the bodies which might cast a shadow readily to be mistaken for ureteral stones, concretions in the appendix. In a case recently operated on he had found a phosphatic concretion within the appendix bound fast upon the ureter. Such a condition as this would obviously not be revealed by a stylet in the duct. Clinically, he wished to record that if a calculus lay in the ureter near the bladder the tenderness of the lumbar ganglion on that side was marked. If, however, it lay higher up, the tenderness was about the semilunar ganglion. He cordially endorsed Dr. Brown's idea of dilating the ureter and washing out the stone.

Dr. Brewer, in closing the discussion, said that in the treatment of multiple septic infarcts of the kidney, he was firmly convinced that nephrectomy in severe cases was the only operation which could save the patient.

Ureteral Meatoscopy, Preliminary Report of Clinical Studies.—Dr. Walter C. Klotz read this paper. He said that, although the importance of ureteral catheterization had been generally recognized for some time, it must be confessed that the method possessed some distinct disadvantages and very certain limitations. Occasionally the findings in a given case of supposed renal disease were disappointing. This could not be expected to be otherwise, since in a number of renal diseases the urine was negative. One of the most lasting benefits that had been conferred by the extensive researches in ureteral catheterization lay, the speaker said, in the fact that it had incidentally drawn attention to the conditions of the ureteral orifices. Not only would a study of these openings enable one to determine the fact of the escape of pus or blood, but it had also been shown that in cases of renal disease, irrespective of the character of the secretion as seen at the time of inspection, the ureteral orifice on the same side as the disease presented an appearance differing very distinctly from that of the normal. Enough work had not yet been done to classify the interesting phenomena observed, nor to determine their clinical significance, except in a gross way. The observations made in twenty cases were confirmatory of the view that much important clinical information was to be gained from a careful study of these orifices. In four out of five cases of nephrolithiasis, changes were noted in the ureteral orifice on the diseased side. In one case of supposed nephrolithiasis in which no change was noted, the calculus was found, as reported by Dr. Brewer, outside the ureter. The speaker said that although the series was obviously too small to be accepted as a basis for definite conclusions, the results went far to show that ureteral meatoscopy might in the future to a very considerable extent replace uteral catheterization. Before, however, it could be placed upon an absolutely safe clinical basis, it would be necessary to determine first what constituted a normal and what an abnormal orifice, and, if possible, what were the causes of the changes which took place at the stoma and lastly whether the absence of change in the orifice was of any value in making a negative diagnosis.

Cryoscopy in Renal Disease.—Dr. W. W. Miller read this paper. He said that cryoscopy might be considered the most reliable method for determining the functional activity of the kidneys, when used in connection with chemical and microscopical blood and urine analyses. The principles involved in cryoscopy were described as follows: Blood serum consisted of a watery solution of certain substances. In circulating through the kidneys it had been shown experimentally that water and salt, notably the chlorides, were excreted from the glomeruli and that in the tubules this fluid came in contact with the blood through the medium of the excretory epithelium. Biological and osmotic forces played an equal part, in all probability, although this had not been definitely proven. Certain it was, however, that at this point an exchange of water and salt for the urea was made. It should be remembered that cryoscopy depended upon molecular concentration rather than upon specific gravity, the freezing point of fluids depending on the osmotic density. It had been found by Kümmel and others that the freezing point of the blood was a much more constant quantity than that of the urine. The variations in disease should, therefore, be looked for in the blood. The best instrument was some modification of the Bechmann apparatus. It consisted simply of a vessel to contain the 20 to 30 c.c. of fluid to be examined. This should be surrounded by another, which was filled with a freezing mixture. The temperature of this should not exceed —4° C. An air space should surround the fluid, so as to permit of its gradual cooling. The thermometer should register in hundredths of one degree. As the fluid cooled the mercury was carefully watched. It fell to a point some distance below the actual freezing point, and at the moment of freezing suddenly rose. This was due to latent heat. The maximum point to which it ascended registered the true freezing point. A point in the technique was that the bulb of the thermometer should be entirely covered by the liquid, but should not touch the bottom of the vessel. Kümmel, in a study of 500 cases, had shown that the freezing point of the blood varied normally from 0.54 to 0.58. In a group of patients suffering from chronic nephritis, the variation was from 0.58 to 0.80.

Dr. George E. Brewer said he was convinced that in a certain class of questionable cases cryoscopy was of greater value than any other known test.

Election of Officers.—For *Chairman*, Dr. S. Lloyd; for *Secretary*, Dr. W. S. Bicham.

NEW YORK ACADEMY OF MEDICINE.

Section on Pediatrics.

Stated Meeting, Held January 12, 1905.

Dr. L. E. LaFétra, Chairman.

A Case of Empyema Apparently Cured without Operation.—Dr. L. E. La Fétra presented a boy whom he had first seen at the Vanderbilt Clinic in November last. The family history, as regards tuberculosis, was negative. The patient had been perfectly well until September last, when he was four and a half years old; he then had an acute illness which was supposed to be typhoid pneumonia. From the description given it was evident that the child suffered from some type of pneumonia. The child had a high temperature and cough, especially during the first part of his illness. After that acute illness he was apparently well for two weeks, regaining weight and strength rapidly. During the middle of October he again began to cough. There was no expectoration. The cough was more marked in the morning. He lost appetite, was weak, and had some pain in the abdomen on exertion. Before coming to the clinic he had been having fever in the afternoon and night sweats. The physical examination, at the time of his first being seen, showed flatness from the base of the right chest up to about the angle of the scapula, and Skodaic resonance above the fluid. The heart was displaced to the left about one inch. A needle inserted in the space between the scapulæ withdrew one-half a syringeful of pus. It was regretted that this pus was not carefully examined; it was assumed that when the child came to operation later on, the pus would be carefully examined. It was quite difficult to withdraw the pus because of its thickness. On November 5 the child was sent to Roosevelt Hospital, to the surgical side, with the idea that an operation for empyema should be performed. The next day, *i. e.* three days having first been seen, the child was taken to the operating room, and four or five punctures made by the House Surgeon, but the needle failed to find any pus. This search for pus was again made the next day but none was found. No operation could be performed if no pus was found with the needle. The boy returned to the Vanderbilt Clinic on the 10th, and was examined by other men there, and they too felt sure that there must be pus present. A large needle was introduced at the angle of the scapula, and persistent and determined efforts were made, but no pus could be found. By November 30 the child had greatly improved, the dullness had markedly diminished, the heart was in its normal position, the voice sounds had increased so as to be quite perceptible. On December 6 the râles were fewer, the breathing could be feebly heard over the area of dullness, the voice sounds were still exaggerated but had somewhat the bronchial character. December 20 showed the boy to be very much improved, with only a slight dullness, the breathing sounds being nearly normal, and the temperature by mouth being about 100° F. The child had never coughed up mucus or mucopus and, therefore, there could not have been much discharge from the bronchi.

Dr. Henry Koplik said that in Dr. La Fétra's case there were two possibilities; the greater portion of the pus might have been removed by aspiration, and then the boy was able to dispose of any pus that remained by his own natural powers of resistance, or, again, the effusion left might have become inspissated, the bacteria less virulent, and simply a thickened pleura might have been felt. If this was a true case of empyema he doubted whether it could have been cured by simple aspiration. In many hospital cases where pus had been found before admission, it could not be found afterwards; perhaps two or three months later it would be found and operation performed. He said that in cases where other physicians claimed to have found pus and he was unable to find it, he kept the patient under observation, percussing the chest once a week or oftener, and if flatness was observed at any time, he felt warranted in making further exploration.

Dr. **Henry Dwight Chapin** asked Dr. Koplik if he had found protracted high temperatures in cases of this kind.

Dr. **Koplik** had observed that the temperature might remain low for weeks and then suddenly rise two or three degrees.

Dr. **Chapin** related an instance in which a child of two years had had pneumonia, which had apparently resolved, the temperature remaining normal for about ten days. At that time a member of the house staff inserted a needle and found pus. Dr. Chapin believed that such cases usually ran hectic temperatures.

Dr. **Joseph E. Winters** told of a case that he had diagnosed as one of empyema, and in which, under an anesthetic, puncture was performed six times with negative results. The patient was kept under observation for many months when it was discovered that the pus had burrowed through the right crus of the diaphragm, appearing well down in the lumbar region, where it was opened as a superficial abscess; the patient made a good recovery. He also cited another case which had been diagnosed as empyema, but upon incision no pus was found. The patient was in the hospital for some weeks, then went home; but was operated upon later with success. It was his opinion that pus was still present in the case presented by Dr. La Fétra and that the patient should be watched for months before he could be pronounced cured.

Dr. **Matthias Nicoll, Jr.**, took exception to Dr. Koplik's remark in regard to deferring operation if an unresolved pneumonia was present. In many autopsies upon these cases he had found that in at least 50 per cent. there was a sufficient amount of turbid fluid present to embarrass respiration, and this condition would have been relieved by operation. He believed in relieving the mechanical embarrassment even though the child's lung was solid.

Dr. **La Fétra** in closing the discussion, said that he had designated the child as "apparently" cured, because the auscultatory signs had markedly lessened, the breathing and voice sounds had improved, the temperature had gone down, and the child had gained in weight. He had had a similar case where operation revealed only an edematous pleura. He believed, however, that in every case of empyema it was the duty of the physician to operate, because the chances of recovery were otherwise small.

Standardized Gruels; the Application of the Percentage Principle to Cereal Feeding.—Dr. Henry Dwight Chapin read this paper (see page 246).

Dr. **Joseph E. Winters** asked Dr. Chapin if he intended to state that these cereals were to be used in young infants, and received an affirmative answer. He said that cereals could take the place of milk only after a certain period of life, and that up to that time they were not only useless but injurious. Babies fed on gruels made of cereals during the summer months became ill and failed. Babies from the age of one month up to the age of six months, suffered from the gravest malnutrition when fed on cereal gruels, and made a rapid recovery when the milk diet was substituted. The work done recently by Dr. Shaw of Albany, showed conclusively that infants could not digest cereals. Dr. Winters acknowledged that there was a use for these cereal gruels, but not before the age of six months, and in summer not before the seventh or eighth month, and if the child had diarrhea not until the age of one year. After that time he believed the cereals should be the almost exclusive diet of the child. In children one year old or over, he thought the gruels should take the place of broths now so extensively used.

Dr. **Henry Koplik** said that he was unable to understand why there should be such a radical difference of opinion on this question. He always tried to find what the baby needed, and whatever suited the baby suited him. He had fed babies on cereal gruels from birth, and they had thrived beautifully. In atrophic conditions the greatest benefit was to be derived from this kind of feeding. Wheat flour was one of the most important foods we now had. He said that he had fed twins on wheat flour from birth, when they could not digest cow's milk, and that they were now one year old, and thriving. He had had a large experience, and would reiterate the statement that babies would thrive from an early age on gruels when they would not thrive on some modification of milk with water.

Dr. **Thomas S. Southworth** said that there were two kinds of work which were valuable in unraveling the problems of infant feeding, one the purely scientific inquiry into fundamental principles, and the other the practical application of these principles to every-day work. We had now passed the time when we believed that we could manufacture any counterpart of the breast milk. Dr. Chapin did not recommend cereals alone in the daily feeding of children, but the use of cereals had an immense field in those cases where milk had to be omitted for a time. One could not expect to nourish a child for a considerable period with cereals as the whole food. Cereal gruels were good when a radical change of diet was imperative. He said that this food was *par excellence* the food in the summer diarrheas of children. By the methods used for dextrinizing gruels, sugar was formed, and none would deny that that sugar could not be absorbed by young children. These cereal gruels sometimes caused too much fermentation. He thought the time was ripe for some real and exact knowledge concerning infant feeding.

Dr. **J. Finley Bell** said that two years ago he did some work on the chemistry of gruels, and had learned several facts not touched upon by the reader of the paper. He divided foods into three classes, the alkaline, the neutral, and the acid, and those that Dr. Chapin had reference to would fall under the last variety, the ash of these foods not being alkaline in reaction but sometimes acid. Gruels, when boiled for some time, would develop purin bodies which were inimical to infant feeding.

Dr. **Joseph E. Winters**, in defense of the position assumed by him, said that when a baby was fed on milk with cereal gruels added, and that baby thrived, one could not prove that the gruels had anything to do with it. Cereal gruels must be used in combination with milk and not alone; no child under six months should ever be fed on cereal gruels alone, although at a later period in life they would thrive on them.

Dr. **Roland G. Freeman** believed that babies did better on simple modified milk; but if they could not digest this well, then the cereals could be added with benefit.

Dr. **Koplik** said he had never heard of feeding babies on cereal gruels without the addition of milk, and he had never thought of such a thing, except in some acute illness when they could be given for short periods of time. In some cases, milk alone would not nourish the infant; then the addition of gruels would.

Dr. **Chapin** closed the discussion, and referred briefly to what he had already written on the biology of cow's milk, and called attention to the fact that milk had two functions, one the nutritive, and the other the function in developing the alimentary tract. When cow's milk was placed in a baby's stomach it really was a foreign body, and it was not physiological. Substances should be added to it which made it more readily digested, and which added to its nutritive value. He said that no one system of infant feeding would always succeed.

Piscine Pathology.—Among the patients at the hospital for diseased fishes, recently established at Vienna in connection with the new chair of fish pathology and biology at the university, are a carp being treated for an inflammation resembling appendicitis, ten others suffering from smallpox, a porpoise from the Adriatic with inflammation of the lungs, a trout with cataract of both eyes, and another with dropsy.—*St. James Gazette.*

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held January 23, 1905.

Dr. Henry S. Stearns in the Chair.

A Century's Criminal Alliance Between Quacks and Newspapers.—Mr. Champe S. Andrews, Counsel to the Society, delivered this lecture, and illustrated it with stereopticon views taken from typical quack advertisements of the last one hundred years, contained in his private collection of American newspapers. He said he had recently delivered a lecture before the Society of Medical Jurisprudence entitled "Medical Quacks, Their Methods and Dangers," which was to all intents and purposes a résumé of his work for several years as counsel of the Society; in it he described every class of medical fakir that had ever come under his observation, and in many instances he told of the types of quacks who had been convicted through the efforts of the Society. The newspapers laid great stress on an alleged statement of his to the effect that there were twenty thousand quacks in the City of New York, and this statement was the subject of much editorial comment. As a matter of fact, the most important statement made in that lecture was one to the effect that newspaper publicity was the life of the modern quack. In connection with this statement, he dwelt upon the duty the press owed to the public to refuse certain classes of medical advertisements, chiefly those designed to reach the consumptive poor, the youth suffering from venereal disease, and the young woman in a delicate condition. The newspapers completely ignored any reference to this part of the lecture. On the other hand, in the editorial comments of several New York newspapers, the statement that there were twenty thousand quacks in the City of New York was made the basis of more or less adverse criticism on the work of the Society. He said that the two papers in which almost every kind of medical advertisement was unblushingly exploited, were particularly severe. These criticisms called forth a temperate and dignified statement from the Comitia Minora of the Society, which was sent to the morning papers in New York City, in which attention was called to the fact that medical quackery could never be suppressed in the City of New York until the newspapers closed their columns to medical advertisements. Again, this feature of the subject was ignored by the newspapers, and most of them failed to print the explanation, so far as he had been able to learn.

If publicity was the life of the quack, newspaper notoriety was his undoing, and if the decent newspapers in the City of New York would tell the simple facts regarding the dangers and the degradation caused by some of the advertisements they print, a great public abuse would be done away with, many thousands of dollars would be saved to those least able to part with their hard-earned funds, the health of the young men could be repaired, and the honor of many young women would be saved.

The object of Mr. Andrews' lecture was first to indicate the development of quackery, showing how it had changed its methods as the level of general intelligence had increased. The ancient prototype of nearly every known variety of the modern medical fakir was shown. When the daily newspaper was founded, that day the villainies of the criminal quack became possible. Second, he wished to show just how the newspaper advertisement acted as a net in which innocent young men and boys were caught and then exploited by men, who for gain prostituted the health, the means, and honor of their victims. If this could be established in a satisfactory way, he said that it must necessarily follow that the press should be condemned for aiding and abetting in these felonious practices. Mr. Andrews was the owner of what was perhaps the best collection of American newspapers in existence outside of the great libraries. It included over 60,000 newspapers, and covered every day and every year since Washington's administration to the close of the Spanish war. At great length he had studied the history of quack advertisements and traced their development through the nineteenth century and since in American newspapers. In order that he might not be accused of exaggeration he had had over fifty typical advertisements photographed, and he presented them by means of the stereopticon.

Hon. Edward E. Ommen, City Magistrate, was very frank in stating that he had strong views regarding newspaper advertising, and he said he was perfectly satisfied that if the newspapers would cease medical advertising the counsel for the Society would be out of a job. Nobody could estimate the amount of injury these advertisements did the young men and women of this great city. He thought the Society should, through some means, possibly by mass meeting, try to arouse public sentiment, and anything the Society did in this respect would redound to its credit and would be a great and meritorious work. If public sentiment could be so aroused the newspapers would have t give way, because nothing could stand against publi clamor. But the Society should go about it in a systemati manner. He said he, as City Migistrate, would be glad t assist in any way he could.

Mr. Theodore Sutro said that it was not the newspape advertisements only of the quack that did harm in an community, but the circulars and pamphlets which were s freely distributed, and this was more ancient than newspaper advertising. The unholy alliance between quack and newspapers, he understood the lecturer to state, ha only existed 100 years, but he read a few advertisement that were published 250 years ago, all in London paper He said that this hankering after quack medicines was i reality the result of the inborn hankering for the myster ous, the unknown, and the unfathomable. This hankerin was at the basis of all superstition. The newspapers we culpable because it was the weak, the ignorant, and s perstitious who were entrapped by their advertising. M Sutro asked what could be done to remedy this ev Mass meetings and public protests had been suggeste but he did not believe they would succeed. Cou a censorship be established? Not in this country becau it was against the law. Could they be reached by law legislation? No. Might the newspapers be effective attempting to remedy this? Yes, if they would, but should be remembered they were money makers, a wished to pay large dividends to the stockholders, th corporations had no souls, least of all newspaper corpor tions. The only remedy that would reach the evil and effective would be to educate the people and cultivate t public taste. Men of family should exclude such pape from their homes, and thus counterbalance the profits ma by newspaper quack advertising.

Mr. Robert C. Taylor, Assistant District Attorney, Ne York County, said he did not then see any remedy to bre up the unholy alliance between quacks and newspapers, the constitution forbade anything which interfered wi the freedom of the press, and no legal steps could be tak against newspapers for inserting these advertisements. said that the work of Mr. Andrews had filled the Distr Attorney's office with admiration. He tendered the Soci every facility possible from the District Attorney's office their efforts to suppress this unholy alliance between qua and newspapers, and in the conviction of quacks.

Dr. Frank Van Fleet said that we could not expect reach the millennium in this matter, but the conditions co be improved very much, and there were many simple wa by which it could be brought about, such as the enfor ment of the medical laws, and by the medical professi being alive to its obligations to the community and und taking its education in these matters. In order that w might be accomplished, the best efforts of the medical m of the State of New York were asked for in bringing ab medical union. When this was accomplished he believ the medical profession would be in a position to do som thing, but not before.

Dr. Prince A. Morrow said that one could not ma a correct mathematical count of the number of cases of private diseases treated by quacks in this country, but in Germany it was known that from 25 per cent. to 50 per cent. of all cases of this character were treated by quacks. In the New York Hospital, 30 per cent. of the men coming for treatment had been treated by these quacks. He had no remedy to suggest for the relief of this great evil. The vast majority of these victims he believed to be young men who were brought up in ignorance of sexual physiology and hygiene, and he did not believe that we could ever correct these conditions until these young men were better educated regarding sexual matters. The greatest offenders in medical quack advertising were the Boston newspapers; recently one paper there had nineteen of these advertisements occupying two columns.

Dr. S. A. **Knopf** spoke of some of the schemes of the consumption quacks, one of the most notorious of whom Mr. Andrews had put out of business. Among the many victims of these advertising quacks were to be found a large number of the tuberculous poor.

Dr. **Sidney D. Jacobson** thought that we could learn much from other countries in the way of putting down quackery, and he briefly referred to the methods employed in England and in Germany.

Dr. **Wendell C. Phillips** said that when public sentiment was aroused, it then, as a rule, accomplished what it set out to accomplish, and meetings of this kind were steps in the right direction. He referred to a certain religious journal that guaranteed to insure its readers against loss of money as the result of patronizing those who advertised in its pages; as a result of this the financial condition of this journal was much improved, for it made more money. If the great journals of this country could be shown that legitimate advertising paid, much could be accomplished in the suppression of quackery, especially when combined with an aroused public sentiment.

Mr. Andrews said that the Boston *Herald* would never receive an advertisement from a medical quack, and, as a result of this determination not to publish more of them, it had received letters of commendation from all over the United States. If the medical profession in this State was united, many bills could be passed at Albany which now were impossible. In all his work as counsel for the Society he had been most courteously treated by the District Attorney and those in his office.

Amalgamation of the Two State Medical Bodies.—A resolution was unanimously passed That the Medical Society of the County of New York expresses approval of the action of the Medical Society of the State of New York in all matters pertaining to the amalgamation of the two State bodies; That the Medical Society of the County of New York also expresses grateful appreciation of the arduous labors of the special committee appointed by the State Society to bring about the union; That the Medical Society of the County of New York instruct its delegation to present to the State Society at its annual meeting, to be held at Albany, January 31, February 1 and 2, 1905: (1) Its regret that legal difficulties prevented immediate amalgamation; (2) a recommendation that the State Society make such changes in its present Constitution and By-Laws at the coming meeting as will remove any possible legal difficulties which might arise to prevent amalgamation; (3) an earnest recommendation that the present committee which represents the State Society should be continued without change in its membership.

NEW YORK PSYCHIATRICAL SOCIETY.

Stated Meeting, Held January 14, 1905.

Dr. Allan McLane Hamilton in the Chair.

The Role of Habit Disorganizations in the Essential Deteriorations (Dementia Præcox) and the Relation of the Deterioration Process to the Hysterical, Neurasthenic, and Psychasthenic Constitutions.—Dr. **Adolf Meyer** read this paper. In order to move from the standpoint of statistical etiology to that of the actual tracing of pathological factors in the individual case, he said, the study of the constitutional makeup and of the development of such constitution was an imminent task. As a prominent point habit disorganizations presented themselves; they were usually traced to peculiarity of hereditary endowment, but certainly also depended on the influence of the environment, and it was remarkable how just in the disorders which might figure as essential deterioration processes—that is, deterioration not due to alcohol or any of the other exogenous damages to the brain, disharmonies of habits could be shown to develop sometimes from small beginnings, taking in more and more of the functions which ought to depend on a sound automatic regulation, without our being obliged to assume that these developments were quite irremediable and to be left to fate altogether. Roux's mechanics of development furnished an excellent illustration of the interference of untimely development of special functions in the normal regulations of other functions. The gradual development and spreading of disharmonies were shown in a few cases with precocious sexual development. And stress was put on the importance of the recognition of the whole disharmony for a farsighted treatment of the constipation, amenorrhea, and other matters which usually received medical attention. It was of the utmost importance to correct these disorders, but without due attention to the necessity of habit-training, such patching up was usually of little influence. In connection with some of the habit disharmonies found in the deterioration types, the question of the relationship of the deterioration type to the other constitutional types, as published by the writer in the *American Journal of Psychology,* Vol. 14, pp. 90-103, was more fully discussed.

Dr. **Graeme M. Hammond** said that it seemed to him, particularly when viewed from an alienist's standpoint, that nearly all deviations from the normal mental state, in children particularly, were classified as dementia præcox. Many cases of true paranoia were frequently classified among the cases of dementia præcox. He was sure that children who were peculiar, who did not associate with other children, who were masturbators and irreligious in childhood, never developed into anything at all, and many of them became normal citizens, never becoming paranoiacs or victims of dementia præcox. In just such a way one might see deviations from the normal physical condition or deviations from the normal mental types.

With regard to the matter of heredity, he believed that was even more important than the history of insanity in parents as a cause of dementia præcox. Many cases of dementia præcox, paranoiacs, etc., were seen where insanity could not be traced among their ancestors. Another cause more frequently encountered was syphilis; another was alcoholism; sometimes both existed as causal factors, in one or in both parents. He believed that a syphilitic parent was more apt to beget true dementia præcox or paranoiac cases than, in all probability, true insanity.

Dr. Hammond made his diagnosis of dementia præcox from the symptoms presented, and not from any antecedent history. Neurasthenic and hysterical individuals were particularly prone to dementia præcox; such cases frequently begin as neurasthenia or with hysterical symptoms.

Dr. **L. Pierce Clark** said that his opinion in regard to the subject of the evening was somewhat different from that expressed by Dr. Meyer, although he agreed with him in the main. He considered the hereditary element (almost 80 per cent.) as much a factor in the production of adolescent insanity as syphilis in tabes or general paresis. It seemed to him that in time the forms of insanity embraced in the term dementia præcox might be synonymous with hereditary mental degeneration of the adolescent period. We must scrutinize the family history more closely than simply to determine the presence or absence of insanity.

There were many and varied neuropathic factors in the parent which were difficult to detect, but were none the less determinent for degeneration in the offspring. Alcohol, syphilis, chronic rheumatism were no more important in this regard than a vicious type of habits of life and conduct. He believed that in a great number of cases one might ultimately find a more or less definite correlation existing between the amount of hereditary handicap and the degree and character of mental deterioration in a given case. It was known that in a few cases very marked mental deterioration was not in evidence. Some authors had gone so far as to say either dementia præcox did not invariably end in dementia, or did not embrace all the insanities of the adolescent period. He believed that at least some degree of dementia was as much the *sine qua non* of dementia præcox as marked mental deterioration was in general paresis. In regard to the pathology of dementia præcox, he said while an autointoxication might be an inciting agent, undoubtedly the heredity predisposition, possibly embraced in a neurofibrillary anomaly in cortical development, was the condition most signally at fault. He urged the necessity of more thorough investigations of the intercommissural and association tracts, as well as the disorganization of the fibrillary intercellular network which, according to the most elaborate investigations of Bethe, Apathy, and Held in cortical researches would be found to play such an important part in normal and morbid cerebral functions. Possibly the mystery of the degenerative defects of dementia præcox, where the gross appearance of the brain seemed so normal, might at last be cleared in these neurofibral studies. He believed the apparent complexity, vagueness, and anomaly of mental symptoms in some cases of dementia præcox must be explained upon involutional as well as evolutional lines. Nerve defects occurring in the evolutional periods of life were always more widely variant and bizarre than after the organism becomes more fixed. To clarify our knowledge of the mental disease of adolescence we need larger data, from many widely different localities; cases drawn from different strata of society, both in and outside of asylums. Only such collaborative studies, undertaken upon an extensive scale, could hope to fully harmonize our present very discordant views upon the subject.

Regarding the treatment, he said it was but logical to hold that the prophylaxis and conservation of incipient cases rested upon the possibility of the earliest diagnosis. By taking advantage of medico-pedagogics, disciplining improper habits, as Dr. Meyer suggested, one might stay the progress of deterioration, as had long been the rule in other degenerative disorders of the nervous system, such as in epilepsy and feeble-mindedness, for example. Sufficient data were even now at hand to show that many cases of dementia præcox might be and were saved from grave dementia by proper systems of hospital and sanatorium training, treatment, and care. One certainly could not hope to cure the dementia which had already taken place, but one might bring about an arrest of degeneration which would be more or less permanent. The earlier the diagnosis and the earlier the treatment, the more hope we might extend in dementia præcox.

Dr. **Emmet Cooper Dent** said that he most heartily concurred in Dr. Meyer's method of history taking; in fact, he had been following out this line of work in the Manhattan State Hospital, on Ward's Island. He said that this method of systematic history taking would go far toward showing that theory and facts were not going hand in hand, as some text books would have us believe. During the past year there were admitted to the hospital two hundred and ninety, or 31.7 per cent. of the total number of admissions, grouped under this classification. Ninety-nine were placed under the hebephrenic type. One hundred and thirty-four were of the paranoid type of dementia præcox. Fifty-seven were placed under the catatonic type. The average age in the hebephrenic type was about sixteen, eight apparently recovered. The average age of the paranoid type was about twenty-five years, and two were discharged apparently recovered. The average age of the catatonic type was twenty years. Six were discharged apparently recovered. In many instances a careful investigation failed to bring out heredity, but this was much more frequently established in the hebephrenic than in the other two. The questions relating to dementia præcox and the diagnosis of it were of considerable importance. He agreed with Dr. Clarke that dementia præcox was eminently a disease of deterioration, as was dementia paralytica, and he did not believe that a true case of dementia præcox existed without deterioration. Much care and attention were being devoted to history taking and study of all psychoses, and it was hoped by this system to be able to deal more frankly with facts, which, after all, were what was needed, and not opinions. The name dementia præcox he believed to be a very unfortunate one, and served as a cause for dispute, contention, and misunderstanding for alienists.

Dr. **Allan McLane Hamilton** said that, if he understood Dr. Meyer's claims correctly, the latter did not use the term dementia præcox in an arbitrary manner, but that he referred to those borderland and imperfectly understood psychoses which, though they bore a relation to certain conspicuous and conventional types of insanity, yet their origin and development was usually lost sight of. The clearly ascertained history of heredity, which, of course, was found in most well-marked cases of dementia præcox, might undoubtedly be absent in these essential forms of mental disorganization. Dr. Hamilton said such states might be the outgrowth not only of a subtle, transmitted weakness, but also of some defect in development, education, environment, or of the example alone, of a psychopathic parent; or, again, there might be remote syphilis, or some of those influences which prevented the subject from properly adjusting himself to society at large. Dr. Hamilton called attention to the general ignorance of parents, teachers, and the community especially, when the question of responsibility arose in such cases. Much vice imperfectly understood, and moral disorder of a like degree, were familiar enough to criminologists and phychiatrists. The study of such cases, with relation to emotional epidemic and criminal example, would reveal the genesis of unclassified insanities, and he had been impressed with the parallelism between certain pubescent insanities and the process of "getting religion," where the morbid mental operation of the patient were closely allied. He believed that if the public could be made to recognize the morbid changes of the mind, as the result of the stress of a struggle with the world, much could be done in the way of prevention. The reader of the paper had called for greater care in the study of cases, and Dr. Hamilton had, himself, in other days been impressed with the fact that in every asylum, the history books practically showed that the patients entered these places with a blank behind them, so far as a knowledge of the evolution of their condition was concerned. If such a thing were possible, every large asylum should have an investigating member of its staff, whose sole duty it should be to determine, outside, not only the past history of the admitted patient, but also his family relations and environment as well.

Dr. Adolf Meyer, closing the discussion, wished to correct the impression that he used the term dementia præcox in any such way as Dr. Hammond thought he had used it. He said he explicitly started his paper with the statement that he was considering a certain number of cases which were finished and recognized cases of obvious deterioration, simply in order to take a definite starting point for getting at a special principle of pathology and morbid development, irrespective of whether it would be limited to dementia præcox or something else, and in the hope that he might get more specific definition of that which would lead to deterioration types or neurasthenic or other constitutional make-up, such as might be present without having anything to do with dementia præcox. The suggestion of habit disorganization aimed to recognize facts which were tangible, rather than deal with "mights," "probables," "usually," with mere possibility of syphilis, alcoholism or what not; they wished to emphasize those things which could be demonstrated having an actual bearing on the development of the actual patient. They were after something definite and tangible, and not the general doctrines of fatalism. Dr. Meyer said he was far from minimizing the importance of heredity as a statistical fact; but his discussion insisted upon certain important things in the life of the patient that were to be considered on the same ground as the principle of regulations in Roux's work; he looked for the stunting influences in distinct traits of development through the untimely, excessive, or deficient function of one set of activities or another. He said it was the alienist's task to discriminate between hereditary disorders which could be influenced, in contradistinction to those which must be accepted as irreparable. Some of Dr. Clarke's remarks about heredity corroborated his general view. Any family with irregular habits would form an ideal ground for a child to develop disharmonies of habit. Dr. Meyer said that the real issue of his paper was not so much the discussion of dementia præcox as to draw attention to some simple working principle of the development of constitutional types without theoretical encumbrances.

CHICAGO MEDICAL SOCIETY.

At a meeting held January 25, 1905, Dr. Wm. Allen Pusey read a paper entitled "The Therapeutic Use of the X-Ray: Three Years Later." The author reviewed his early work with the *x*-ray as a therapeutic measure, and pointed out the therapeutic limitations and possibilities of the agent. His results in the treatment of hypertrichosis with the *x*-ray were satisfactory in only 50 per cent. of the cases, and even in these it was necessary for the patients to undergo prolonged treatment. In sycosis and tinea sycosis the *x*-ray was of great value as a therapeutic agent. His results had been very satisfactory in the treatment of acne with it. In rosacea the results had been quite as satisfactory as in acne. The *x*-ray was particularly valuable in treating chronic inflammatory dermatoses, such as eczemas of the hands. Excellent results were obtained in chronic indurated eczema of other parts. The ray was markedly beneficial in psoriasis and lichen planus, although it did not offer striking advantages over other methods of treatment. He had not seen the benefit from the *x*-ray reported by other observers in cases of pruritus ani and vulvæ. His experience was favorable in treating pigmented and vascular nevi with the ray; also cases of keloid and scars. He had treated successfully eight or ten typical keloids, most of them being on the chests of women. His experience in treating lupus vulgaris with the *x*-ray corroborated the value of it as mentioned by other observers. He mentioned its beneficial effects in the treatment of cases of cervical adenitis, tuberculosis of joints, blastomycosis, epithelioma of the lower lip, cancer of the neck, and in pseudoleukemia and leukemia. Dr. Pusey. reported his failures as well as his successes. His experience had taught him that the *x*-ray was of little or no value in the treatment of goitre.

Dr. Joseph A. Capps and Dr. Joseph F. Smith contributed a joint paper on "The Treatment of Lymphatic Leukemia with the *X*-ray." In summing up, the authors stated that splenomyelogenous cases of leukemia should receive *x*-ray treatment, because they are greatly benefited. They responded more slowly than did cases of chronic lymphatic leukemia. There was so much benefit that the patients themselves felt they were cured, but in the light of Senn's patient, and of others reported as symptomatically cured, but some of whom had since died, they stated that physicians must not be too sanguine in regard to pronouncing cures. Undoubtedly, the *x*-ray exerted a wonderful modifying effect, and was a very good method of treatment for the alleviation of symptoms in lymphatic leukemia and splenomyelogenous leukemia, but probably it did not effect an absolute cure.

Dr. H. J. Burwash read a paper on "Administration of Oxygen Gas." Reference was made to the experimental work of Kellogg on guinea pigs, which showed that gas per rectum was readily absorbed, and that dark venous blood was noticed to be immediately changed into bright arterial blood by its application. Kellogg, therefore, recommended the method for the treatment of diseases of the liver and digestive organs. Dr. Burwash had made a new application of it by using it in the treatment of acute respiratory diseases, particularly pneumonia. This method was first used by him in August, 1891, in a severe typhoid fever case, after failing to resuscitate the patient by the usual method of inhalation. The patient was a young girl, sixteen years of age, who, after a persistent high temperature, became perfectly toxic, delirious, and cyanotic. The gas by inhalation did not appear to revive her from the stupor, and then it occurred to him to administer the gas per rectum. He gave her one gallon; after two minutes' duration the respirations became more exhilarated, and the deep cyanosis turned to a beautiful pink condition. The patient recovered after a very protracted illness. Since that time he had continued to use oxygen per enema in all of his critical cases, especially pneumonia. He mentioned two recent cases of pneumonia that he had treated successfully with oxygen gas. Why does oxygen gas administered by the intestinal canal oxygenate the blood and tissues so much more efficiently than when given by inhalation? It was apparent to the author that the introduction of a large quantity of oxygen gas into the intestinal canal not only neutralized and deodorized the noxious gases that were frequently present there, but also by this direct method introduced oxygen through the portal system to the liver, whose cells were not only stimulated to greater activity, but were nourished as well. Besides, the already overcharged lungs were assisted in their function of aeration of the blood by this condition of reenforcement.

Intermittent Claudication and Analogous Phenomena (Angina Pectoris, Etc.).—Arthur J. Patek says that intermittent claudication is not a disease *sui generis*, but merely a peculiar clinical manifestation of arteriosclerosis involving the vessels of the lower extremities. He thinks that the study of the cases of intermittent claudication thus far recorded justify the following conclusions: Intermittent claudication is far more frequently a symptom-complex than is generally recognized. It is doubtless often and freely confounded with sciatica, neuralgia, and rheumatism. Careful and detailed inquiry into the symptoms, which usually come on while walking, and are absent when at rest, together with their intermittency, should lead to a suspicion of the diagnosis; this will be made absolute by finding that pulsation is absent in one or more distal arteries (dorsalis pedis and tibialis posticus) of one or both legs. The pain is of vascular origin and due to an arteritis plus—in many cases—angiospasm of the affected vessel. The various internal viscera may suffer from such an angiospasm when their vessels are sclerosed, the most prominent prototype being the heart in the common condition, angina pectoris. Total occlusion of the vessels, as occasionally found in intermittent claudication, may lead to gangrene of an extremity. Early recognition is essential, in order, by appropriate treatment, to prevent this dire and frequent complication. Bodily rest, with warmth and moisture, is a most important element of treatment. The use of alcohol and tobacco must be interdicted, and all excesses and abuses avoided. Hydrotherapy, massage, and electricity appear to be serviceable in some cases. The iodides, vasodilators, and heart tonics are indicated. In the main, however, reliance must be placed upon a therapeusis of general character, not medicinal. When walking is to be resumed, the utmost caution must be observed to avoid undue fatigue.—*The Wisconsin Medical Journal.*

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 11, 1905:

	Cases.	Deaths.
Measles	201	3
Diphtheria and Croup	275	42
Scarlet Fever	246	14
Smallpox	3	1
Chickenpox	101	.
Tuberculosis	368	181
Typhoid Fever	28	4
Cerebrospinal Meningitis	. . .	29
Typhus Fever	.	. . . . . .
Yellow Fever	. .	. . . . .
Cholera		
Totals	1,222	274

Recurrent Vomiting.—B. K. Rachford believes that recurrent vomiting is a symptom group closely related to migraine. It is autotoxic in origin and characterized by recurrent attacks of nausea, persistent vomiting, and great prostration. The great majority of cases occur during infancy and childhood. Sex has little influence. It is somewhat more common in winter than in summer. Heredity is the most important predisposing factor. A family history of migraine or gout is present in nearly every case. A general neurotic inheritance is common. Nearly all of these patients are constipated, and this condition is doubtless an important etiological factor. Mental overwork and excitement, combined with indoor life, are important predisposing factors. Nearly all writers agree that recurrent vomiting is an autointoxication. The writer believes that both auto and intestinal toxins may play a rôle in producing this symptom group. A functional incompetency of the liver is a very important factor. Fatigue, fright, anger, and disappointment are common exciting causes. Overeating is a very potent factor. Warning symptoms are flushings of the cheek, coryza, general restlessness, nervous irritability, sleeplessness, sallowness of complexion, dark rings under the eyes, general malaise, constipation, and loss of appetite. Vomiting follows the prodromes in from six to forty-eight hours. After an attack the stomach, as a rule, resumes its functions. Thirst is a striking symptom. Emaciation is extreme in long-continued cases. Fever is present in nearly every case under ten years of age. The pulse is irregular. Respiration may be sighing, or rapid and panting. Narcotism, the writer has not found uncommon. Gastric pain is not present in these attacks in children. Nervousness is very marked. The urine is very concentrated and strongly acid in reaction. The prognosis in relation to recovery is good. Little is known concerning the pathology of the disease. Calomel and bicarbonate of soda are indicated in the prodromal stage. When food and water are not retained by the stomach, rectal enemata of normal salt solution or bicarbonate of soda solution are indicated. Outdoor life, with moderate exercise, should be advised. The diet should be carefully restricted. Milk, cocoa, vegetable soups, cereals, well-cooked vegetables, cooked fruits, eggs, fish, chicken, mutton, and, ocasionally, beef, may be given. The sources of reflex irritation should be sought for and removed, if possible. Wintergreen salicylate of soda, and the benzoate of soda are the most valuable medicinal remedies. Constipation must be most carefully looked after. Solutions of sulphate and phosphate of soda are usually effective. Abdominal massage is sometimes helpful. General massage is a very valuable remedy in patients of feeble constitution.—*Archives of Pediatrics.*

A Modification of Giemsa's Stain.—Giemsa has devised a modification of his methylene azur-eosin stain, by which only a single solution is employed and the technique is much simplified, while at the same time better results are obtained. The formula for the stain is as follows: Three gm. of azur II-eosin (azur-eosin and methylene blue-eosin) and eight-tenths gin, of azur II (equal parts of methylene azur hydrochlorate and of methylene blue hydrochlorate) are exsiccated, finely pulverized and sifted, and then dissolved in 250 gm. of chemically pure glycerin at 60° C. When solution is complete, 250 gm. of methyl alcohol, at a temperature of 60° C., are added, well shaken, allowed to stand for twenty-four hours, and filtered. The blood films are first fixed in ethyl or methyl alcohol and dried with blotting paper. The stain is diluted with water in the proportion of one drop to 1 c.c. of water, and is poured over the film. Staining requires from five to fifteen minutes, at the end of which time the film is washed thoroughly under a jet of water and is dried.—*Centralblatt für Bakteriologie.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended February 10, 1905:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
District of Columbia, Washington	Jan. 28–Feb. 4	1	..
Georgia, Macon	Jan. 21–28	..	1
Illinois, Chicago	Jan. 28–Feb. 4	13	6
Galesburg	Jan. 28–Feb. 4	1	..
Kansas, Topeka	Jan. 28–Feb. 4	1	..
Louisiana, New Orleans	Jan. 21–Feb. 4	23	19
	Cases imported.		
Maine, Perry	Feb. 1	1	..
Michigan, Detroit	Jan. 28–Feb. 4	3	..
Missouri, Saint Louis	Jan. 28–Feb. 4	38	..
New York, New York	Jan. 21–Feb. 4	9	1
Ohio, Toledo	Jan. 28–Feb. 4	5	..
South Carolina, Charleston	Jan. 28–Feb. 4	5	..
Tennessee, Memphis	Jan. 28–Feb. 4	14	..
Nashville	Jan. 28–Feb. 4	8	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Dec. 10–24	2	..

SMALLPOX—FOREIGN.

Bosnia and Herzegovina	Nov. 1–30	22	3
Brazil, Pernambuco	Dec. 15–31	..	116
Rio de Janeiro	Jan. 1–8	45	15
Ecuador, Guayaquil	Jan. 4–18	..	3
Manabi Province	Jan. 4	(Present.)	
France, Paris	Jan. 14–21	17	3
Germany, Bremen	Jan. 7–14	1	..
Great Britain, Glasgow	Jan. 20–27	..	1
Hull	Jan. 14–21	4	..
Liverpool	Jan. 14–21	1	..
London	Jan. 14–21	1	..
New-Castle-on-Tyne	Jan. 14–21	11	..
South Shields	Jan. 14–21	11	..
India, Bombay	Dec. 20–Jan. 10	..	102
Calcutta	Dec. 17–Jan. 7	..	5
Karachi	Dec. 24–Jan. 8	6	1
Madras	Dec. 17–Jan. 6	..	5
Italy, Catania	Jan. 12–26	..	4
Palermo	Jan. 7–21	43	9
Luxemburg	Dec. 1–15	3	..
Mexico, Mexico	Dec. 17–Jan. 7	4	4
Netherlands, Rotterdam	Jan. 21–28	2	..
Russia, Odessa	Jan. 7–14	1	..
St. Petersburg	Jan. 7–14	2	3
Warsaw	Nov. 26–Dec. 3	..	03
Spain, Barcelona	Jan. 10–20	..	12
Straits Settlements, Singapore	Dec. 17–31	..	2
Turkey, Constantinople	Jan. 15–22	..	17
Venezuela, La Guaira	Jan. 21	(Epidemic.)	

YELLOW FEVER.

Brazil, Rio de Janeiro	Jan. 1–8	1	..
Mexico, Coatzacoalcos	Jan. 21–28	1	..
Merida	Jan. 22–28	1	..
Panama, Colon	Jan. 28	..	1
	Case probably imported.		

PLAGUE—INSULAR.

Philippine Islands, Manila	Dec. 3	..	1

PLAGUE—FOREIGN.

Africa, Cape Colony (East London)	Dec. 25	..	1
Arabia, Aden	Dec. 31–Jan. 14	161	116
Brazil, Guaratingueta	Nov. 30–Dec. 18	11	..
Rio de Janeiro	Jan. 1–8	22	11
Egypt, Suez	Dec. 31–Jan. 7	2	3
Tukh	Dec. 31–Jan. 7	1	1
India, Bombay	Dec. 20–Jan. 10	..	374
Calcutta	Dec. 15–Jan. 7	..	67
Karachi	Dec. 25–Jan. 8	120	105
Siam, Bangkok	Dec. 17–24	(Present.)	
Siberia, Slobodskoi and Vigatka districts	Oct. 18–Dec. 14	227	..

CHOLERA.

India, Bombay	Dec. 20–Jan. 10	..	1
Calcutta	Dec. 15–Jan. 7	..	304
Russia, Astrachan	Dec. 7–14	1	..
Baku province and city	Dec. 7–14	459	355
Erivan province and city	Dec. 7–14	1506	1205
Samara	Dec. 7–14	17	..
Saratov	Dec. 7–14	10	..
Trans Caspian Province	Dec. 7–14	40	1
Turkey in Asia	Jan.– Dec. 26	10,466	9192

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Original Articles.

LOSS OF SIGHT FROM DISUSE OF THE EYE (AMBLYOPIA EX ANOPSIA).*

By D. B. St. JOHN ROOSA, M.D., LL.D.,

NEW YORK.

Failure of sight from disuse of the eye is a subject upon which all authorities in Opthalmology are not agreed, either as to what class of cases come under this head, nor as to all the facts bearing upon the subject. By some writers, of whom the present is one, the term, *amblyopia ex anopsia,* is limited to those cases where use of the eye has been given up, because to use it involves double vision, the maculæ luteæ being no longer in exactly corresponding positions, as is the case in any form of strabismus. By others, cases where the retina is sound, but no image can be formed upon it, and thus it is diseased, are classified under the head of *amblyopia ex anopsia.* Where an opacity of the cornea, lens, or vitreous prevents the entrance of light, there can be no image. The loss of vision here is no proper sense from disuse, but is from shutting out of the illumination. If the obscuration of the media is removed, as in the operation for cataract, the vision becomes at once, with correction of the refractive error, exceedingly good, in some instances perfect. This is amblyopia from obscuration of the ocular media.

In all cases where true *amblyopia ex anopsia* has been fully recovered from, it has been a matter of time. Months or—as in the case I am now reporting—years elapse before the full power of the retina is restored. The two conditions ought never to be confounded. The amblyopia from cataract, either from opacity of the lens, or from an opaque membrane remaining behind, is in no sense analogous to the cases where, in a manner that will shortly be spoken of, the patient may be said to suppress the visual image by a mental action.

The subject of my paper is that form of *amblyopia ex anopsia,* which occurs very temporarily in using one eye for an opthalmoscopic or microscopic examination, while the other eye in disuse—the eye not occupied with the instrument—sees nothing, while the fellow eye is examining the details in the retina, choroid or optic nerve, or those of a pathological or anatomical specimen with a monocular microscope. This is a condition completely analogous to even more, perhaps, exactly like the continued loss of vision in an eye turned inward or outward from the proper line of vision, where the visual power is suppressed. Another form of the same kind of suppression of the image, or rather the suppression of its perception—the image is always formed on the retina, as surely as it is on the sensitive plate of the photographic camera, if an object be placed in front of it—is that which may occur in our daily walks abroad, to any of us, when we are so abstracted by our thoughts that we may look into a friend's face without seeing him. It is still denied on some sides that this condition ever results from strabismus, but that the impairment of vision is congenital, and itself produces the squint. On other sides, it is admitted that it may occur, in part, at least, as a result of the strabismus, but, if so, that the function of the retina never again becomes perfectly normal. In spite of all that has been done in the actual exhibition of cases where the amblyopia has been removed by use and practice, and of the cases where amblyopia has actually occurred after the squint, it has been said, not so long ago, by no less an authority than Priestly Smith, "there is little evidence to show that an eye which has once acquired good vision, can lose it by squinting."[1] It is in the very nature of things impossible to produce many such cases, but even one, and I, myself, have reported long since one, is enough to show that many more exist.

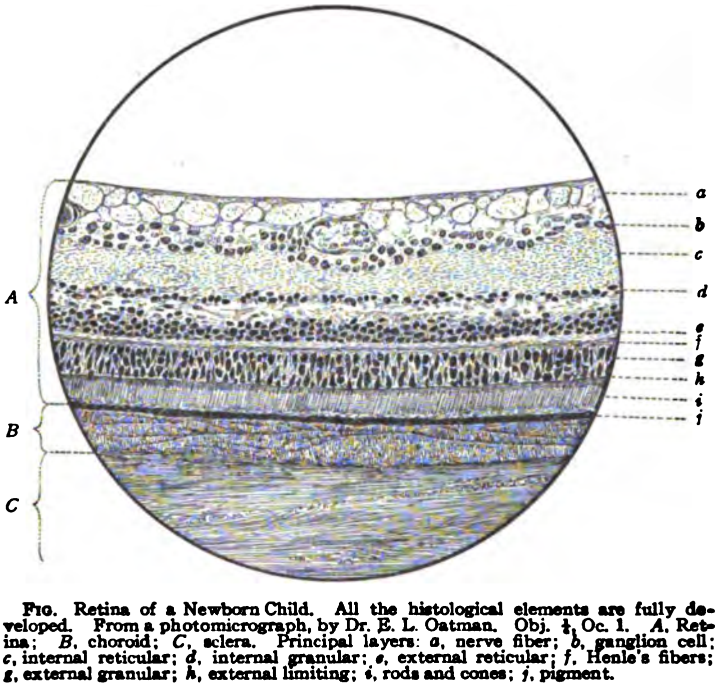

Fig. Retina of a Newborn Child. All the histological elements are fully developed. From a photomicrograph, by Dr. E. L. Oatman. Obj. ⅙, Oc. 1. *A,* Retina; *B,* choroid; *C,* sclera. Principal layers: *a,* nerve fiber; *b,* ganglion cell; *c,* internal reticular; *d,* internal granular; *e,* external reticular; *f,* Henle's fibers; *g,* external granular; *h,* external limiting; *i,* rods and cones; *j,* pigment.

Priestly Smith then goes on to say, "when this is the case, we should expect to find the faculty recoverable by use." This is exactly just what does occur, as the cases of Agnew,[2] W. B. Johnson,[3] and myself all have shown.

With such statements from high authority confronting us, it is still necessary to report cases bearing upon this subject. They have reached such a number at this writing, that we may question the existence of a true congenital amblyopia. To speak of the vision of infants as always amblyopic is, I think, to confound the functions of the muscles and the cerebral structure with the anatomical conditions of the rods and cones. The former are certainly in a congenitally feeble condition, but the sensitive plate on which the visual image is formed is as accurate as in childhood. We learn to accommodate and to think, but we are born with retinæ on which as exact an image may be formed, as ever in life.

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*Read at the Annual Meeting of the Medical Society of the State of New York, January 31, 1905.

The accommodative power, the action of the ciliary and internal recto, with the intellect are feeble at birth. The infant has poor fixation power, cannot judge of distances, probably has no binocular single vision on account of this want of development, and it certainly has much advance to make in intelligence, but the retina is as capable of forming perfect images of objects as ever in life. My colleague, Dr. Edward L. Oatman, has many specimens of the infantile retina which prove that the layer of rods and cones is perfect at birth. I cannot for these reasonings accept Priestly Smith's conclusion. that "all eyes are amblyoptic at birth—highly amblyoptic. Those which later reach the standard of normal vision, do so by a process which occupies probably several years." This author (*loc. cit.*, p. 37) has confounded, I think, the power of using the ocular muscles and the brain with the perceptive structure of the retina. If I am right, his deductions fall to the ground.

The case* reported by myself to this society in 1886—a case carefully and critically observed by two of my colleagues, the late Dr. Edward T. Ely and Dr. Emerson, was that of a child with normal vision, who developed convergent strabismus, which was followed by amblyopia from disuse—proves the existence of *amblyopia ex anopsia.* This case is the one quoted by Javal[4] in his treatise on strabismus. If no other had been reported similar to it, it is of itself sufficient to demonstrate that the loss of vision in cases of strabismus is, at least, not always dependent upon a congenital condition. That it ever is, I may add in parenthesis, is, at least, a debatable question. The cases reported by Agnew and Johnson prove that the amblyopia from disuse of the eye, occurring in strabismus, may be perfectly recovered from, and I have other cases in my notebook to prove this. The cases reported by Javal, myself and others show also that even where no accident has occurred to deprive the fellow eye of sight, the amblyopic eye may regain its full power of vision by exercise. Indeed, this may be said to be now generally, but not always, conceded.

These cases are entirely against the contention of Priestly Smith, the retinæ of infants are deficient in visual power. If this be assumed, the amblyopia is merely owing to the fact that the eye, out of the proper range of vision, is not exercised in sight, and does not fully develop. I am not aware of any anatomical or pathological demonstration that converts this theory into a fact. As said above, and as the photograph I exhibit shows, the retinæ of infants, like the cochleæ, are well developed at birth. It is the ocular muscles, not the perceptive apparatus, and perhaps, also, the cerebral ocular centers that go on to full development after birth.

It is because the case I am about to relate supports the proposition that the amblyopia in the deviating eye is functional, and not organic, acquired and not congenital, and also that it may be recovered from perfectly, that I report it. It certainly *proves* that this is true in some cases. Incidentally, it also furnishes evidence that the retinal perceptive layer does not cease to develop, if not used, but requires only to be called into activity.

Case illustrating recovery of sight in amblyopia ex anopsia. Convergent strabismus with amblyopia from early childhood. Operation. Over effect. Second operation, cure of strabismus. Loss of fellow eye from accident. Recovery of sight in amblyopic eye.

John A. R., aged 46, consulted me on the 17th of May, 1900, with the following history: He stated that his right eye, which then turned inwards, was operated on convergent strabismus, when he was about eight years of age, and that divergent strabismus resulted, which was corrected by the writer of this paper, at one of his clinics, in Burlington, Vt., in 1883.

On the 30th of December, 1899, he was accidentally struck in the left eye by a piece of wood. The vision in the injured eye, previous to the accident, was $\frac{20}{20}$. This was the eye which the patient used, and, in fact, was his only dependence. The vision of the right eye has always been very defective. In the right eye the vision is $\frac{20}{100}$, with a cylindric glass of + 4 D. It is $\frac{20}{200}$ without any glass. He has 5 diopters of astigmatism on that side. The cornea of the injured eye is opaque in the lower portion, the pupil is irregular, and filled with broken-up lens matter. There is a small opening in the upper part of the lens. The right eye, which, in early youth, was affected with convergent strabismus, and, as has been stated, after an operation, with divergent strabismus, was now somewhat turned downward, and had eccentric fixation.

I operated upon the left eye for the purpose of removing the lens matter and breaking up the anterior synechia. An iridectomy was performed upon the temporal side, and the lens matter removed. An excellent opening resulted.

I pass from this portion of the case merely by saying that the corneal astigmatism was so much and so irregular that no better vision could be obtained than he had before the operation, $\frac{20}{200}$. I now turned my attention to the amblyopic eye, as being the hope of the patient, if the theory were correct, that it was amblyopic from disuse simply. I found no lesion of the fundus oculi, and it was pronounced to be normal by my associate, Dr. Emerson, and my colleague, Dr. A. E. Davis, who saw the case in consultation, and by myself. After thoroughly testing the patient, he was ordered the following glasses:

R. + 3.50c 130°
L. + 11

A + 4 was added to the cylindric, on the right, for reading. He could not then read ordinary type. The patient was advised to exercise his eyes in reading, beginning with children's primers, and the hope was held out to him that his vision would ultimately be improved. One year and a half afterward his distant vision was not in the least improved, *but he read No* 1 *Jaeger with his glass.* He was urged to persevere, and he appeared, on October 26, 1904, with his vision in the formerly amblyopic eye, equal to $\frac{20}{30}$, with an appropriate glass, and his corneal astigmatism reduced to 4 D instead of 5 D, as in the beginning. The fixation in the right eye was now central and steady. Vision in the left eye remained as before, $\frac{20}{200}$, but he prefers and wears the glass for the correction and improvement of the sight, over the eye, although double vision can be brought out, and probably exists, under certain conditions, but evidently it does not annoy the patient, who is perfectly content with his condition.

Remarks.—The interest of this case is twofold: first, that a man more than forty years old, after having had an amblyopic eye ever since his early youth, could develop his eyesight to very nearly normal visual power. Second, that the vision for fine type was improved some months before that for infinity,—letters at twenty feet, was improved at all.

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*Transactions of Medical Society of the State of New York, 1886. Results of the operation for convergent squint.

The case also shows, in a most interesting way, not only the possibility of relief in such cases, where the good eye is so much injured as to cause a great impairment of sight, but, also, it demonstrates, if any demonstration were needed, the practicability and importance of the treatment first thoroughly carried on by Javal, and widely taught by him, of exercise of an amblyopic eye, for the purpose of removing what turns out to be functional amblyopia.

There certainly are cases where the amblyopia precedes the strabismus, as in membranous cataract, but these are not, as I have already indicated, cases of amblyopia from disuse, but from obscuration, and have no place in this category, nor in this discussion. The cases of a very high degree of astigmatism in one eye, while the other has no defect, are, however, strictly analogous. In some of them it is impossible, with the most exact correction of the error of refraction, to bring the vision up to that of the normal fellow eye. In such cases, we may conclude, I think, not that the retina is not developed, but that it is functionally amblyopic from suppression of the image. Probably all of these cases where the opthalmoscope shows no lesion, would require normal vision, were the fellow eye lost, as in the case just detailed.

This whole subject of strabismus and its cure, with restoration of singular binocular vision, and of normal visual power, is now undergoing a thorough investigation at the hands of some of the best observers in Ophthalmology. Many points hitherto obscured are already cleared up. It is, as a contribution to this gradual elucidation of an important part of our science, that the preceding case is presented.

REFERENCES.

1. Transactions of the Ophthalmological Society of the United Kingdom, Vol. XVIII, p. 36.
2. Verbal communications.
3. Transactions American Ophthalmological Society, 1903.
4. Javal, Manuel du Strabisme, p. 239.

10 East Thirtieth Street.

A REVIEW OF THE RECENT LITERATURE ON THE RELATION OF HUMAN AND BOVINE TUBERCULOSIS.

By DAVID BOVAIRD, Jr., M.D.,

NEW YORK.

It is perfectly understood that while differences had been observed between human and bovine tuberculosis, and the possibility of their independence had been considered, practically all authorities until 1901 were agreed in considering them as due to one and the same cause—the growth and development of the tubercle bacillus—and as mutually interchangeable. It was the epoch-making address of Koch at the Congress on Tuberculosis in that year that brought the subject of the relation of human and bovine tuberculosis so prominently before the world as to permit of no delay in determining the question at issue. In consequence, a vast amount of work has been done on the subject within the last three years, and while we are still far from the positive settlement that we would all welcome, enough has been done to determine at least one part of the question and to make it well worth while to review the subject.

In opening the subject it may be well to recall that in Koch's address there were two main points made; first, that human and bovine tuberculosis are different diseases, and that human tuberculosis is not transmissible to cattle; secondly, that bovine tuberculosis is not transmissible to man. On the latter point he was not positive, but he declared that if such transmission occurred at all, it was a very rare occurrence. He estimated the frequency of infection of man from cattle as about equal to that of hereditary transmission, and he therefore did not consider it advisable to take any measures against it.

At the congress at which Koch's report was made several eminent speakers opposed his conclusions. Lister reminded his hearers that before Jenner's time the identity of variola and vaccinia was denied. To-day, said he, we know that vaccinia is a variola that has been attenuated by passage through man. Lister disputed the rarity of primary tuberculosis of the intestine through food infection in children. The entrance for the bacilli must be sought in the intestine, although it is not established that the bacillus must produce a lesion of the mucosa in order to reach the mesenteric nodes. Koch's experiments, in his opinion, required confirmation.

Nocard of Alfort recalled the experiments of Chauveau, who succeeded in rendering calves tuberculous by inoculating them by the intravenous injection of human bacilli. He called attention to the fact that many microorganisms develop slowly on a strange soil, and that their virulence may be increased by passage through other animals.

Bang of Copenhagen took the same standpoint.

McFadyean of London maintained the identity of human and bovine tuberculosis. He cited the efficiency of tuberculin derived from human bacilli in its action upon cattle. He also denied the rarity of primary intestinal tuberculosis, and quoted the statistics of Still of London, which show that 29 per cent. of the tuberculous children in the Great Ormond Street Hospital have such primary intestinal tuberculosis.

Shennan of Edinburgh presented statistics showing that there is 28 per cent. of primary intestinal tuberculosis in children. He quoted Sir Richard Thorne to the effect that while under hygienic regulations and proper milk control lung tuberculosis had diminished 45 per cent. in England; before the era of the control of the milk of tuberculous cattle these diseases had remained stationary, or among children had increased.

Such was the status of the matter at the close of the Congress three years ago. The vital importance of the questions at issue aroused interest and stimulated investigation, so that scientific men in all parts of the world turned their attention to the subject and studies were undertaken to solve its problems.

First, then, as to the proposition that human and bovine tuberculosis are different diseases, and that human tuberculosis is not transmissible to cattle, an enormous amount of work has been done, with, for the most part, harmonious results. It is to be noted that at the time of Koch's declaration there were on record many instances of the successful inoculation of cattle with human tubercle bacilli, notably in the experiments of Chauveau, Bollinger, Klebs, Crookshank, Martin, Nocard, De Jong, and Arloing. Cases of infection of cattle by phthisical attendants had also been recorded by Cozette, Cliquet, Huon, and Bang (see Ravenel). However, numerous experimenters at once set to work to add to the evidence already given, and the results have been such a number of successful inoculations of cattle with human tubercle bacilli as to completely dispose of Koch's first proposition. These successful inoculations have been made by many different observers in many lands. In our own country positive results have been reported by De Schweinitz, Dorset, and Schroeder, and Ravenel; in England by Crookshank, Hamilton and Young and others; in Germany by

Wolff, Fiebriger and Jensen, Orth and Esser. Moeller, however, reports a series of experiments in which he sought to inoculate calves with human tubercle bacilli by feeding, by feeding and intraperitoneal injection, by inhalation and subcutaneous injection, and by injections into the jugular vein. In all these ways he failed to produce tuberculosis in the calves and he therefore agrees with Koch that the human disease is not inoculable in them. Of course, this single negative report cannot offset the numerous other reports to the contrary, but it may serve to emphasize the fact which was made quite clear by the negative results of the experiments on which Koch based his opinion, that it is not easy to inoculate cattle with the human bacilli. It will be noted that most of the successful inoculations have been accomplished either by intraperitoneal, subcutaneous, or intravenous inoculations, rarely by feeding. In fact in some of the experiments it is quite surprising to learn the quantities of tuberculous sputum that were fed to calves without effect, so far as the production of tubercle in the animal was concerned. It is, nevertheless, settled beyond doubt that the human disease can be transmitted to cattle, and the doctrine of the independence of the two affections practically is disposed of. It may, however, be pointed out that there is additional evidence bearing on the latter proposition. The interchangeability of the tuberculins derived from bovine and human bacilli respectively has long been known and constitutes a strong argument for the identity of the bacilli and the two diseases. The two tuberculins, according to Theobald Smith, have the same effects on guinea-pigs, and the bovine tuberculin has been used for the purposes of both diagnosis and treatment in man with the same results as the tuberculin of human origin. In the face of that fact alone, it seems strange that the doctrine of the independence of the two affections should ever have been promulgated, most of all by the very man whose famous discovery of the specific organism had opened the way for the demonstration of the unity of the tuberculosis of man and of the lower animals.

The second proposition, namely, that bovine tuberculosis is not transmissible to man, not permitting of direct experimentation in proof or disproof, has required to be approached indirectly, with results that are naturally less satisfactory or conclusive. Kohler has, however, recalled the fact that as long as twenty years ago Rokitansky, influenced by the supposed antagonism between tuberculosis and cancer, inoculated a number of incurable cancer patients with bovine tuberculosis. Most of these patients lived many months or a year after the inoculation. Some of them developed small, local, quickly-healing ulcers, but at autopsy none of them showed tuberculosis. Those are the only direct experiments on record. Not being able to use human beings for experiment, investigators have resorted to the ancestral family of the monkeys. Cippolina fed one of these animals with milk with which a culture of bovine tubercle bacilli had been mixed and obtained a general tuberculosis with an intestinal lesion. Macfadyean, proceeding on the same line, fed a series of monkeys with bovine tuberculous material and found in a number tuberculous lesions of the mesentary glands and demonstrated the bacilli in them. He calls particular attention to the fact that in none of these cases were the lesions of the glands accompanied by intestinal lesions. Similar experiments were made with human tuberculous sputum with similar results, except that in every instance of successful inoculation intestinal lesions were found. Ravenel, of Philadelphia, has confirmed these results, both as to the inoculation of monkeys, and as to the absence of intestinal lesions in cases of infection by feeding. If then the nearest relative of man in the animal kingdom can be infected with bovine tuberculosis, it becomes highly probable that man himself can be.

Thus far only has the experimenter gone in the direct line to the solution of this question; for further evidence we must turn to the study of observations made under the ordinary conditions of life. It is evident that if the tuberculosis of cattle is transmitted to man, such transmission may take place in one or more of three ways.

1. Persons in close association with cattle may conceivably be infected by inhaling bacilli derived from discharges from the respiratory passages of infected animals. For evident reasons it would be very difficult to prove infections in this way and I know of no evidence that such transmission occurs.

2. Persons handling the infected parts of diseased cattle may be inoculated upon the hands or arms, etc. Hartzell, Ravenel, and others have reported cases of local tuberculous infections on the hands of butchers and veterinarians produced in this way, and Lassar says that in an investigation that he made in the cattle yards of this city he found that 3% of the workmen had such lesions on their hands. So far as the local lesions are concerned there can therefore be no doubt, but there is no evidence that such local infections ever result in the production of general tuberculosis in man, so that these facts have importance only in indicating the possibility of the general infection of man by the bovine bacilli.

3. Persons consuming the milk or meat of tuberculous cattle may be infected by bacilli contained therein. In this possibility we all recognize the vital point of the whole question of the relation of human and bovine tuberculosis and to it therefore we may devote our close consideration.

It is conceded that if bovine tuberculosis is transmitted to man it must be mainly through the agency of milk containing the bacilli. Tuberculosis rarely attacks the parts of the animal used for food, that is the muscles, and even if tubercle bacilli be present in meat, they are either so weakened or destroyed by the processes of cooking as to be rendered relatively harmless. Upon that practically all authorities are agreed. It has been shown that tubercle bacilli may be found in milk, or any products made from it, such as butter and cheese.

The frequency with which tubercle bacilli are found in milk will naturally depend upon the frequency of tuberculosis in cattle. The figures bearing on this subject vary greatly for different countries. In Germany there is careful inspection under government auspices of all cattle slaughtered and the official reports give very accurate information on this subject. From these sources we learn that in Prussia 15.2 per cent. of all cattle slaughtered are tuberculous, in Bavaria 6.3 per cent., and in Saxony 29.39 per cent, while in Bohemia the percentage, according to Ganghofner, is 5.5 per cent. But as already noted it is now generally admitted that only cattle with tuberculosis of the udder produce milk that is dangerous to the consumer. Various investigators (Adami, Rabinovitch, Kempner, and others) have shown that the milk of tuberculous cattle without disease of the udder may be virulent to animals by inoculation, but such authorities as Nocard point out that milk thus proven infective may be quite innocuous when ingested, and maintain that milk dangerous to the consumer is derived only from the cattle having tuberculosis of the udder. According to Bang, in cattle having tuberculosis the udder is involved in not more than 3 per cent. Ganghofner, in his report on the conditions in Bohemia, found tuberculosis of the udder in only 2.2 per cent. of the tuberculous cows or 0.12 per cent of the cows slaughtered. Considering the matter from this standpoint, it appears, therefore, that the milk of very few cows is capable of producing tuberculosis in the consumer. But we must remember that the great majority of people, especially children, who in the nature of things are most exposed, do not consume the milk of a single cow but the mixed milk of a herd. It is apparent that one cow with tuberculous udder-disease may render the product of a whole herd infective. Some very instructive work along this line has been done, especially in England. Thus Kanthack and Sladen, on examination of the Cambridge supply, found that more than half of the samples tested (9 in 16) proved infective.

Sladen found in the Liverpool milk supply that samples coming from the city stables which were under close scrutiny showed less tuberculosis than those from the country. Thus

Source	No. of samples.	No. showing bacilli.
Town	144	4 or 2.8 per cent.
Country	24	7 or .29 per cent.
Town	228	12 or 5.2 per cent.
Country	67	9 or 13.4 per cent.

E. W. Hope notes the same fact.

Town	422	5 or 1.2 per cent.
Country	490	20 or 4 per cent.

Delepine found 17.6 per cent. of the samples of mixed milk gathered at the railway stations of Liverpool and Manchester virulent by inoculation.

Hope says that after finding in 93 samples of milk, supplied Manchester from the country, 17 containing tubercle bacilli, the city veterinarian visited 16 farms from whch the milk came and on 14 found at least 1 cow with tubercle bacilli in her milk.

It does not, however, follow that all the milk containing tubercle bacilli is capable of producing tuberculosis either in man or animals. If it were, evidently few indeed would escape. Undoubtedly the action of the digestive fluids or of the cells of the body is sufficient to protect from infection by milk, unless the milk contains large numbers of bacilli, or the protection normally afforded by the gastric juice is annulled. Nocard quotes Peuch to the effect that a young pig was able to drink with impunity 4½ liters of a tuberculous milk, a few cubic centimeters of which injected into the peritoneal cavity of a rabbit killed it in a few weeks. Bang has shown that highly tuberculous milk, heated to 70° for five minutes, still kills with certainty rabbits and guinea-pigs when inoculated under the skin or into the peritoneal cavity, but can be drunk in considerable quantities without any danger by animals of the same species. Bollinger and Gebhardt have shown that if the milk of a tuberculous cow is given as a principal or sole nourishment to guinea-pigs, rabbits or cats, all those which take it become tuberculous; but if it is given them diluted in 50 to 100 times its bulk of normal milk, they may consume the mixture for entire weeks with impunity.

So far as our own country is concerned, the information as to the frequency of tuberculosis in cattle is very meager. There is no official inspection of the cattle slaughtered in the abattoirs and the figures obtainable are limited to Clement's observations which give 3% of tuberculous cattle among 5,297 slaughtered in Maryland, and a series of 15,506 cattle inspected in the Brighton abattoir of Boston, of which only 29 or 0.2% were tuberculous. The tuberculin test has, however, been employed on numerous herds in various states with very divergent results. Some herds are found entirely free, others show 15 to 30% of reactions, and in some instances as high as 80 or 90% (Osgood and Pierson).

Regarding the frequency of tubercle bacilli in the market milk of this country, I have been unable to find any reports, but in the nature of things it should be much less than in European countries.

From the facts above set forth it is evident that there must be abundant opportunity, through the presence of tubercle bacilli in milk and its products, for the infection of these consuming them, especially children. The questions naturally arising are (1) what positive evidence is there that such infection actually takes place, and (2) how frequent is such infection or what part does it play in the prevalence of tuberculosis among children or adults.

To return to the first of the questions stated above, namely, what positive evidence is there of the infection of man by means of tuberculous milk or milk products? Such evidence has for evident reasons been sought especially among children. In a previous study of this subject the writer searched the literature of the past fifteen years for reports of cases in which the development of tuberculosis in children had been connected with the use of the milk of tuberculous cattle. 22 such cases were found on record. Since that time I have seen references to a few more cases which had escaped my observation, but the total number would not exceed thirty.

In these cases the facts given may be said to warrant the assumption that the tuberculosis in the children was produced by the consumption of the milk of cattle shown to be tuberculous. It will be recalled that Koch, applying critical analysis to these cases, rejected them all, finding some flaw in the record in every case. For the establishment of his generalization that bovine tuberculosis is not transmissible to man their rejection was of importance, but the ground which he took was undoubtedly extreme. We may admit that some at least of these cases were true cases of infection of children from cattle. To those of us who are interested in the practical bearings of the matter the figures will appear astonishingly small. Not more than thirty cases recorded in the medical literature of both Europe and America certainly would seem to indicate that such transmission of the disease must be exceedingly rare. This view of the matter has been emphasized by developments since Koch's address. In his last utterance on the subject (December, 1902) Koch says that immediately after the deliverance of his address he sent an invitation to the heads of the University clinics in Prussia and also to the directors of the Institute of Pathological Anatomy in Prussia to report to himself any cases of tuberculosis of the intestines, peritoneum, or mesenteric glands in which the onset of the disease might be traced to the use of food-products affected by bovine tuberculosis, either from the histories of the cases or from special facts ascertained. After a year and a quarter not a single case had been brought to his attention.

It may be said without exaggeration that the same message was delivered to the whole scientific world, for the publication of the address was sufficient to set every one interested in the subject looking for such cases, yet with the exception of two cases to which reference will later be made, there has been no response. This failure to produce such cases seems to me very important evidence of their rarity. From facts already set forth it is apparent that there must be opportunity for infection through milk. Considering that from time to time veterinarians discover herds of cows in which the percentage of tuberculosis (proven by the tuberculin test) reaches 70, 80, or even 90, and that in most instances the milk of these herds has been used regularly for food, it is certainly most strange that some cases have not arisen to which the relationship of the bovine disease to the development of the disease in children could be proven to the satisfaction of everyone. Until such proof is forthcoming it seems to me that very little emphasis can be laid on the danger of tuberculosis in cattle producing the disease in man.

As has just been said two cases have been reported in which the claim is made that the transmission of bovine tuberculosis to children is proven. These two cases are based upon the proposition that there are sufficient differences between the human and the bovine tubercle bacilli to enable investigators to distinguish one from the other, the differences being shown in cultures, in morphology, and in virulence. It is not important for our purposes to go into the details of these differences. In this country they have been worked out by Theobald Smith and Ravenel, and each of these most competent observers has reported a case in which he has demonstrated in the tuberculous lesions of a child bacilli which to him had the characters of the bovine bacillus. So far as the work of these observers is concerned, it is quite conclusive, but we find that other investigators of equal authority, notably De Schweinitz in this country and Von Behring in Germany, deny that the differences between the human and bovine bacilli are sufficint to warrant the attempt to distinguish them from one another. We cannot, therefore, consider the work of Smith and Ravenel decisive of the matter, and until that fundamental question is decided we cannot accept their reports as conclusive of the transmission of bovine tuberculosis to man.

Very recently (August, 1904) Theobald Smith has published a further study of three cases of human tuberculosis in which the infection had apparently entered by the alimentary tract. In all three cases he finds that the bacilli present none of the characters of bovine bacilli, that they are in fact human bacilli and that the infections cannot therefore have been from milk. If, then, the evidence of these observers is accepted as valid, it shows that in the very class of cases which nearly all of us have been ready to admit as milk infections human and not bovine bacilli may be concerned. The total number of cases thus far studied by Smith and Ravenel (five) is too small to warrant any arithmetical calculations as to the frequency with which the human or bovine bacilli will be found in the type of cases concerned, that is the intestinal infections.

A third line of investigation of this question has been carried on in the study of the lesions found in children dying of tuberculosis. From the beginning of experimental work on tuberculosis it has been assumed, and the assumption has been borne out by the bulk of experience, that the oldest or most advanced tuberculous lesions will be found in that tract in which the infection originally entered; that is, if the infection occurred by the respiratory tract the oldest lesions would be found in the lungs or bronchial lymph nodes, if by the intestinal tract, then the oldest lesions will be in the intestines or mesenteric lymph nodes. Infections by the skin, the genito-urinary tract, or the placental circulation are so rare that for our purposes they may be left out of consideration. It was, therefore, thought that by studying the lesions found in autopsies on tuberculous children we could determine the tract by which the infection had entered. A large percentage of cases of primary intestinal infection, it was generally conceded, would indicate that the infection by that tract was frequent. That being established, it would follow from the nature of things that the infecting bacilli had *probably* been taken in with food, and as the disease is most common at the age when cow's milk forms the principal item of food, we would be able to trace the infection back to that source. It was all along understood that there were other possible sources of infection in the intestinal cases than the food, such as dust or dirt carried by the hands to the mouth, but for the sake of simplicity of argument these possibilities were put aside, and the frequency of intestinal infections (primary) was assumed to reflect the frequency of infection from food, that is, cow's milk. A vast deal of work has been done along this line with unhappily discordant results.

In his address Prof. Koch gave the following figures: Ten cases of primary tuberculosis of the intestine occurred in five years among 933 cases of tuberculosis in children at Emperor and Empress Frederich's Hospital for Children. Baginsky never found tuberculosis of the intestines without a simultaneous affection of the lungs and bronchial glands. Among 3,104 post-mortem examinations of tuberculous children, Biedert observed only 16 cases of primary tuberculosis of the intestine

These figures were quoted to prove the extreme rarity of intestinal infections in the tuberculosis of children. Shortly after the publication of Koch's paper the writer published the following table of cases from various sources:

	Total.	Intestinal.	
German,	236	9	4 per cent.
French	128	0	0
English	748	136	18 per cent.
American	369	5	1 per cent.
	1,481	150	

To this table may now be added the following data quoted by Biedert:

Froebelius of St. Petersburg reports observations or 91,370 children, of whom in ten years 18,569 died and autopsies were performed on 16,581. Of tuberculosis there died 416 0.4 per cent. of the total number, 2.5 per cent. of the autopsies. Of the 416 tuberculosis every one had tuberculosis of the lungs, 99.2 per cent. had bronchial node tuberculosis, and 26.9 per cent. had intestinal tuberculosis, so that pulmonary tuberculosis stands to intestinal as 100 to 26.9, with the pulmonary process always primary.

The striking thing about this table is the fact that the cases collected from English literature show a proportion of 18 per cent. primary intestinal infections against 4 per cent. for the German cases, 0 per cent. for the French, 0 per cent. for the Russian, and 1 per cent. for the American. I confessed my inability to understand the difference between the English results and our own at that time. The natural supposition is that the difference must be due to difference of interpretation, that is, that English and American observers have different standards of what constitutes a primary intestinal tuberculosis. I have since satisfied myself that that is not the explanation of the difference. The lesions of tuberculosis are too definite and too well-known to permit the belief that such wide discrepancies in results can be explained satisfactorily as differences of interpretation.

It will, I think, generally be admitted that peritoneal tuberculosis will be most frequent where intestinal infection is most common. In a single morning, in last May, spent in the Hospital for Sick Children in Edinburgh, under the guidance of Dr. John Thomson, the writer was shown eight or more cases of clinical peritoneal tuberculosis in children under the age of five years. That was a larger number than I could recollect having seen in a rather extensive hospital experience of twelve years in New York City. My impression of the contrast in the incidence of peritoneal tuberculosis in children in Great Britain and our own country has been deepened by some study of the records of the Presbyterian Hospital (of New York) since my return. Among 20,000 cases admitted to that hospital during the last eight years there were just six cases of peritoneal tuberculosis in children under the age of five years. It should be said that the hospital is a general one with a small children's ward, but it can safely be added that no case of abdominal tuberculosis in a child would be declined, and the figures given only confirm the impression of the writer's observations in both dispensary and hospital service in several institutions of the city. The conditions in Edinburgh are said to be fairly representative of conditions throughout Great Britain. This great contrast in the frequency with which peritoneal tuberculosis is seen in Great Britain and in New York, I take it, is simply a reflection of the disparity of the statistics concerning primary intestinal tuberculosis from these sources. These differences are not satisfactorily explained by referring them to corresponding differences in the incidence of tuberculosis among cattle, for we have noted that the same differences prevail between the statistics from Great Britain and from France or Germany, where tuberculosis is quite as common among the cattle as in Great Britain. I am also satisfied that these differences are not to be accounted for on the basis of differences of interpretation. I am therefore led to believe that the differences noted will eventually be explained by the operation of some factors not at present taken into consideration.

This matter of the interpretation of the autopsy findings in children dead of tuberculosis has been rendered still more complex and puzzling by the developments of the last few years. In Germany Hueppe and Heller have called in question the statement that cases of primary intestinal infection are rare there. Councilman, Mallory and Wright have done the same thing in this country, and curiously enough Heller's protest as well as that of the American observers have been based on the autopsy findings of children dead of diphtheria. In these they find tuberculosis common and in the tuberculous cases both find approximately 37 per cent. of primary intestinal infections.

Ganghofner of Prague contributes a reply to the observations of Heller and Councilman, Mallory and Wright, showing a percentage of 37 of primary intestinal tuberculosis in the cases of tuberculosis found at autopsy in fatal cases of diphtheria. Among 972 children dead of infectious diseases (diphtheria, measles, scarlet and variola) he found tuberculosis in 252, 25.9 per cent. Of these 252, 179, or 71 per cent., had tuberculosis of the lungs and bronchial lymph nodes; 51 cases in addition to the tuberculosis of the lungs and bronchial lymph nodes showed intestinal tuberculosis, either of the intestine itself or of the mesenteric lymph nodes, frequently also tuberculosis of other parts. So far as a primary intestinal tuberculosis is concerned, the results were as follows:

515 cases of diphtheria, no case of primary intestinal tuberculosis.
176 cases of measles, 2 cases of tuberculosis of the mesenteric lymph nodes alone.
219 cases of scarlet, 1 case of tuberculosis of the intestine alone and 1 of the mesenteric lymph nodes.
62 cases of variola, no case of primary intestinal tuberculosis.

In the 972 children dead of acute infectious diseases, there were therefore 4 cases of primary intestinal tuberculosis, or 0.4 per cent. Of the 253 cases of tuberculosis, the 4 cases constitute less than 2 per cent. of primary intestinal tuberculosis. Ganghofner then gives an interesting table comparing the results of the observations of Councilman (Boston), Baginsky (Berlin), Heller (Kiel), and himself (Prague).

	Kiel.	Boston.	Berlin.	Prague.
Number dead of acute and infectious diseases,	714	220	806	973
Number of cases of tuberculosis,	140	35	144	253
Percentage of the dead,	19.6	16	17.8	26
Number of cases of tuberculosis through infection of the digestive tract,	53	13	6	5
Percentage of the dead,	7.4	5.9	0.7	0.5
Percentage of the cases of tuberculosis,	37.8	37.1	4.1	2

The great difference between the figures obtained at Kiel and Boston from those of other observers Heller has attempted to explain on the ground that tuberculosis of the mesenteric nodes especially has been overlooked by the latter. Ganghofner shows that he has taken precautions that render that hypothesis inapplicable to his results.

These radical differences between the results of skilled observers in different parts of the same country are not, as I have already said in another connection, satisfactorily accounted for either on the basis of different interpretation or by differences in the frequency of tuberculosis among the cattle, and they are likely to be explained in the end by the operation of some local factors not at present taken into consideration.

The difficulty of interpreting the results of these reports of autopsy observations in children has been further enhanced by some very important work done by Ravenel.

He attacks the common conception that if infection occurs through the alimentary tract the tuberculous lesions should be found either in the intestines or in the mesenteric nodes or both. During intestinal digestion, he says, there is a constant current from the intestine to the mesenteric glands and thence up the thoracic duct to the venous circulation. Any tubercle bacilli which may have gained entrance into this stream are carried almost immediately into the lungs and deposited there by election. He cites the work of Dobroklonski to prove that tubercle bacilli may pass the intestinal wall without producing local lesions. In their laboratory work they have, Ravenel says, been struck by the extensive involvement of the lungs in animals infected by feeding and the coincident slight injury to the intestine. Indeed, in some animals it has been quite impossible to detect any involvement of the intestine whatever, and at the reading of the paper he exhibited the viscera of some of the animals illustrating this point.

Having seen these specimens of Ravenel's, the writer must admit that similar conditions in a child he would have interpreted to mean that the infection had been conveyed through the respiratory tract. If confirmed by further experience, these observations will undoubtedly invalidate the interpretation that has been placed upon the results of post-mortem observations in children. To me, however, it seems to be unwise to allow the results of one observer to overthrow the established interpretation, until those results have received confirmation from others. It has long been known that animals could be infected with tuberculosis through the intestine without producing an intestinal lesion. The observations of

Cornil and Dobroklonski established that; but if the intestinal lesion failed, the lesion of the mesenteric nodes still indicated the tract through which the infection had come. This has been long recognized, and we may note that this is exactly what Macfadyean found in his experiments on monkeys and calves, the very animals in which Ravenel's unusual results were obtained, and we may also quote two of the conclusions which Hamilton and Young give as the outcome of their recent experimental studies:

1. That the organs most affected are those in immediate connection with the part operated upon (they are speaking of infection conveyed by feeding the animal with tuberculous material, by subcutaneous inoculation upon a peripheral part, by respiring a spray containing the bacilli, or by injection into the venous system).
2. That the lymphatic system is constantly involved in the resulting tuberculosis.

Despite the discordant results noted above, it seems to me that we can still safely say that the greatest weight of evidence is against frequent infection of children through the intestine, that is through food, and that we cannot, therefore, consider that tuberculous milk is frequently the means of conveying the infection.

The most conclusive evidence in support of this view has, however, come from comprehensive studies conducted in certain parts of the German Empire concerning the relationship between the frequency of tuberculosis in cattle and among human beings in areas in which there are large numbers of cattle and where milk and its products are largely used as articles of food. The exact statistics which are obtained by the authorities upon these subjects render these studies very convincing.

Biedert has conducted an investigation along these lines which he thinks has all the value of an experiment in feeding men bovine bacilli.

Swabia, according to statistics, has the greatest number of cattle, average cattle tuberculosis, and moderately high rate in man. Upper Bavaria has an average number of cattle, the lowest rate of tuberculosis among the cattle, and relatively high rate among men. Lower Bavaria has an average number of cattle, the highest tuberculosis rate among the cattle, and the lowest among men. The Upper Palatinate has the lowest number of cattle, the highest tuberculosis rate in cattle, and a high rate for man.

Of the eight Bavarian provinces the four having the greatest number of cattle are the lowest in human tuberculosis excepting Upper Bavaria, where, in opposition to Oberfranken, there are four cities with very high mortality from tuberculosis, while Oberfranken has only one such city. Cattle tuberculosis is therefore without influence and harmless to man. On the contrary, the large dairy industry increases the prosperity and the general consumption of milk improves the nutrition of the people.

Ganghofner has also undertaken a study of the relation of the deaths from tuberculosis among men to the number of cattle found to be tuberculous in the abattoirs of his native land, Bohemia. His study is based on official reports of recent years. The mortality among men from tuberculosis in Bohemia is calculated for each 10,000 inhabitants, and on the average amounts to thirty-five.

The percentage of tuberculosis in cattle found in the abattoirs averages 5.5 per cent. Of the tuberculous cows 2.2 per cent. had tuberculosis of the udder, a fact of considerable importance, inasmuch as it is now generally admitted that only the cows having udder tuberculosis are likely to show sufficient numbers of bacilli in the milk to be really dangerous. Not to weary you with the details of the study, suffice it to say that, exactly as Biedert found, Ganghofner can discover no relation between the number of human beings dying from tuberculosis and the number of tuberculous cattle in the various districts (85 in all are considered) of Bohemia. Neither is there any relation between the human mortality from tuberculosis and the number of cows found to have tuberculosis of the udder. Ganghofner sums up the results of his study in the following words:—The possibility of the transmission of bovine tuberculosis to man must be admitted, for so long as it is possible to infect cattle with human bacilli, it is reasonable to assume that the reverse infection is possible. There is, however, no evidence that such infection is frequent. Neither his pathological observations nor the statistical studies on the relation of human and bovine tuberculosis indicate that the consumption of food containing bovine tubercle bacilli has any considerable importance for the production of tuberculosis in man, more particularly among children.

The practical purport of this paper may be briefly summed up in the following conclusions:

1. Human tuberculosis can be transmitted to cattle, but with difficulty, and it seems highly improbable that such transmission plays any great part in the production of the disease among cattle.

2. Bovine tuberculosis can be transmitted to man, but the evidence that such transmission occurs under ordinary circumstances is extremely scanty and it is highly improbable that such transmission plays any important part in the spread of the disease in man.

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THE ADVANTAGES OF PERFORMING CAPITAL OPERATIONS IN SELECTED CASES WITHOUT ANESTHESIA.[*]

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The beneficent effect of ether and chloroform in the production of general anesthesia during surgical operations has received its due meed of praise from countless pens and tongues for more than half a century. To add a single word of appreciation of the blessings of anesthesia would be more than superfluous—it would be presumptuous. The eagerness, however, with which local anesthesia with cocaine and its congeners has been seized on by surgeons, is a strong indication of the feeling that general anesthesia is not always safe.

It will be readily admitted that the use of cocaine and similar drugs for local anesthesia has its limitations, among which are, (1) the extremely limited quantity of an efficient local anesthetic which can be used with safety, (2) the uncertainty of securing satisfactory anesthesia, (3) the poisonous effects so often resulting from quantities usually found to be safe (irregular action or idiosyncrasy), and (4) inapplicability to the viscera and other deep-seated structures.

The present generation of surgeons, having always had ether and chloroform at their command, have apparently disregarded the advantages to be derived, in certain cases, by operating without these agents. Having but little experience in this direction, they have been prone to take an exaggerated view of the suffering produced by operation and to underrate the willingness and endurance of the patients.

The opinion here expressed as to the extreme infrequency of important operations without anesthesia is based on a critical examination of the titles in the first and second series of the Index Catalogue of the Library of the Surgeon General's office, of the first and second series of the Index Medicus, of general impressions of recent surgical literature, and personal communication with surgeons of large experience.

The indications which I have followed for operating without anesthesia are the following: (1) Profound septic infection; (2) severe collapse from loss of blood and shock; (3) fecal vomiting with liability to drowning during operation or aspiration pneumonia subsequently; (4) collapse or compression of lung with liability to respiratory failure; (5) obstruction of the esophagus; (6) advanced kidney disease with liability to anuria; (7) ease of performance with minimum of pain.

These indications are sufficiently clear to recommend themselves without much comment, for I cannot believe that there is any surgeon who has not had the painful experience of losing patients during or after operation, under these conditions, whose lives would have been saved had anesthesia not been employed. Without going into wearisome detail, I may be permitted to cite a number of operative procedures which I have carried out in recent years, most of them having been done in numerous instances. The majority of the operations to be mentioned may fairly be termed "capital;" but some are of a minor nature.

1. *Appendectomy* in certain acute cases attended with profound sepsis. All surgeons have observed the extreme depression following abdominal operations under general anesthesia, in patients already suffering from acute sepsis. The vital resistance is diminished by anesthesia and the organism falls an easier prey to the bacteria and their toxins by which it is already poisoned. With our present more conservative practice regarding operation in acute appendicitis, where spreading peritonitis has supervened, the indication for appendectomy without anesthesia is rare. Occasionally, however, it does present itself and should then be recognized.

2. *Amputation of limbs,* including mid-thigh, leg, upper arm, and forearm. These amputations have always been performed in cases of severe collapse from loss of blood and shock, when even the largest amounts of intravenous saline infusion (4 to 8 quarts in six hours) have failed to produce satisfactory reaction. The treatment of such cases has been outlined at greater length by the writer in a paper read before the National Association of Railway Surgeons at St. Louis on April 3, 1896.[*]

3. *Resection of shoulder-joint* for crushing injury; the indications being the same as in the amputations just cited.

4. *External perineal urethrotomy* without a guide for ruptured urethra from crushing injuries. The indication in these cases has been circulatory depression from urinary retention and extensive extravasation of blood and urine into the cellular tissue.

5. *Exploratory laparotomy with examination of viscera* for suspected intraperitoneal injuries. The indication in these cases is the extreme collapse present, in which it is impossible, without exploration, to distinguish between nervous shock, intraperitoneal hemorrhage and beginning peritonitis from extravasation of visceral contents.

6. *Laparotomy for relief of intestinal obstruction by bands;* 7. *Inguinal colostomy* in cases of obstruction; 8. *Herniotomy* in strangulated umbilical, ventral, inguinal, and femoral herniæ; 9. *Intestinal resection* in gangrenous hernia; 10. *Radical cure of umbilical hernia* in strangulated cases by Mayo's overlapping method. The indication in the five classes of cases last mentioned has been the presence of vomiting, often fecal, and the consequent danger of drowning at the time or aspiration pneumonia afterward.

11. *Rib resection for empyema.*—The danger of general anesthesia when respiration depends on one lung is well recognized and furnishes the indication in these cases.

12. *Gastrostomy.*—The mortality hitherto in this operation has been generally from pneumonia, probably from inspiration by the anesthetized patient of secretions which could not be swallowed owing to the obstruction of the esophagus.

13. *Suprapubic cystotomy;* 14. *Prostatectomy.*—In both of these operations, when done for enlarged prostate, the kidneys are in such condition that anuria frequently results from the use of general anesthesia.

15. *Tracheotomy.*—The danger of flooding the trachea with blood during general anesthesia in this operation has long been recognized and many surgeons have advised that anesthetics be withheld for this reason.

16. *Craniotomy* or trephining with chisel and mallet for depressed fractures of the skull.

17. *Evacuation of intraperitoneal abscesses* (usually appendical) by the muscle-splitting method; 18. *Ligature of femoral artery* for popliteal aneurysm; 19. *Wiring fractured patella* through an open incision into the knee-joint. In the last three classes of cases, the operations have always been done because the patient has been more willing to

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[*] Paper read at meeting of Medical Society of State of Pennsylvania, September 29, 1904.

[*] *Railway Surgeon,* 1896, No. 3, p. 241.

endure a moderate amount of pain than to suffer the discomfort of general anesthesia with its resultant nausea.

The operations named by no means exhaust the list of those which the writer has performed without anesthesia; but they are sufficient to indicate the class of procedures to which this method may be applied with safety and satisfaction.

Now, with reference to the amount of pain caused by operations of the nature of those just mentioned, I am sure that it is much less than would be expected without experience. It is never such as to call for the least restraint in patients who have reached the age of reason. It is rarely such as to cause the patient to flinch in the slightest degree or to interfere with the progress of the operation. It is rarely sufficient to cause the patient to make any outcry.

The various tissues of the body differ greatly in sensibility to pain. The integument, as is well known, is quite sensitive, and, for this reason, the primary incision should be made quickly and with a sharp instrument. Under these circumstances, patients seem to suffer but little more than by the introduction of the needle for local anesthesia. The use of sharp retractors is comparatively painful and these instruments should be avoided whenever they can be replaced by blunt retractors. Nerve trunks are, of course, sensitive, and the pinching of nerve filaments with forceps causes acute pain. With some attention to this point of removing any forceps that is seen to cause pain and avoiding pressure on the nerve trunks, but little trouble will be experienced from this source. The parietal peritoneum is exquisitely sensitive and its edges in the incison should not be clamped unnecessarily. The peritoneal viscera are not sensitive. The stomach and intestines may be cut and sewed without causing pain, but traction on their attachments gives rise to a dull pain, which is much complained of if the traction is strong. Separation of recent peritoneal adhesions causes but slight pain. Chiseling and drilling of bones causes but little pain, usually none whatever. Contrary to the common belief, I have not found that the blows of the mallet in chiseling the skull give rise to any shock, depression, or mental confusion and this is an observation which I have made on many occasions.

Amputations are made quickly, but without undue haste, and give rise to surprisingly little pain.

In conclusion let me call attention to certain conditions necessary to success in operating without anesthesia:

1. There should be a good and sufficient reason for withholding the anesthetic.

2. The consent and cooperation of the patient must be secured. With proper presentation of the matter, this can almost always be accomplished. Even little children, foreigners who must be approached through an interpreter, and delirious patients are amenable to the necessary arguments in many instances.

3. No restraint whatever should be employed except in the case of children who have not yet reached the age of reason.

4. There should always be given the promise of an anesthetic in case the pain should prove unendurable. Fulfilment of this promise is rarely necessary.

5. An occasional rest, at the request of the patient, during a prolonged operation, is always advisable.

6. A full understanding of the nature of the operation should be had with adult patients, and information from time to time as to the progress of the operation has a marked effect in promoting their endurance.

7. A word of warning to the patient, when painful parts of the operation are coming, such as the primary incision, cutting the parietal peritoneum, and the section of nerve trunks, will be advantageous.

8. As a rule it is well to screen the field of operation from the patient's view.

Finally let me say that it is not within the surgeon's province to inflict unnecessary pain, but that his primary aim is to save life; and, when the induction of anesthesia appreciably increases the danger of operation, his courage should rise superior to the natural pity which inspires him and he should give a willing patient every additional chance for recovery.

FOUR CASES OF CHANCRE OF THE LIP.

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NOTWITHSTANDING the enormous number of observations to the contrary, the general opinion still regards syphilis as an exclusively venereal disease, and as long as this opinion holds sway, so long will cases of extragenital infection be of interest and of value. Of course we all recognize the possibility of such occurrences, but in ordinary history taking, how often is the possibility overlooked! And if this tendency is common in the profession, it is almost universal in the general public, to whom we must look for support in all efforts at prevention. If the mass of people can be brought to understand that every case of syphilis is a menace, not only to those with whom he may hold sexual congress, but also to all whom he meets in his daily life, they may be persuaded of the necessity of some sanitary regulation of these patients. That extragenital chancres are by no means rare is shown by the fact that the four cases here described all applied within a period of four and one-half months.

The modes of transmission are innumerable. In Bulkley's very thorough monograph, "Syphilis Insontium," may be found well authenticated instances of the most curious and unexpected carriers of the infection, as well as of the more common, such as pipes, knives, forks, towels, and, most frequent of all, the lips. Still more common than the cases in which the contagion can be traced to its source, and more important also, as showing the wide diffusion of the disease and the danger of infection from apparently harmless objects, are those whose origi is entirely obscure. The cases here recorded belon to the latter class. They occurred in the service o Dr. L. Duncan Bulkley at the New York Skin an Cancer Hospital, and to him I am indebted for th privilege of reporting them.

CASE I.—Female, single, aged 20 years. Sh denies absolutely all kissing on the mouth, and do not know of the existence of any disease of the mout or lips among any of her friends or acquaintance About the end of May, 1904, a sore appeared on th right side of the vermilion border of the upper li and a little later another formed on the left side o the lower lip. Both grew worse in spite of loca treatment, and when first seen, July 1, 1904, ther was on the right upper lip a shallow ulcer, with broad, cartilaginous base. On the left lower lip wa a somewhat similar ulcer, but smaller, and with les induration. The submaxillary glands were enlarge and there was a mucous patch on the right tons and a macular syphilide over the lower chest an abdomen. The patient complained of headache insomnia and weakness. It was at first thought that the case might be one of double chancre, but the progress of the lesion on the lower lip indicated that this was probably an inflamed mucous patch. After two weeks of mercurial treatment, the constitutional symptoms and the macular eruption had gone, and the lower lip was nearly well, while the upper lip still showed marked induration.

CASE II.—Male, single, aged 36 years. The patient is a man of loose habits, but was able to keep track for several months after the development of his disease, of all the women with whom he had connection, and so far as he could tell, all of them remained well. He seldom smokes a pipe, and never any but his own. In March, 1904, a sore developed on the middle of his upper lip. It lasted about two weeks, and was followed by an eruption on the trunk which disappeared under treatment with mercury by the mouth. In November, 1904, about six weeks after stopping treatment, there was a very severe outbreak of papulopustular syphilides, which yielded quickly to mercurial inunctions.

CASE III.—Male, single, aged 29 years. His habits are loose, but he denies ever having had a chancre, and there is no sore or scar on his penis. During the latter part of the summer, up to the second week in September, 1904, he spent much of his time on a yacht and smoked frequently the pipes of various men. One evening, early in October, he had a severe chill, for which he took ten grains of quinine and some whiskey.. The chill was followed by fever and profuse sweating, but was not repeated, though the patient felt very sick for two days, and has had chilly feelings at intervals ever since. Very soon after this he noticed a sore like a fever blister at the left angle of the mouth. This enlarged until November 11, when it was about one-third of an inch in diameter and covered with a thick, dark crust. The base was indurated, but the induration did not extend beyond the border of the crust. There was a fissure extending one-quarter of an inch onto the buccal surface of the left angle of the mouth. The tonsils and fauces were congested, but no mucous patches were visible. The glands under the left side of the jaw were enlarged. There was a macular syphilide over the entire body, and on the left arm a typical scaly papule. He was given tablets of hydrargyrum cum creta, and a week later the chancre was healed over, though the induration persisted, the congestion of the fauces was gone, and the eruption was fading.

CASE IV.—Male, single, aged 31 years. The patient is a man of loose habits. He denies any sore on his genitals and any previous eruption, and he never observed any eruption on the face or lips of any of the people with whom he came in contact. About two weeks before the appearance of his chancre he smoked the pipe of an acquaintance who had some sort of an eruption on the back of his neck. In May, 1903, the patient noticed a crack on the right side of his lower lip. It soon grew to a small ulcer, and then remained stationary, in spite of various local applications, for about six months. At the end of that time it was burned out, probably with the actual cautery, after which it began to heal from the edges. A little later he suffered from severe pain in the right shin, worse at night. The physician whom he consulted for this pain told him that he had a sore in his mouth. He took medicine and rubbed salve on his leg regularly for six weeks, by which time the lip was healed and the pain was gone. In the spring of 1904 a sore formed on the upper lip, near the left angle of the mouth. This spread, in spite of local treatment, till September, 1904, when he had on the left upper lip a tubercular syphilide about one-quarter of an inch broad and three-quarters of an inch long, with shallow ulceration in places and some loss of tissue. The lesion improved immediately under mixed treatment.

In the first case, the most careful questioning failed to discover any possible source of contagion. The patient was infected apparently, by some accident which might happen to any of us. The location of the initial lesion was somewhat unusual, being on the upper lip, whereas in 30 original cases of chancre of the lip in women, reported by Bulkley (loc. cit.) 21, or 70 per cent. were on the lower lip.

In the remaining cases the mode of infection was probably by kissing, though in the third and fourth a pipe may have been the carrier of the contagion. In the last case it is interesting to note also the long duration of the chancre—six months, according to the patient—and the fact that it remained so long unrecognized. Not till he consulted a second physician for the bone pain was the correct diagnosis made. During all that time, every drinking utensil, every fork or spoon he used, every pipe he smoked, every towel he used upon his face, every barber shop he visited, became a possible means of the spread of the disease. We may never know how many innocent people were infected by this one man, himself unconscious of the danger; but the opportunities for transmission were certainly varied and numberless. It is instances like this that make us wonder, not that extragenital infection should sometimes occur, but that it is not even more common.

616 MADISON AVENUE.

AN UNUSUAL CASE OF PELVIC ABSCESS.*

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IN this present day there are few cases of abdominal or pelvic growths which are not amenable to relief or palliation by surgical treatment. So great has become the safety of exploratory incisions for inspection of possibly infected areas, that it is a procedure commonly resorted to; and it is an unusual case the diagnosis of which is not made apparent to direct visual and manual inspection. The case to be described belongs to this class.

Mrs. B., age 35, primipara, was taken with a miscarriage at the third month. When the writer was called during the absence from town of the family physician, he found her with labor pains; and the fetus was born with no other complication than that of retained placenta, owing to contraction of a rigid cervix. This was removed with placental forceps, and the cavity was washed out with boiled water. When the patient became more at ease, the history was elicited. For about ten days previous to my first visit she had been suffering from chills and fever. The family physician had also found her in the same condition; but these signs had not been distressing, and required little treatment. For a week following the miscarriage, he took charge of case until, on his absence from town, I was again called, and continued afterwards in the case.

At this time the patient had a temperature of 103°, followed by a sweat and a dropping of the temperature to about 99°. Then followed a comfortable interval in which she slept, or felt calm nd easy. The fever began gradually to rise again, until it reached its climax with corresponding increase of restlessness and discomfort. The general picture was that of blood poisoning, and indications pointed to infection at some considerable time previous to the miscarriage; the cause was unknown, all questions upon that point resulting in nothing. In a few days the temperature at its height, reached 106°; and the grave outlook rendered her removal to the hospital necessary.

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*Read before a meeting of the Auburn City Medical Society.

Vaginal examination showed the uterus soft and movable, with no tenderness. High pressure at the right of the uterus showed a hardness and resistance, at the tip of the examining finger, and this elicited much suspicion. A diagnosis was made of pus absorption from some source, and the question arose as to what should be done.

The treatment consisted of nourishing diet, cold packs, when the temperature reached 103°, varying in vigor in proportion to the height of the fever, and always brought much comfort and relief to the patient. Medication at first consisted of unguentum Credé, one drachm, rubbed into the skin twice daily. Slight improvement was noticed at first; but, this failing, an antiseptic containing carbolic acid was added, being injected hypodermically each day, until the physiological effect of the acid became apparent by the smokiness in the urine.

This alternating round of chill, fever, and sweat continued day after day, sometimes better, sometimes worse, with corresponding alteration of hope and despair on the part of watching relatives. At best the temperature when at its maximum reached only 102°; and at worst it ran even to 107° in axilla. The interval of comfort was marked by the patient sleeping and recuperating with clear mind, and unflagging courage, ready for the ensuing fever which followed with unfailing persistence.

The hopeless outlook through this long illness of over a month made surgical interference seem needed, even though the indication was obscure, and during this time council was had three times to determine its advisability. The hardness in the right broad ligament continued. The question arose whether an exploratory incision above with inspection followed by puncture below, might not relieve, if a pus pocket could be found. The friends were ready for operation, if necessary, but opposed the idea in general, for a relative having died in hospital following an operation of last resort, they were strongly prejudiced against another. Operation under prevailing conditions was, therefore, decided against, and the wisdom of this was made apparent at the autopsy.

The illness continued with unabated intensity—chill, fever, and sweat, with gradually approaching physical exhaustion of patient. The picture during the last week was distressing in the extreme. The face was drawn and anxious. The skin was brown, and emaciation was marked, but the mind was clear, until the last few days, when delirium, pain, and labored breathing obscured both mental and physical senses; and the curtain was finally drawn before a scene which had exhausted the emotions of the friends and the resources of the physicians.

With the husband's consent, an autopsy was performed to determine the source of the infection. The abdomen was opened, and inspection made of the pelvis. In general appearance the parts were normal, the uterus was of usual size, freely movable, and without adhesions. The anticipated pus pocket above the right broad ligament was not there, the broad ligament itself was stiff and resisting, but when taken between the thumb and finger it showed little thickening. Had this been an exploratory incision in life, the abdomen would have been closed without anything more being discovered, and the patient would have died, and the friends would have said, as in the other case, that the operation had been instrumental in her death.

However, in continuing the autopsy, the uterus was to be removed for inspection of its interior. On cutting around it, and reaching the right broad ligament, its folds were severed, and a little pus oozed out. Inserting the finger in the opening, the hole was followed outward and backward to the wall of the pelvis where, extraperitoneally was found a considerable cavity lying against the bare muscles and tendons. This contained a greenish slimy pus, and extended backward as far as the sacrum, and showed that the severity of the infection from which the patient suffered was based upon this large area of pus absorption. This cavity was strictly pelvic, and no trace of bony caries could be found.

Examination of the interior of the uterus showed nothing except a few drops of yellow pus in the cervix. Bacteriological examination of this pus showed staphylococci; examination of pus from the abscess showed old broken-down corpuscles, and no bacteria. The radically different results of the two examinations was striking, and raised the doubt if the source of the pus in the two cases could be the same. The present belief of the writer is that the original source of the infection was from the uterus.

While there is a saying that desperate situations may require desperate remedies, it does not follow that it is always wise to use them. A vaginal puncture in the right direction might have reached the pus; but the indications in life were insufficient to show where to direct it, and only the autopsy finally revealed the nature and location of the cause of death.

EAR COMPLICATIONS OF SCARLET FEVER, AND THEIR TREATMENT.*

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THE frequency of ear complications during the course of scarlet fever and their serious consequences, lead one to regard the subject as of the greatest importance to the general practitioner. This opinion is intensified by a study of the statistics. In 1880 Burkhardt-Merian[1] reported of 4,309 cases of deaf mutism collected from various authorities and countries, 445 to be from scarlet fever, about 10 1-3 per cent. He himself speaks of 85 ear cases due to scarlet fever, of which 72 were bilateral.

In 1898 at the Willard Parker Hospital[2] of 386 cases of scarlet fever admitted, otitis complicated 77, and in 33 of those both ears were affected; and in 1899 of 387 cases of scarlet fever, otitis developed in 43 with 23 double. Thus, out of 773 cases, nearly 20 per cent. were complicated with otitis, and of these one-half presented the sad spectacle of a bilateral otitis. In 1901 Le Marc'hadour[3] reports that of 339 cases of scarlet fever, 36 developed otitis—a percentage of 10.65 per cent.

Various epidemics vary in the number of complications and of the severity of the disease. The otitis may be severe in a mild case and vice versa. Each ear may be attacked separately or both simultaneously with different degrees of intensity.

In considering the etiology we must conclude the ear complications are due to one of the following causes: (1) toxins of the disease; (2) extension from the throat; (3) general weakness.

*Read at a meeting of the Harlem Medical Association, November, 1904.

1. Toxins undoubtedly cause those cases (*a*) which occur with the general intoxication of the system at the outset of the disease; (*b*) in which the labyrinth is affected without the middle ear being attacked and cases of panotitis; (*c*) at the period of desquamation; all acute symptoms at this time have usually disappeared, that is during the second and third weeks of the disease; at this time nephritis occurs which is certainly septic; (*d*) the virulence and destruction which follows as a rule in this disease can be accounted for in no other way.

2. Extension from the throat along the Eustachian tube occurs from the intense pharyngitis, pseudomembranous, and diphtheritic angina. Adenoids favor this form.

3. General weakness as in all debilitating diseases predisposes to an otitis. It has also been suggested that in the general wasting, the fat at the opening of the Eustachian tube is absorbed, thus easily allowing the entrance of infection.

Bacteriology places the streptococcus pyogenes[4] as one principally found in the aural discharge. There are also the staphylococcus pyogenes albus and aureus. Fraenkel's pneumococcus or diplococcus, and Friedlander's pneumobacillus. The Klebs-Loeffler bacillus is found in later cultures and seems to develop when the system is somewhat weakened.

The streptococci[6] undoubtedly do the mischief in the destruction of bone and the formation of sinus thrombosis, while the diplococci are responsible for epidural abcess. Therefore, by many the streptococci have been considered the germs of scarlet fever and the curative serum adopted has been the antistreptococcus. But no specific organisms have been isolated thus far; one set may be active for a time and then may be replaced by another or a mixed infection may exist.

External Ear.—The general rash of the disease affects the auricle, causing a dermatitis. Sometimes the canal becomes swollen, causing some discomfort. These usually pass away with the acute symptoms of the disease.

Middle Ear.—The inflammation of the middle ear is distinguished by two varieties; the catarrhal and the purulent. The catarrhal variety is as a rule mild. The tympanum usually contains more or less serous exudation mixed with mucus. The drum membrane is somewhat congested, but very often of a peculiar bright appearance, and the level of the exudate can usually be seen. The exudation consists of mucus, some pus, and epithelial cells. If the process is severe, the membrane loses its luster and may bulge.

The purulent type, which is the more frequent, is usually severe. The congestion generally begins in the upper part of the membrane, extends down along the handle of the malleus. This is quickly followed by a transudation of the fluid elements of the blood and a migration of the white blood cells. Thus a general edematous condition exists, choking off the circulation and necrosis follows. The membrane is completely bulged out and may perforate and is soon destroyed to a great extent. The secretion varies in character and quantity, at first seropurulent, later it becomes decidedly purulent. The ossicles become carious. The pus may burrow between the mucous membrane and the bone.

A small proportion of cases recover at the termination of the active stage, others degenerate into a condition of chronicity, which is either characterized by more or less abundant secretion, or else marked by a hyperplasia of the mucous membrane with adhesions between the various parts. The first variety will have more or less exposed necrosed bony tissue with frequently a foul odor and granulations or polypi will develop.

The examination of the tympanum is easily accomplished, and should be a routine measure. The largest speculum possible should be used. In the adult, draw the auticle upwards and backwards; in children backwards and in infants downwards and look upwards. To examine infants' ears quite a little practice is required.

The mastoid and the lateral sinus may become involved by the backward extension of the process.

The *internal ear* may become affected through the fenestræ connecting with the labyrinth.

Meningeal and brain complications may arise, especially in children on account of the dehiscences which exist above, and from the intimate connection of the dura matter with the lining membrane of the tympanum.

Thrombosis of the jugular bulb may arise from the extension of the inflammation through the floor of the cavity.

Any continued unaccounted-for temperature, and during the second or third week any rise in temperature should attract attention to the ears. The attack may be accompanied by pain that may be slight or so severe as to lead to convulsive attacks and even coma. The temperature varies from almost normal to 101° or 102° and even higher. The pulse also varies, but is usually accelerated. The children or infants may or may not put their fingers to their ears or bury their heads in the pillows. Many times with no rise of temperature, and only perhaps a slight restlessness, a sudden appearance of discharge will denote a preexisting otitis.

The catarrhal form presents the same symptoms as the purulent, but of a much milder type. Adults and older children complain of pain on opening the mouth, deglutition, coughing, or any movement of the auricle; throbbing, tinnitus, fullness in the ears, with perhaps fever and delirium.

When the mastoid becomes involved unless primarily, the discharge from the middle ear lessens, there is a swelling of the superior posterior canal wall with tenderness which varies over the antrum, tip, and other parts of the bone. If a perforation of the cortex takes place there is fluctuation behind the ear. In infants the pus may escape through the Rivinian segment, make its way along the superior wall of the canal and cause projection of the auricle. There may also be a swelling of the posterior auricular glands, or one along the course of the sternocleidomastoid muscle.

When the cerebrum or cerebellum is affected, there are pain in the head, drowsiness or violent delirium, disordered speech, convulsions, optic neuritis, vomiting, constipation, and paresis of various kinds.

Sinus involvement presents the symptoms of pyæmia.

Labyrinthian complications with or without effect on drum membrane, cause high fever, intense vertigo, more or less pain, nausea, troublesome tinnitus, and impaired or lost hearing on one or both sides. Frequently this is the cause of deaf mutism.

Treatment.—For the swelling, itching, etc., of the external ear, usually a mild dusting powder, as starch, talcum, or magnesium carbonate either alone or in combination, suffices.

In middle ear disease pain is best treated with hot water irrigations using from a pint to a quart in a douche jar or bag about one foot over the head, the stream being directed to the sides of the canal. A hot water bag applied to the ear also aids. A hypodermic injection of morphine sometimes shortens an attack. Local abstraction of blood with an artificial or natural leech over the tragus may control the trouble. Watery solutions of cocaine, atropine, or tincture of opium dropped into the canal occasionally give relief.

Oil should never be used. Saturating cotton with chloroform and blowing the vapor into the meatus sometimes acts nicely. The nose and throat should be swabbed or irrigated and kept clear of mucus. The bowels should be moved freely. A gentle inflation will sometimes dispel a plug of mucus from the origin of the Eustachian tube, and allow drainage. I have seen relief at times with one of the coal tar analgesics, dose according to the age. A 10 to 12 per cent. solution of carbolic acid in glycerin soaked in a piece of gauze and applied directly to drum membrane, by its exosmotic action, has frequently given very satisfactory results. It can be changed every six to twenty-four hours as indicated.

If the attack is not aborted and pain does not stop, the drum membrane will show signs of active congestion and even bulging. This should not be allowed to rupture spontaneously as the perforation is jagged, does not heal well, and always causes loss of audition. Paracentesis should be performed immediately. There should be no delay. The pain will be relieved, the prognosis is more favorable as the drum hears better, and what is most important the system is relieved of infectious material as soon as possible. For adults and older children I use general anesthesia with ethyl chloride or nitrous oxide while operating. Infants can be held without much difficulty. With local anesthetics I have had no satisfactory results. Cocaine is not absorbed. Anilin oil and cocaine have given toxic symptoms. Equal parts of menthol, carbolic acid, and alcohol have only been occasionally successful.

To operate, the canal should be thoroughly cleansed with a solution of 1-4000 bichloride or mopped out with peroxide of hydrogen. Then with good illumination, the knife should pass through the bulging portion or from the point at the center of the posterior section to the lower border of the membrane close to its bony attachment by a curved incision, that is, through the posterior inferior segment. At the same time I incise the mucous membrane of the internal tympanic wall and the posterior superior canal for one-fourth of an inch, down to the bone, securing thorough depletion.

If the membrane has ruptured spontaneously one should always examine to see if there is sufficient drainage; if not, a free incision should be made, including the perforation in its path. I prefer a straight knife, but one at an angle can be used. The instrument should be exceedingly sharp so as to pass through the membrane by its own weight. After the operation I irrigate with bichloride 1-5000, pack the canal lightly with sterile gauze, put a pad of cotton over the ear, and retain the whole with a bandage, which I usually leave undisturbed for 24 hours, directing the patient to lie on the side affected to facilitate drainage. When the dressing is removed I order irrigation in accordance with amount of discharge. Some cases heal in a few days.

The discharge which is at first serous, later often becomes purulent and profuse. The cleansing may be needed every two or three hours. Sterile water, decinormal salt solution, saturated solution of boric acid, or a solution of 1-5000 or 1-10000 bichloride can be used. Cotton used in the external canal should be changed frequently. These cases can also be treated by the dry method, when they can be closely watched. The car is cleaned, dried, and strips of gauze introduced daily for drainage. In the majority of cases thus treated excellent results have been obtained.

Still a third method is to syringe the ear, use hydrogen peroxide, and syringe again. The ear is then mopped out and dried, and this is followed by repeated instillations of alcohol, diluted if painful in its full strength. I strongly oppose the use of peroxide of hydrogen, as I have seen one, and I am almost sure two, cases of mastoid involvement due to its use.

The use of powders as boracic acid, iodoform, etc., is excellent when discharge is slight and for irritation in the canal. Care must be taken not to block up the opening in the drum membrane. The powder may remain until moistened by the discharge.

Towards the end of the acute stage, inflation with the Politzer bag or Eustachian catheter helps to get rid of pus and prevents adhesions.

If the discharge continues and a chronic condition remains the ear must be kept clean. Various astringents can be used, granulations should be cauterized, and polypi removed. If there is much exposed bone, an offensive discharge, and polypi, the safest course is a radical operation. Many a facial paralysis and dural abscess with brain involvement would be avoided by an early adoption of this procedure.

If the mastoid is involved, I apply an ice bag or the Leiter coil for twenty-four hours with rest in bed, light diet, cathartics, and frequent irrigation of the canal. There must be a free opening in the tympanic membrane. If pain ceases, I stop the cold for twelve hours and when necessary reapply it for the same length of time. If the symptoms still continue I urge operation. I give no opiates to disguise symptoms, nor employ leeching or iodine over the mastoid as it prevents proper examination for tenderness.

In closing my paper, I wish to emphasize: 1. The necessity of paying attention to the removal of hypertrophied tonsils, adenoid vegetations, and nasal obstructions in all of our little patients, so that when subjected to the strain of scarlet fever they may avoid the principal method of ear infection. 2. Owing to the rapidity with which destruction of aural tissue and extension of infection take place in this disease, as soon as the tympanum shows signs of exudation and the membrane of bulging, a paracentesis should be immediately performed. 3. Repeated examinations of the ear, especially in infants and children, should be made on account of the uncertainty of the symptons.

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The Suture of Perineal Lacerations.—H. Rose places the necessary sutures immediately after the birth of the child before the expulsion of the placenta. Only the first half of a surgical knot is tied and the ends of the threads are fastened to the buttock with a piece of adhesive plaster. After the completion of the third stage the sutures are tightened and the second knot tied. The author claims for the method the advantage of prompt closure of the wound, thus lessening danger of infection and greater ease of orientation in the tissues before they have had time to retract, and avoidance of increase in the tear caused by the passage of the placenta.—*Zentralblatt für Gynäkologie.*

THE EPILEPTIC CRIMINAL; WITH REPORT OF TWO CASES.

By T. H. EVANS, M.D.,
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It is not necessary to call to mind how much influence medicine has exerted in the modern treatment of criminals. We know the jurist has us to thank for his understanding of dipsomania, pyromania, homicidal mania, erotomania, kleptomania, hysterical assaults, and the "temporary instanity" so often mentioned in connection with suicide. That some abuse of these terms may exist, I cannot deny. But the recognition of the nature of *fixed ideas* and "uncontrollable impulses" has been an immense step forward in the interests of humanity.

The next step is the recognition of borderland states in which the patient commits crime under abnormal stress, yet with all the appearance of sanity. It is conceivable that a man may know he does a criminal act, and yet so strong may physical influence be upon him that his will cannot determine his course with the freedom and responsibility of the average individual.

This condition occurs in epilepsy; it is not constant in all cases, but approached by the majority. The reaction of the hypertonic cells is swifter and less in accord with considerate impulse, while in or near epileptic seizures the reflective consciousness of the individual recedes to the vanishing point.

When we admit the physical dangers of contagious disease, it is remarkable that at this late day so few voices urge the need of restraint of such irresponsibles as epileptics. The infinite gradations of this morbid process allow room for all the borderland states imaginable; here is the seed of major convulsions, or psychic outbursts, which may be harmful not only to the patient himself, but to innocent members of the community. These, it would seem just, should have grounds for civil suit when injured in person or property by epileptics or, indeed, any other irresponsibles. In my judgment, the suit should lie as much against the community as the particular, but irresponsible (though criminal) agent.

Case I.—L. E. St. H. G., aged 24, Latin-American. Married March, 1904. Committed a homicide two weeks after. Convicted May, 1904. Sentenced to be hanged (sentence not yet carried out). The patient has been a sufferer from grand and petit mal, with psychic equivalents, ever since youth.

At the age of 8 he ran away from his parents in Kingston, Jamaica, W. I., to join a ship. Since then his life has been largely on the sea, although he has occupied positions of some confidence and trust during the last four years in Philadelphia and other cities. On two occasions within the last seven years attacks of grand mal have occurred. The first, on shipboard, was in New York Harbor, when he fell some distance to the deck of the ship. He was sick for several months afterward as the result of head injuries received. In September, 1899, while in Philadelphia, he was attacked with what was thought to be sunstroke; this was in front of his lodging house. The symptoms as he describes them do not indicate sunstroke. The day after, although feeling confused to some extent, he was able to go to the ship for which he had signed. He has always been of an irritable temperament, and when excited, although of a timid disposition in general matters, may even be provoked into a blind and fighting rage. He bears yet scars as evidence of wounds received in accidents or physical encounters in this connection.

The patient is an undersized man, with numerous though not strongly pronounced stigmata of degeneration. The face is narrow and rather elongated, dolichocephalic, ears protruding, rather scanty growth of hair, the eyes are close-set, the nose slender and delicate, mandible slight, but not prognathous. The skeletal development is delicate; the shoulders narrow. There is some scoliosis. The eyes are anisometropic and astigmatic. The man has been of a studious temperament, with all his lack of education. He is well read, and has read more or less constantly ever since he picked up by his own efforts the rudiments of general knowledge. He has a furtive, nervous glance, and the brow furrow so often associated with cases of astigmatism and anisometropia.

Four years ago he received employment as doorkeeper in a prominent club. He also assisted in the work generally, being accorded considerable trust. In his spare time, while so employed, he would read the newspapers and magazines at hand, and suffered very much from headache. During this time, as his physician, I treated him for nervousness, acute attacks of coryza, and gastrointestinal disorders, to all of which he was continually subject. Two years ago, with the symptoms of eye-strain in my mind, and before me, I had his eyes refracted. This was done at a hospital eye dispensary. The lenses gave him no comfort, and the eye-strain symptoms did not vary.[1]

His nervousness increased. While he has no negro blood in him, so far as I can trace his parentage and family for three generations, he has a dark complexion, and some signs of mixed blood. His approaching marriage with a young girl was bitterly opposed both by her parents and his associates on the ground that he was a "nigger." This aroused him to a condition of intense excitement. About a year ago, for some irregularities in his work, he was discharged twice, but in each instance taken on again after a week or so. To some friends he began to talk in an expansive manner, intimating that he was essential to the carrying on of the place. He also intimated that members of the club would offer him frequently the use of their rain coats and umbrellas, and that his parents were very wealthy, having the ownership of immense sugar refineries in the West Indies. These states of mind would vary with attacks of depression, in which he would say that life was "not worth living, for all you could do, anyway." During this time his memory, never of the best, weakened. His condition at this time I have learned since by conversation with him and his associates, then having been personally in Europe. In the fall, with his temporary separation from his wife to be, his condition improved. Indeed, so veiled were these psychic equivalents, and so remote from our minds was the possibility of his being an epileptic—for it was not until his crime was committed that we were able to look into his case—not till then did we communicate with his former physicians in Jamaica and learn his past and definite epileptic history.

His father committed suicide at the age of 40. Two cousins have been confined in lunatic asylums. His father and two other near relatives have been subjects of alcoholism. But this information[2] from Jamaica was not received until after his conviction, which occurred within seven weeks of the crime. This is an example of the pernicious effects of what is called "railroading."

It was within three weeks of his marriage that, with the loss of work, he and his wife were, as he said, "up against it." There was no help to be expected from her parents. He went out to the club to collect some money still due him for wages. It was Sunday afternoon. In the morning he had been nervous, absent-minded, and morose. He reached the club in the late afternoon, expecting to meet the manager, as he was told. Just what occurred we shall never know, for at that time the criminal and his victim were the only occupants of the building for the space of the scant twenty-five minutes during which everything occurred. A money drawer was opened; this constituted, technically, a mere act of larceny, not of robbery. He was met by the night watchman, with whom he had always been on good terms, though of slight acquaintance. The manager, with whom he had had several disputes, did not appear. The first encounter resulted in G. having two fingers badly bitten and receiving several staggering blows. By some means a poker was obtained and the watchman felled. Then the intruder secured from a place with which he was well acquainted, and which was in sight of where they were fighting, a hatchet. With this he showered frightful and wild blows upon the watchman. He does not remember his journey home. He says he does not remember what occurred after the first encounter.

When he reached home he had no money. He told his wife that he had been attacked on a lonely bridge. In the morning, when arrested, he claimed not to know why. Within three days two separate and conflicting confessions had been extorted from him by detectives, who put him through what is called the "third degree." The evidence as it appeared in court will sustain me in this. One detective admitted that when it seemed necessary they would use "pressure." I mention this to bring out the idea of the influence of "suggestion."

Experts at trial were not able to testify to his irresponsibility so far as their examinations during the brief time before would indicate.

It was not brought out that for three years before this, on account of intense and prostrating headaches, the patient had been in the habit of taking from three to five patent headache powders, daily. The depressive effect of bromide taken in long-continued, steady dosage, is to be remembered. Bromides do not cure headache, nor do they cure epilepsy. Psychic equivalents are very obstinate to all treatment, and are likely to appear in patients subject to grand mal under the influence of bromide.

In prison, since his conviction, it has been impossible to exercise any observation on the prisoner to determine his exact mental state. Even in well-regulated asylums many attacks escape observation.

The man shows many other epileptic stigmata. He is rapid and impulsive in speech, intensely emotional, and shows not only now, but in his past history, symptoms of sexual degeneracy. He complains of headache yet. He says his parents appear to him in his cell, and look worried. He has other sensory disturbances, and psychic irregularities.

Should such a man be held responsible to the limit of the law, for criminal acts which he may have done?[3]

CASE II.—Miss X. Y., aged about 28, in the summer of 1903, attempted to kill her lover in an excess of jealousy. He was stabbed directly in the heart, and she was held for the result of his injuries. As it happened, skillful and unusual surgery—stitching of the myocardium—saved the man's life. If the skill of the surgeon had not achieved this favorable outcome, her life most certainly would have paid the forfeit. The question arises, hereafter if any surgeon in a like case should fail to accomplish as successful results, on whom should fall the blame of the victim's death? Murder is exactly a matter of moral intention. The law constructs it as a formula. All of which should show the futility and injustice of punishment. We, of course, may advocate restraint.

In this case the woman appears to be of a borderland epileptic type, and of tainted parentage. The existence of these borderland states of epilepsy should warn us of the difficulty of determining just where punishment may be due, if we continue to insist on punishment at all. With the recovery of her victim, and his forgiveness, I believe a marriage has taken place.

Having these and other cases in mind we should arrive at conclusions, among which the following:

1. The essence of crime is in the intention, and the ability not so to intend.
2. No punishment is adequate to any crime; restraint not only after a crime has been committed, but effort to hinder any such deed, is preferable always.
3. The victims of epileptics ought to have legal ground for suit against the community as well as those in charge of the epileptic.
4. Reservations ought to be established, in which degenerates and the morally irresponsible could be colonized and treated, allowing all possible freedom of initiative for useful and safe pursuits therein.
5. Marriage of neurotics should be regulated. We can afford to lose the few sane descendants if we could also cut out their degenerate progeny. Democratic principles encourage, in this as in other matters, the average, and discourage the exceptional or abnormal—great or small.
6. All epileptics are to be viewed with suspicion. Many cases of psychic erraticism, cranks, and mistaken reformers, are to be taken as examples of epileptic psychic equivalents. The major forms of epilepsy may not prove so dangerous to the community as these veiled manifestations.

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HIGHER EDUCATION A CAUSE OF PHYSICAL DECAY IN WOMEN.*

BY F. W. VAN DYKE, M.D.,
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THE causes of physical decay in women are numerous and varied, and in the few moments that a allowed me, I can only touch disconnectedly on th one, but most important aspect of the case.

Education, in itself a most necessary thing, h been enlarged and developed, so that among t daughters of the rich and well-to-do, and to a certa extent among the poor, no girl is considered cultur unless she has broken her health down trying learn music, Sanscrit roots, Browning and Emers at some fashionable female college. Girls are tak at a tender age, put into elementary schools, rush through the high schools, academies, and colleg without the slightest regard to health or capacity, t frequently for their well-being. At a time wh they should be in the open air playing, or at lea studying within their limits, they are forced to t utmost effort that they are capable of, for unfo tunately the curricula of all schools, colleges, a universities, are no longer constructed to fit the ave age pupil, but the talented, and as the majority scholars belong to the first class, the strain must intense almost to the breaking point. Of wh earthly use to the ordinary woman is a smatteri of Latin, Greek, the higher mathematics, music, and all such branches of learning? If a woman is to be a teacher, or is very talented, well and good, for there is no difference between a smart man and a smart woman; both should be learned and use their talents for their fellows' good. But nature has ordained that the vast majority of women shall become wives and mothers, and if they are exhausted mentally as well as physically, how is it possible to keep the race strong and healthy?

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*Presidential address before the Oregon State Medi Society.

The craze to have every girl taught to strum on the piano regardless of talent is alone a prolific source of ill-health. Think of the money, force, and nerve power that are squandered every year on this one branch alone, and not one pupil out of five hundred can play "Hiawatha" with a correct musical interpretation. Louis Blumenberg, the 'cello soloist, said in a recent article in the *New York Musical Courier*, that in that city alone there are 25,000 piano students, and aside from the well-known professionals, not twelve of them could play Beethoven, Mozart, Chopin, or Wagner, and hardly one of this vast number could play anything at sight. If, then, there is this great waste of health and force, to say nothing of money, in the effort to teach music to girls with no talent, how must it be in colleges, where young women sacrifice their time and vitality on such problems as the whenceness of the which, psychology, and other speculative studies of no use to any one whatever, while all those things that should fit them to become wives and mothers, robust and healthy as the typical Roman matron, are sadly neglected. Every physician knows that the cramming process, in the vast majority of cases, when applied to mediocrity, is the most frequent cause of hysteria, neurasthenia, dyspepsia, astigmatism, and dysmenorrhea. Still year after year, this thing goes on like an endless curse, with constantly increasing physical disability to the women of the country. Of all these products of the higher education, or culture, call it what you will, about one half marry and produce an average of a child and one-quarter each, showing how merciless nature is in her effort to eliminate the unworthy. When these women marry, are they physically qualified to become wives and helpmeets for their husbands? That great passion which moves the world, which we call love, exists not for the majority of them. Love, aside from the bonds of consanguinity, is founded on sexuality, and a normal healthy sexuality is based on physical health. The duties of marriage rest with crushing weight on these women, and the union of the sexes, which should be as pleasurable and satisfying to the female as to the male, is practically unknown. Nature made no mistake when she originally gave desire to woman as well as to man, for it was intended to recompense her in some measure for the trials of pregnancy, and to sustain her in her hour of pain. The most perfect life, in the married state, rests on the sex element being well developed in the woman, and just as the spermatozoön, when it comes in contact with ovum, melts and fuses with it to form a perfect whole, so with man and woman, when she is normal sexually, the ideal conditions result which produces harmony, faithfulness, and unity. Then, indeed, do husband and wife become one, and no temptation can ever break the ties of love. In these happy instances divorce never takes place, and marital infidelity on the part of the man is almost unknown. Without this amativeness in the female, marriage sooner or later becomes loveless with all its attending train of evils. Wives lose affection for their husbands, and cleave to their children where no love ardor exists. Confinement in school and hard study kill desire in the woman, and also take away the physical beauty so attractive to man, and then intercourse, which should be the very apotheosis of love, becomes disgusting or is submitted to only as a painful duty, too often accompanied by further ill-health. If it be true that the literature of a nation reflects the characteristics of the people, what sexually perfect women there were in the days when the *Decameron* and *Heptameron* were written! Tannhäuser, the minstrel knight, after leaving the Venusberg, where he had lived with the Goddess of Love for a year, meets his former companions at a tournament of song, the subject of which is "Love." Tannhäuser, in an ecstacy of joy, and forgetful of his surroundings, when his turn came broke into the following impassioned lay to Venus: "Wer dich mit Gluth in seine Arme geschlossen, was Liebe ist, kennt er nur allein"; "He who with passion hath once embraced thee, can speak of love, none else its joys can prove." And why this burning tribute to Venus, which came so near costing Tannhäuser his life? Simply because she symbolized that which has ever been held precious in women, viz., beauty, grace, and that type of love which can endure much and suffer long. Imagine if you can a novelist writing in this vein: "She was pale, thin, and plain looking, with a peevish temper caused by ill-health, but Armand loved her devotedly, passionately, although lacking youth, beauty, and of a cold nature, for great was her knowledge of Theosophy, the lore of the ancients, and differential and integral calculus." Why, even Marie Corelli or Mary Johnson would not think of a man falling in love with such a heroine. Venus knew not Plato, Socrates, Browning, or Emerson, but she had the qualities that enslaved men and held them with chains of gold. The modern University graduate might know all those things that the Goddess of Love knew not, she might command respect for her intellectual gifts, but her ability to confer happiness and raise strong vigorous offspring is very limited. Pregnancy is dreaded as a calamity. Nausea, vomiting, swelling of veins, albuminuria, and other complaints more or less incidental to the pregnant state are seldom found wanting with these poor creatures. Many miscarry from sheer weakness, and only regain their usual health and strength after a prolonged period of invalidism. Without going further into this branch of the subject, how does it fare with these women in their hour of greatest suffering? If every physician in this room were asked, What are the two great difficulties encountered in so many confinements? it is safe to say the answer would be, "uterine inertia, and a slight disproportion between the fetal head and the pelvic diameters of the mother." This would be a correct answer, for a sedentary life, with hard study and lack of sufficient outdoor exercise, weakens the body and arrests the natural development of the pelvis, while the same causes enlarge the fetal head because of the increased size of the child's brain. If pains are strong enough, labor is aggravatingly slow, and the attending doctor too often puts on the forceps and the usual results follow, namely, tears and lacerations, and indeed, often enough when the labor is natural, the patient, in the common parlance of the laity, has to be "sewed up," and even then she frequently is more or less of an invalid for life. Are the diameters of the fetal head and the maternal pelvis normal, in very many instances obstinate inertia complicates the case, and that which nature intended should be a physiological process, through our artificial civilization, coupled with a contempt for nature's laws, has well nigh become pathological.

Of the children born by these women, the lack of time forbids me to go into detail; every physician knows their shortcomings and limitations better than I can describe them. It is not to be assumed from this paper that the sole object of a woman's life is to marry and raise children, nor should she be brought up in ignorance. A woman with talent or genius should have it developed to the fullest extent, but the constant effort being made to make ordinary ability keep pace with well defined talent, is predestined to failure, because of the inexorable laws governing our being. The draught horse can not turn the race track with the fleet trotter, but he is none the less valuable for that; on the other hand, the world could dispense with the racer, but the faithful, honest beast of toil is a necessity. How is this state of affairs to be changed? It cannot be done in a day or a year, but as it was a thing of slow growth, so by degrees we must return to health and happiness. Revise the studies of schools and colleges to suit the majority, and let no girl be forced to go beyond her capacity to learn with a moderate amount of application. Cease torturing girls with the piano when they have no talent, for if they have a love of music in their hearts, they will work at it with pleasure for art's sake alone. Music is a most jealous mistress and demands much talent and labor before she will yield herself. One of the greatest fallacies of the times is the idea that a person to be interesting must be educated, when the truth is, that if uninteresting while uneducated, mere polish will not make one attractive.

Hercules in his struggle with Antæus discovered that when his antagonist touched mother earth, he gained strength, and could only be crushed by holding him from the ground. Is not this emblematic of the deterioration and ultimate decay that await those who shut themselves up with books, and close their eyes to the great open page of nature? Penelope the faithful wife, Cornelia the proud mother, whose children were her jewels, Thusnelda, the ideal of the ancient Germans, and St. Elizabeth the personification of Christian faith and charity, knew nothing of soul yearnings, telepathy, psychology, and other useless things, but they possessed those womanly qualities which have sent their names down the ages, and will continue to do so, until the name of the last graduate of the woman's college shall have faded from the recollection of men forever.

Resection of the Stomach.—Rydygier describes a new operation in two stages intended for the removal of large pyloric growths. The steps are as follows: First operation—The usual median incision; section through the stomach on the cardial side of the tumor after the application of clamps; cutting the jejunum across 30-40 cm. below the duodeno-jejunal fold; insertion of the proximal stump into the side of the distal one, at a point 15 cm. below the line of section and insertion of the free end of the jejunum into the lower end of the gastric wound, which is closed up to this point. Then a stomach tube is passed through the pylorus well into the duodenum, and the pyloric stump sutured into the skin incision, which is closed up to the point of emergence of the tube. Second operation—The wound is reopened and the pylorus with adjoining structures, and, if need be, part of the duodenum, is removed, and the duodenal stump closed and dropped back. Permanent suture of abdominal incision. The method offers the following advantages; it is less dangerous, since it is in two sessions, and the patient can immediately be given forced feeding through the stomach tube. No food comes in contact with the newly sutured stomach. The patient is forced to submit to a second operation, which is often refused if a simple gastroenterostomy be done at the first sitting. The conditions are most favorable for complete extirpation of the growth.—*Zentralblatt für Chirurgie.*

The Medical Aspects of Acute Appendicitis.—Andrew MacFarland declares that the surgeon is apt to base his statements upon the severe forms of appendicitis which he meets, and does not include in his view the vast majority of cases which run a mild course, do not need operation, and recover perfectly. The object of the physician should be to ascertain the method of treatment which in general gives the best results for the class of cases which come under his care, and to modify such treatment in any individual case as the condition warrants. Under any circumstance, there will be some mortality rate, whether the treatment be medical or surgical. The writer gives statistics from various sources which are in favor of medical treatment. Personally, he has never had a case of acute appendicitis die, nor has one been operated upon in the acute stage. General statistics contradict the statement that appendicitis has become far more frequent and virulent. The apparent increase is due to an improvement in diagnosis. Cases of acute appendicitis recover without operation in from 90 per cent. to 95 per cent. of cases, and relapses occur in not more than one-fourth of the cases. This is the mortality rate under every imaginable medical condition, favorable or otherwise, while Deaver and Richardson have a mortality rate of 5 per cent.—these cases having the best of surgical care. The importance of intestinal quiet in preventing the extension of infection cannot be overestimated. Examination of the rectum should always be made, especially in women, to distinguish the condition from pelvic inflammation. A careful differential diagnosis should always be made. From study of the blood, it would appear that if the leucocytosis count is low on the fourth day the organism evinces such a poor reactive power that it cannot possibly resist the added exhaustion of an operation. Thus it seems that in these cases nonoperative procedure is necessarily preferable. Absolute rest and complete fixation should be provided. An ice bag applied locally over the appendix, withdrawal of all food except a little sweetened water, which is absorbed by the stomach, and the use of rectal suppositories of opium in moderation to stop intestinal peristalsis and to mitigate pain, seem to attain this end. The bowels are allowed to remain constipated for a week or ten days, and are then gently washed out with normal salt solution. After the subsidence of the acute condition, the question of operation, which is then practically free from mortality, can be considered.—*Albany Medical Annals.*

Total Absence of Patellæ in a Young Child.—Herman F. Senftner reports this case. The patient is the seventh of a family of eight children, all of them living and in perfect health. They are of Irish descent. There is no family history of syphilis, rheumatism, or tuberculosis. The mother states that at the fifth month of gestation, she sustained a sudden fright because of the entrance of a burglar into her apartments. During her entire pregnancy, in her daily walks she was obliged to pass a man living in the lower part of the house, who had been unable to walk since early childhood, although apparently possessing both lower limbs in normal condition. The patient is now 4 years of age, and is very active. There is no history of fall or injury. The writer presents a Röntgen ray photograph showing a total absence of both patellæ, and an absence of the centers of ossification of these bones. The child maintains her lower limbs in a position of hyperextension in order the more easily to support the center of gravity of her body. Her gait resembles the action of a first-class lever with the hip joint as a fulcrum, the thigh and leg being carried forward and backward as a single mass, and immovable, as it were, at the knee joint. The child plays ordinary games. But when it is necessary in any way to flex the knee joint, as in walking upstairs, she is absolutely unable to accomplish the feat.—*Archives of Pediatrics.*

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New York, February 25, 1905.

THE TREATMENT OF PNEUMONIA.

DR. BEVERLEY ROBINSON has recently published in pamphlet form three articles dealing with the treatment of pneumonia, written by him within the past few years. The first of the series, the most recent as to date, appeared in the *American Journal of the Medical Sciences* for December, 1904, and treats of some unsettled and important problems in the treatment of acute lobar pneumonia. Before referring to treatment, the author says a few words in regard to prevention, calling especial attention to some facts which later investigations of others and personal observations render valuable.

He points out that it is known to-day that the pneumococcus is found in the secretions of the throat and mouth of many healthy persons, and for long periods of time. One or more of the contributive causal conditions may render these microorganisms virulent or infective. Is it not then, he asks, specially indicated to make use of antiseptic gargles and mouth-washes frequently when we have reason to fear the possible beginning of pneumonia? This antiseptic mouth-wash, at such times, should have a slightly acid reaction, simply because we know that the pneumococcus does not thrive in an acid medium.

As soon, however, as the first symptoms of chill, fever, pain in the side, cough, and expectoration set in, Dr. Robinson believes that beechwood creosote should be vaporized more or less continuously in the patient's room, as he is confident there is no drug of more preventive value in pneumonia. He doubts the reality in the majority of instances of risk of contagion through the air, although he advises that the best known methods of preventing such an occurrence should be adopted. Emphasis is laid upon the necessity of a large, well-ventilated room, with open fireplace if possible, of two well-trained, careful, judicious, and attentive nurses, of proper assimilable food (mainly milk), of a sufficient quantity of drinking water, and of due attention to the emunctories. In the treatment of acute lobar pneumonia the following propositions are emphasized by the author: 1. To begin judicious rational treatment immediately and to continue it during the attack. 2. The most useful single agent in treatment, preventive and curative, is creosote, used preferably by inhalation, and continued for a sufficient length of time. 3. Strict avoidance of extremes of treatment in any direction, whether it be toward the use of so-called specifics or the employment of certain drugs, notably digitalis and strychnine. 4. It should be graven on our minds that pneumonia may be throttled or minimized most surely in the beginning. Later, when the disease is fully developed, our rôle is inferior, but should consist mainly in doing least harm. 5. Harm is done almost invariably by ignorance or undue enthusiasm.

The second paper of the series is upon the treatment of croupous pneumonia, and is reprinted from the "Transactions of the Association of American Physicians," 1894, vol. ix. In the first stage of croupous pneumonia, the two symptoms which are of special interest as regards the efficacy of treatment are pyrexia and pulmonary congestion. Dr. Robinson has not thought it wise, as a rule, to give the modern antipyretic drugs except in occasional doses. He believes that quinine in doses of 3 to 5 grains every four to six hours is on the whole the most efficacious remedy both to reduce temperature and for its beneficial effects upon the circulation. Of cool baths, cold sponging, etc., as these are usually employed, he has not the high opinion which is professed by so many practitioners. Neither does aconite in the treatment of pneumonia find much favor with him, as he dreads its pernicious action on the heart. The author confesses himself a strong believer in the value of small repeated doses of antimony in the pulmonary congestion and pyrexia of croupous pneumonia. Nitroglycerin, given by the mouth or hypodermically is another drug strongly to be recommended whenever the heart is particularly taxed by reason of the pulmonary congestion and a tendency to edema. The drinking of copious draughts of water is a point especially dwelt upon, a far wiser procedure in the treatment of pneumonia, according to Dr. Robinson, than forcing patients to take milk, beef tea, or broths of different kinds. As to the use of alcohol in this disease, the question is one in which views differ widely. Dr. Robinson avers that in nearly every instance its judicious use should be advised. But he states that the following conditions are absolutely contraindications: 1. Cases in which the patient is already highly plethoric and in which the mass of blood, rich apparently in all nutritive qualities, would merely have this state exaggerated, as it were, by alcohol, which is so readily and rapidly assimilated and thus becomes positively a hindrance to the vital functions. 2. Cases in which the hepatic engorgement and gastric catarrh render the use of alcohol inadvisable because nausea and gastric intolerance are increased by its exhibition even in moderate amount, and thus assimilation of food and water is prevented. For the relief of the heart failure or pulmonary hyperemia—the two dangers most to be feared in the stage of hepatization as well as at the time of the crisis—Dr. Robinson believes in the employment of strychnine in large doses. He is entirely opposed to the use of digitalis, or digitalin, except in very small doses, and then only to control the cardiac irregularity when it occurs. Repeated doses of strong black coffee and alcohol (when not specifically contraindicated) are praised emphatically, but the spirit, brandy or rum, should be old. Coffee or alcohol will be assimilated and hold the vitality of the patient when other food or stimulant will be of little or of no apparent benefit.

The last paper of the series bears the title of "Suggestions as to Prophylaxis, Contagion, and Treatment of Pnemonia," and was first published in the MEDICAL RECORD for February 19, 1898. With regard to the contagiousness of pneumonia, Dr. Robinson, guided solely by his own observations, regards this risk as relatively small, although the testimony of numerous competent observers would seem to prove the contagious character of the disease. The author mentions one matter of much interest in connection with pneumonia, namely, the possibility that one may take pneumonia in part and not necessarily the whole disease. "More than once," he says, "I have noticed that when visiting a hospital ward where pneumonia cases were numerous I have suffered from headache and general malaise. These symptoms I have attributed, when no other sufficient cause was evident, to breathing too much of the poisonous or infective exhalations. Not only my own impression exists that certain symptoms are produced by inhaling either pneumonia, diphtheria, or other poison-laden atmosphere, but the observations of other clinicians corroborate this view. Alongside of numerous morbid manifestations in the localization of the pneumococcus upon different viscera, there exist pathological affections attributable to the same microorganism and in which there is no appreciable organic determination. These are the incomplete, rudimentary forms of the pneumococcus infection."

Prophylactic treatment of pneumonia is based mainly upon its probable origin as a germ disease, and the author recommends washing a catarrhal nose or throat with an antiseptic—such as boric acid solution—in time of epidemic.

DENTITION AS A FACTOR IN THE ETIOLOGY OF EPILEPSY.

Epilepsy must be considered a disorder in which the stability of the neuromotor mechanism especially is deranged in consequence of a variety of influences. It would appear that the primary essential of this condition is a state of heightened susceptibility—congenital or acquired—on the part of the nervous system, and that this may be acted upon by a number of different agencies. Such a view would help to explain the part played by the process of dentition in the etiology of the convulsions of childhood, which only too often are the precursors, if not the actual beginnings of true epilepsy. Under these circumstances dentition acts as the exciting cause, the susceptibility constituting the predisposing influence. Given the latter, the former becomes capable of operating; while if the susceptibility is wanting, the process of teething, no matter how difficult, is incapable of evoking the convulsive seizure. Further, the attack ocurring in infancy or childhood may or may not be repeated later in life in accordance with the degree of susceptibility and the intensity of the exciting factor.

Some interesting data bearing upon the discussion in hand are presented by Dr. W. P. Spratling, in an article in the *Medical News*, December 10, 1904, who observed among the cases of epilepsy admitted to the Craig Colony the strikingly large proportion in which the attacks began during the first year of life, especially at the seventh month, covering the period of the first dentition, and during the sixth, seventh, and eighth years, covering the period of the second dentition. A correspondingly large number of cases had their inception between the twelfth and sixteenth years, that is, at the period of puberty. In accordance with the facts, therefore, the conclusion seems justified that difficult dentition, the piercing of the gums by the teeth, may in predisposed subjects, constitute a sufficient irritant to excite convulsions, and these may ultimately lead to true epilepsy. Those infants may be considered as predisposed who inherit a neuropathic tendency, whose parents were epileptic, insane, or alcoholic, or suffered from some other general vice that could be transmitted to the offspring in a form capable of vitiating its powers of resistance to disease. It seems unlikely that difficult dentition alone is capable of causing epilepsy in a child free from such ancestral taint and free at birth from a tendency to nervous disease. The same result may be brought about by other sources of irritation, such as gastrointestinal disorders, the eruptive fevers, and the like.

The Contagiousness of Leprosy.

According to a despatch in the newspapers said to originate from one of the consulting physicians to the Louisiana State Leprosy Camp, there are two hundred lepers walking about the streets of New York city, who constitute a constant menace to the population. This assertion has been met by the reassuring statement from one of the Board of Health physicians, who is in a position to know the facts, to the effect that there are only three cases of leprosy in the city known to the Board of Health that are not being cared for in institutions, and that it is very unlikely that there are many others. A firm belief in the contagiousness of leprosy is a popular conviction that seems almost ineradicable, perhaps owing to Biblical associations, yet most authorities now claim that the disease is only mildly contagious, if so at all. In this connection it is interesting to note the résumé of Dr. Zambaco's views given in our letter from Constantinople in another column. Dr. Zambaco, who has made the consideration of this question his lifework, and who for thirty-two years has given himself to the study of lepers in their natural surroundings, has never met with a single case of contagion, and believes that, in spite of the isolation of the bacillus of leprosy, other factors, notably those of heredity, play the dominating rôle in the transmission of the disease. The committee appointed by the New York Medical Society in 1896 to investigate leprosy also came to the conclusion that the malady, though infectious, is not necessarily contagious, and that factors other than mere proximity are necessary for its conveyance. On the other hand, the contagionists, as represented by the Berlin Conference of 1897, still maintain the extreme virulence of the contagium of leprosy and deem it equal to that of smallpox and plague.

Is Consumption Curable?

This question has been asked and answered in a more or less satisfactory manner many times during the past few years. The general conclusion reached has been that if rational treatment is instituted and conducted for a sufficient length of time, in the early stage of the disease, consumption is a curable disease; but that, if the disease has been allowed to proceed to great lengths, the chances are greatly against ultimate recovery. Even in advanced cases, however, life may be greatly prolonged if treatment be conducted upon the most approved modern system, fresh air and sunshine ***ad libitum*** and suitable diet. In a paper on the subject read before the Ohio Valley Medical Association, at Evansville, Ind., Dr.

Paul Paquin thinks that the apathy with which the world regards consumption is due to the following causes: 1. Because the majority of the medical profession continues to consider tuberculosis, particularly pulmonary tuberculosis, as incurable in any event. 2. Because this circumstance and the lack of instruction in sanitary science in our system of education have produced a public mental attitude of wanton optimism. 3. Because there remain here and there a few who reject facts of infection mathematically demonstrated the world over and continue a public crusade in favor of their mistaken ideas. 4. Because when tuberculosis is recognized the truth is often concealed so long from the patient and relatives that the former loses precious chances of recovery and is allowed to disseminate the disease broadcast. 5. Because, by the marriage of consumptives, prolific new centers of infection with far-reaching fatal influences reinforce the popular idea of unavoidable pathogenic perpetuity. 6. Because, the diagnosis of the disease, in the great majority of cases, is made too late for any measure of prevention or cure to be effective. Dr. Paquin thinks that medical students and post-graduate students should be more carefully instructed as to the diagnosis of the symptoms of incipient pulmonary tuberculosis. If the pathology and clinical factors of the borderland of the disease were better known by many medical men, he is of the opinion that consumption in its early stage would be more frequently diagnosed. There can be no doubt that the crux of the problem is in early diagnosis, and of course it would be to the best interests of everybody for the physician to be a skilful diagnostician. But perhaps the most common cause of consumption being allowed to go too far, is that the sufferer himself, either through ignorance or for pecuniary reasons, does not consult a physician until too late.

LIQUOR DRINKING IN EUROPE AND IN THE UNITED STATES.

In the *Sun* of February 5 was a despatch from London, giving certain facts from an English official return as to the consumption of alcoholic beverages by various nations during the year 1903. According to this report, at that time the Bavarians were the greatest beer drinkers, averaging 51 gallons a year each, but of the nations Belgium came first, with an average consumption of 47.7 gallons. The United Kingdom averaged 29.7 gallons, and America was sixth on the list, with an average consumption of 15 gallons. With regard to the consumption of wine, France led with 30.2 gallons, while America was last on the list with 0.4 gallons. Denmark was the largest consumer of spirits per capita, averaging 3 gallons for each member of its population. The United Kingdom consumed .99 gallons per head. The consumption in the United States was not given, but is stated to have been greater than in the United Kingdom. The report stated that so far as the revenue derived from alcoholic beverages was concerned, the United Kingdom had the highest proportion, 32 per cent. The United States came next with 29 per cent. Several other countries had 19 and 18 per cent., and the average was 8½ per cent. Drinking throughout the Continent of Europe is probably on the increase, in France and Belgium the habit shows no sign of decrease. Beer drinking in Germany is still one of the features of national life. In Great Britain the temperance movement has during the past few years made great strides, and the drink bill of that country decreases steadily year by year. There has been a strong stand made by the Government and prominent persons against excessive drinking in the United Kingdom, and the benefits of the movement are beginning to be shown. Drinking in the United States, although less than in Europe, has increased within the past few years. Probably the statement made recently by Dr. Wiley that something like 85 per cent. of the whiskey sold over the bar in America is adulterated, combined with the public exposure of the wood alcohol scandal, may deter some people from drinking that spirit.

NEED OF MORE MATRONS AT POLICE STATION-HOUSES.

THE sixtieth annual report of the Women's Prison Association and Isaac T. Hopper Home has just been issued. Included in the report of the prison visitor is a statement that there is a lack of matrons at various station-houses. In some precincts in which abandoned women abound, notably the fifteenth and eighteenth precincts, the women when arrested are not brought to the matrons, but are charged with disorderly conduct and furnish bail. The matrons in the twenty-first precinct are supposed to receive all women arrested in the eighteenth, but, according to the statement of the women themselves, those who can furnish bail are held in the eighteenth until the bondsmen arrive. At the present time, the report goes on to state, matrons are assigned to 19 precincts out of 32 in the Borough of Manhattan; to 9 precincts out of 32 in the Borough of Brooklyn; to 3 precincts out of 8 in the Borough of the Bronx; to 2 out of 9 in the Borough of Queens, and to one precinct in the Borough of Richmond. It is argued that a sufficient number of women and lost children are received in each station-house in the Borough of Manhattan to warrant the appointment of matrons thereto, and that for the sake of ordinary decency alone these appointments should be made. Undoubtedly, women of whatever description should not be left in charge of men, and at least one matron should be on hand in every station-house.

To Study Territorial Diseases.—The government of the Canadian Northwest Territories has established a bacteriological and pathological laboratory at Regina, and Dr. George Charlton has been appointed to take charge of the work. For the present the laboratory will be situated in the government building in connection with the department of agriculture. The first research to be undertaken is an investigation of the nature of a local disease of horses known as swamp fever, which is rapidly fatal and occasions considerable losses yearly to the ranches. The nature of the malady is to be determined, and then if possible means of treatment and prophylaxis are to be devised. The recent epidemics of diphtheria and typhoid fever will also be studied.

A New Cure for Seasickness.—A London dentist is said to have invented a self-leveling steamship bunk which is designed to remain in the horizontal position no matter how heavily the vessel is pitching or rolling. The cot is suspended from a steel framework by cords at each corner which are operated by electric motors in such a way as to counteract all motion of the boat, and automatically maintain the cot in a horizontal position. By pressing a button an electric fan may be made to drive a current of air across the face of the occupant. The inventor, who has spent more than three years in perfecting the device, says that, although he is one of the worst sailors who ever boarded a ship, in his swinging bunk he is now able to brave the worst weather at sea without a qualm. Two of the Channel steamers are to be fitted with the new appliance.

News of the Week.

Army Medical Corps Examinations.—Preliminary examinations for appointment of Assistant Surgeons in the Army will be held on May 1 and August 1, 1905, at points to be hereafter designated. Permission to appear for examination can be obtained upon application to the Surgeon General, U. S. Army, Washington, D. C., from whom full information concerning the examination can be procured. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to the localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible. In order to perfect all necessary arrangements for the examination of May 1, applications must be complete and in possession of the Surgeon General on or before April 1, and for the examination of August 1, on or before July 1. Early attention is therefore enjoined upon all intended applicants. There are at present twenty vacancies in the Medical Corps of the Army.

The Röntgen Congress in Berlin.—The Berlin Röntgen Society has arranged for a congress in commemoration of the first decennial of Röntgen's discovery, to be held in Berlin from April 30 to May 3, 1905. The Executive Committee of the Congress and Exhibition is composed of Drs. Eberlein, Immelmann, and Cowl, who will receive and acknowledge notifications of membership, contributions to the proceedings, and other communications concerning the Congress and Exhibition. Cards of membership will be issued, from and after April 27, at the Bureau of the Congress. The cost of the same, entitling also to the volume of proceedings, is 15 marks, or 15 British shillings, or $3.60, which may be sent in advance to the treasurer, Dr. W. Cowl, Gleditschstrasse 6, Berlin. Early notice of participation, with precise address, title of paper, etc., is desirable. It may be found necessary to restrict the time devoted to the single communication, discussion or demonstration. An explicit circular concerning the Exhibition, which is to be devoted to new and interesting articles pertaining to the Röntgen ray, will be sent on early application. Speakers in English, who may send in a short digest before the Congress, will secure, as far as is possible, a rendering of their remarks in German at their close.

Appropriations for City Hospitals.—Upon the recommendation of the Committee on Finance the Board of Aldermen has authorized an issue of $144,329 of corporate stock for the purpose of increasing the size of the plot upon which the new Harlem Hospital is being built, at Lenox avenue and 136th and 137th streets. For the improvements at Bellevue Hospital $20,000 was appropriated, and $30,000 for additional street signs in the Borough of Manhattan.

Ether Explosion in a Hospital.—While a clinic of Temple Medical College students was going on at the Samaritan Hospital there was an explosion of ether. Two physicians and two students were injured and fifty others narrowly escaped harm. Drs. L. W. Cunningham and H. A. Duncan, residents at the hospital, were seriously burned about the head and arms. Daniel Kennedy and James Crawford, students, were similarly though less seriously burned. Dr. W. Wayne Babcock was directing preparations for the operation, but was not injured The flames were quickly extinguished.

Consent of Patient Must be Obtained Before the Performance of a Major Operation.—The decision of an Illinois court affirming a finding of $3,000 damages against a surgeon charged with operating upon a woman without her consent, will be taken to the Supreme Court of the State. The decision of the lower court was rendered in 1897, and that of the Appellate Court was handed down last week. After the operation, it was claimed, the plaintiff's condition became critical, and she is now a patient in the Kankakee Insane Asylum. The decision of the Appellate Court is that any surgeon who performs a major surgical operation without the consent of the patient is liable to damages. The consent of the nearest relative does not relieve the surgeon of the liability.

Smallpox in Illinois seems to be on the increase, as during the past week twenty-seven cases were sent to the Isolation Hospital in Chicago. Four had old scars said to be from vaccinations made in early childhood, but had never been revaccinated. Twenty-three never had been vaccinated at all; seven were unvaccinated children under the school age of six years. Twelve of the patients came from down-town lodging houses. Not even a telegraph message, it is said, can reach Smithfield, a village forty miles west of Peoria, Ill., so strict is the smallpox quarantine and so great is the ravage wrought by the malady. The last means of communication with the outside world was cut off when the telegraph office was closed by the illness of the operator. Many deaths have occurred and the State officials have prohibited the stopping of trains at the village.

The Oppenheimer Company.—According to the *Tribune* of this City several of those whose names have been published as indorsers of the Oppenheimer treatment of alcoholism have issued an announcement withdrawing their endorsement of the enterprise. Among those who have refused to permit the further use of their names as sponsors for the method are Bishop Potter, Rev. Dr. Parkhurst, Rev. Robert Collyer, Hon. Chauncey M. Depew, and Mr. J. D. Kennedy of this City, and Rev. Floyd W. Tomkins of Philadelphia.

Willard Hospital Dedicated.—Simultaneously with the unveiling of the statue of Frances E. Willard at Washington, February 17, the Frances E. Willard National Temperance Hospital, Chicago, was formally dedicated. Following the ceremonies a public reception was held, and many visitors inspected the hospital. The building is four stories high, built of pressed brick, and has 75 beds. The corner-stone was laid in September, 1903. The hospital was founded twenty years ago.

The Medical Library and Historical Journal.—The establishment of the printers of this journal was almost wholly destroyed by fire on February 13. The January issue of the journal was on the press and the plates were lost. Fortunately duplicate copies of all important manuscripts were made before sending them to the printer, so the heavy loss incurred by the Journal will not be shared by its contributors or readers. The editor announces that immediate steps have been taken for the making of new plates and duplicating the entire number which was in press and that this issue will be published at the earliest possible date.

New Law Relating to Morgues.—The Health Committee of the City Council of Chicago recently recommended an ordinance to compel every hospital to maintain a morgue for the care of those who die in the institution until relatives have been notified. Unless permission is given by the relatives, bodies cannot be removed from hospitals for twenty-four hours after death.

The Canton, Ohio, Medical Society.—The annual banquet of this society took place a short time ago and was the occasion of a notable gathering of members and invited guests. At the January meeting of the society the following officers were elected: *President*, Dr. E. J. March; *Vice-President*, Dr. G. A. Kelly; *Recording Secretary*, Dr. C. F. Schiltz; *Corresponding Secretary*, Dr. L. D. Stoner; *Treasurer*, Dr. Frank D. Hinden.

The Australasian Medical Congress.—The seventh session of the Australasian Medical Congress will be held in Adelaide, South Australia, during the week, September 4 to 9, 1905, under the presidency of Dr. E. C. Stirling. There will be seven sections, viz., Medicine; Surgery; Gynecology and Obstetrics; Eye, Ear, and Throat; Pathology, Physiology, and Pharmacology; Public Health; State Medicine and Medical Ethics.

Imperial Support of the Teetotal Movement in Germany.—German army officers are henceforth to be allowed to drink to the health of the Kaiser or anybody or anything else, in plain water instead of beer or Schaumwein. This permission was given in answer to a request by Dr. Adolph Banzer of Munich, a member of the Society Against the Misuse of Spirituous Liquors, asking whether officers might drink toasts in water. The Prussian minister of war replied that the Emperor has replied to the inquiry to the effect that "no compulsion exists to partake of toasts in alcoholic drinks, and that it may be left to the movement now in progress to advance this idea in all circles."

Dr. Joseph A. Hall of Cincinnati, a captain in the Ohio National Guard, has been appointed to the staff of Governor Herrick.

Dr. H. D. Hinckley has been elected Dean of the Cincinnati Polyclinic and Post-Graduate Medical School.

Osteopaths Not Physicians.—The Missouri Supreme Court has rendered an opinion in which it holds that osteopathists are not physicians and surgeons under the laws of that State, and that if they attempt to treat diseases they are responsible for damages resulting from injuries sustained by the persons under their care.

Banquet to Dr. Simon.—A testimonial banquet in honor of Dr. John H. Simon, Health Commissioner of St. Louis, was given on February 11, and about three hundred guests attended. Mr. William Marion Reedy acted as toastmaster. Among the speakers were Lieut.-Governor Chas. P. Johnson, Dr. W. G. Moore, Judge Jas. R. Kinealy, and James Hagerman.

Early Diagnosis of Pulmonary Tuberculosis.—The Illinois Board of Health has just issued, for distribution to the physicians of the State, a pamphlet setting forth succinctly and systematically the various signs, general and local, by which an early diagnosis of pulmonary phthisis may be made. An examination of sputum for tubercle bacilli will be made by the laboratory physicians of the Board of Health, without charge, for any Illinois physician.

The Osteopathic Bill, introduced recently into the New York Senate, has been introduced into the Assembly and referred to the Committee on Public Health. The public hearing on the measure will be on March 1, at 2 P.M., before the Senate Judiciary Committee and the Assembly Committee on Public Health, in the Judiciary Committee Room in the Capitol.

State Board of Health of Illinois to Enlarge the Scope of Its Work.—The laboratory work of this Board is to be so increased that it will become of greater benefit to the physicians of the State. Container stations will be established in every county of the State, where containers for bacteriological specimens in blank forms for transmission may be secured in the shortest possible time. It is thought that these containers will be placed in the hands of secretaries of county medical societies for distribution.

A Non-vegetarian City.—The municipal authorities of Berlin after due consideration have decided to refuse a legacy of 500,000 marks left to the city by the late Professor Baron of Bonn. The money was to be used for the purpose of founding an orphanage which should bear the donor's name, and in which children should be brought up on an exclusively vegetarian diet. An additional condition was to the effect that no medical man should be allowed to sit on the board of directors.

A Bill to Stop Incubator Exhibits.—The managers of places of amusement who exhibit infants in incubators will be guilty of a misdemeanor if a bill now before the Legislature at Albany is enacted. The measure has been introduced at the instigation of the Society for the Prevention of Cruelty to Children.

For a New Census.—Health Commissioner Darlington has applied for an appropriation to meet the expenses of taking a new census of the city. As the last Federal census is supposed to have underestimated the population of the crowded sections the death rate of the city is made to appear higher than it really is.

A Monument to Virchow.—The city of Berlin has planned to honor Rudolf Virchow's memory by the erection of a monument to be placed at the intersection of the Karl- and Luisen-Strasse, a square which will henceforth be known as Virchow-Platz.

Obituary Notes.—DR. T. MELVILLE LIPPITT of Columbus, Ohio, died on February 10, of laryngeal stenosis, at the age of thirty-two years. He was born at Mount Vernon, Ohio, and graduated from the Starling Medical College in the class of 1897. He practised in Columbus, and was one of the rising young men of the profession at the time of his death.

Dr. ELIHU RUSSELL HOUGHTON died at his home in this city on February 19, from appendicitis. He was born in Jersey City in 1864; was graduated in arts from Amherst in 1885, and in medicine from the Bellevue Hospital Medical College in the class of 1888. He had served in the United States Navy and in the Immigration and Marine Hospital Services.

Dr. HENRY F. HENDRIX died at his home in St. Louis on January 28, aged sixty-two years. He was graduated from the St. Louis Medical College in 1874, and practised in St. Louis for twenty-eight years.

Dr. JOHN SHORE, formerly one of the pioneer physicians of St. Louis, died at St. Charles, Mo., on January 30, at the age of eighty-five years. He was graduated from the Jefferson Medical College in 1842. He was born in Petersburg, Va., July 11, 1819.

Dr. JAMES T. RENOUF of Atlanta, Ga., died on February 19, of angina pectoris. He was a graduate of the Southern Medical College in the class of 1887.

Dr. ISRAEL T. HUNT of Boston died February 16, from the results of a fall. He was sixty-five years old and was a graduate of the Harvard Medical School in the class of 1870.

Dr. H. R. VAN RENSSELAER of Springfield, Mass., died February 13. He was born in Saratoga County, N. Y., and was graduated from the Albany Medical College in 1882. He practised for about seventeen years in Pittsfield, but was forced by illness to retire from active work.

Correspondence.

THE NEW YORK MEDICAL GYMNASTIC AND MASSAGE SOCIETY, AND THE KINESIPATHY BILL.

To the Editor of the Medical Record:

Sir:—The New York Medical Gymnastic and Massage Society wishes to correct the impression that it has had anything to do with the bill now before the Legislature in regard to a special State licensing of practitioners of Massage or Medical Gymnastics. No one has ever been authorized to associate our Society with such a bill. Our Society has always stood opposed to any legislative measure along this line. Letters to his effect have been sent to Senators Fitzgerald and Brackett.

H. C. Thompson, M.D., Secretary.

New York, February 20, 1905.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PRINCESS VICTORIA'S ILLNESS—PROGRESS OF GYNECOLOGY—HEMATURIA—OOPHORECTOMY FOR MAMMARY CANCER—TROPICAL EXPEDITIONS—BRITISH ASSOCIATION.

London, February 3, 1905.

A good deal of sympathy is felt for the Royal family as the Princess Victoria has undergone an operation for removal of the appendix, which had for some time given sufficient cause for considering the advisability of such a course. After a recent mild attack of influenza the symptoms became decided, and the operation was determined on. It was uncomplicated and H. R. H. is progressing most favorably.

Professor J. W. Taylor in his valedictory address as president of the Gynecological Society gave some interesting notes on recent progress. His own work was coterminous with the existence of the society which he joined at the outset, 20 years ago. In that time he had performed 1,291 operations, with only 85 deaths. Many of these deaths were not due to the operations. His best work he considered was in the latter part of the time—the last five or six years in which his mortality had fallen to 1 per cent. His experience extended over days of ignorance, when everything favored infection, days of empirical asepsis, and the later days of knowledge. He attributed the greatest importance to the recognition of heat as a sterilizer, disinfection of the hands by permanganates, spirit, and biniodide of mercury, not merely before operation, but after every dangerous contact. Also to the substitution of fine, interlocking, chain sutures of silk, instead of ligaturing *en masse*. He found fine silk was absorbed in time as completely as catgut. Pelvic hematocele, the so-called broad ligament hematoma, formerly the commonest post-operative complication, he had not found due to the use of a sharp needle as had been supposed. It was more likely due to ulcerative erosion of vessels owing to infection from the thick silk used for tying the pedicle. Removal of the appendages for myomata had been largely abandoned in favor of abdominal or vaginal hysterectomy, and he now seldom performed it for gonorrheal tubal disease, preferring treatment with biniodide of mercury. Even in cases demanding operation, this may be combined with evacuation of the sac and drainage—a plan superior to the old operation.

In inguinal celiotomy by the method of Reclus he found that by tying off a small amount of mesentery at each side of the spigot of glass, at the original operation, the subsequent division of the intestine was practically bloodless. In conservative operations some of his greatest successes had been the separation of adnexal adhesions to the intestines, causing obstruction; hysteropexy and ventrosuspension were also conservative, but he had found conservative operations on the appendages rather disappointing. In simple prolapse of the ovary from retrodisplacement he found the best plan was to shorten the round ligaments without opening the peritoneum. He had given up anterior in favor of posterior colpotomy, and said there were advantages in this procedure even in virgins and children; the essential points were thorough disinfection of the vagina, and free drainage with iodoform gauze. Increased consideration might well be given to vaginal ovariotomy and vaginal enucleation.

A paper on hematuria, by Dr. A. E. Garrod, at the Medical Society, brought out a number of interesting observations in the course of the discussion that followed it. Dr. Garrod said the chief interest in the symptom was clinical, in which it differed from hemoglobinuria. The ozonic ether and guaiacum test was very delicate, and failure to obtain the blue rings was satisfactory evidence of the absence of blood. He mentioned the possibility of renal sarcoma in infants and infantile scurvy as sometimes accounting for obscure hematuria. Hemophilia is also to be remembered as well as the more common causes, nephritis, calculus, etc. The Bilharzia and rarer causes were also considered. Instances from eating rhubarb—some in only small quantities, also occurred. Dr. Bruce Porter mentioned the case of a man of 50, who had two attacks after eating large quantities of asparagus. Dr. T. H. Kellock spoke of papillomatous growths in the kidney, and he, as well as Dr. J. H. Bryant and Mr. Swan, emphasized the value of the cystoscope. The last-named speaker instanced the case of a lad whose bladder had been opened to deal with a suspected papilloma, but nothing was found, though subsequently a tuberculous condition was discovered by the cystoscope. Dr. Poynton referred to hematuria, without other symptoms as sometimes met with in infantile scurvy. In malignant endocarditis, renal hemorrhage also occurred not merely from infarcts but from toxic nephritis. Mr. Langton, president, referred to the rough clinical diagnosis that, when blood was intimately mixed with the urine, it was probably from the kidney or ureter; when appearing at the beginning of micturition it was more likely from the urethra. In a case with all the symptoms of renal calculus, he had explored the kidney without result, but the man completely recovered, and was quite well 18 years afterwards. He thought hematuria more frequently due to small than to large stones.

Mr. Hugh Lett has communicated to the Medico-Chi. an analysis of 99 cases of inoperable mammary cancer, treated by oophorectomy. Marked improvement followed in 23.2 per cent., less improvement in 13 other cases—that is, 36.4 per cent. were benefited. Excluding patients over 50, this percentage rose to 41.3. In successful cases the benefit had been great; in no case was a cure obtained. In one, the patient was alive and well five years after operation; four others had good health for four and one-quarter years, or more; in fifteen the improvement lasted over a year. The results were slightly better when thyroid extract was given.

Mr. Bruce Clark showed a patient now well, five years after operation. In no other case had the patient survived more than three years, but in all some improvement had followed. He never resorted to the treatment except in inoperable cases.

Mr. Stanley Boyd thought chronic cases were most favorable. In one of his own the cancer had existed four and one-half years before operation, and the patient lived twelve years afterwards. In a case of Dr. Herman's it had existed six and one-half years before oophorectomy, and the patient lived twelve years after. He thought other records showed the importance of the time that the cancer had been present before opration. In these chronic cases the resistance of the patient was high. He had two or three times removed both breast and ovaries, and his impression was in favor of the combined operation.

Mr. J. Hutchinson, Jr., mentioned the difficulty of obtaining evidence of duration, and said an intelligent woman with a large cancer had told him it had lasted a week. He also referred to the spontaneous disappearances of cancer which sometimes surprised. He thought a time limit could not be fixed. He had removed a breast for cancer and the disease returned ten years later.

Dr. Herman said those cases did best which were operated on about the menopause. Thyroid treatment he thought beneficial.

Mr. McAdam Eccles attached great importance to the nature of the carcinoma and the rapidity of growth; also to the microscopical examination of the ovaries removed, as well as to the shrunken growth. A patient of his lived twenty-six months after oophorectomy, but had been practically well for sixteen months.

Mr. Pearce Gould referred to the fallacy of the statistics of collected cases, only successful ones being published as a rule. He had only seen one case with a striking result, and in that the patient unfortunately died from intestinal obstruction. Sections of the shrunken growth showed atrophy and fibrosis of the cell elements. He did not feel able to press the operation on patients. He had seen several cases of spontaneous arrest. Until the nature of cancer is known, it is impossible to see what physiological means can account for these arrests, but he looked forward to their discovery and employment.

The 13th expedition of the Liverpool Tropical School has returned. The members, Drs. Boyce, Evans, and Clarke, were entertained at a luncheon on Monday, by Sir Alfred Jones, who, in his speech, suggested that such work should be invested with more of an international character. If other nations interested in West Africa were to join, the results would be still more successful. Dr. Boyce said this was only a segment of a greater expedition all of which was working to the same end. A telegram from Princess Christian was read accepting the position of Honorary President of the Liverpool School, and requesting to be kept informed of the progress of its work.

Details of the arrangements for the meeting of the British Association in South Africa were issued yesterday, Prof. G. H. Darwin is president-elect. Opportunity will be afforded for visiting the battlefields, the Victoria falls, and other places of interest. At the wish of the local bodies competent investigators will deliver addresses on local problems. Colonel Bruce will deal with bacteriological questions of practical importance to South Africa. Others will discuss geological and archeological questions. The sectional meeting will be in Cape Town (three days) and Johannesburg (three days).

OUR PARIS LETTER.

(From Our Special Correspondent.)

ELECTION OF PROFESSOR RECLUS TO THE CHAIR OF THE SURGERY—THE ASSEMBLY OF THE MÉDAILLE D'OR—ELECTION OF M. CHAMBERLAND AND PROFESSOR POIRIER—TRACHEO-BRONCHO-ESOPHAGOSCOPY—RADIOGRAPH OF A FRACTURE OF THE HUMERUS—AUTOINOCULATION OF SYPHILITIC CHANCRE—THE AMOUNT OF CARBONIC OXIDE CONTAINED IN A LOCALITY—DEATH OF DR. LÉCORCHÉ.

PARIS, January 30, 1905.

THE Faculty of Medicine de Paris has just elected Dr. Reclus as professor of clinical surgery. This learned man who only a year ago was appointed professor of operative medicine has attained more rapidly than would seem possible the chair of clinical surgery at the Hôpital de la Charité, left vacant by the death of Professor Tillaux. Professor Reclus began his course on January 27, by delivering a eulogy on his predecessor, Tillaux. At this time he gave full evidence of his powers as a finished orator, which makes him so pleasing to an audience.

At the Assistance Publique, two sets of judges have just been elected to decide on the merits of the candidates, internes of the Paris hospitals, who desire to obtain the médaille d'or de l'internat. Every year a certain number of medical internes of the Paris hospitals, having completed their service of four years in the city hospitals, are admitted to this assembly which offers two gold medals. One of these medals is given to an interne in medicine, the other to an interne in surgery and obstetrics. One test that is given to these candidates consists in the delivery of a memoir on a scientific subject to be chosen by the interne himself; besides which, there are two other tests, one a written, the other an oral examination.

Professor Chamberland has just been elected to the Academy of Medicine to succeed Professor Duclaux, deceased. The important work of this distinguished man in the domain of bacteriology at the Pasteur Institute is well known. Guisez recently read before this body a very interesting work on the general results obtained by the method of tracheobroncho-esophagoscopy, describing the numerous advantages and the improvements that are due to this method, which he was the first to use in France.

Professor Poirier has just been nominated in the section of anatomy to succeed Professor Marey, deceased. Poirier was for ten years director of the anatomical work in the Faculté de Médecine, and was appointed professor three years ago. The Academy in electing him one of its members, shows the esteem in which they hold his works, among which his "Anatomie humaine" in five volumes is especially worthy of mention. It has become a genuine classic.

At the same meeting Auguste Broca presented the radiographs of a fracture of the upper extremity of the humerus in a small girl of ten years. The fracture was recognizable by the classical signs also; it was located about two cm. below the cartilage covering the head of the bone. The child had been treated by the application of Hennequin's apparatus, and the radiograph demonstrated that the reduction of the fracture was not perfect by this method. Under these conditions, after chloroform anesthesia, Broca had extension made by an assistant, while he exerted in the axilla a direct propulsion from within outward, on the diaphyseal fragment. When he felt the reduction of the fracture with his fingers, he immobilized the shoulders and the arm, with the forearm at a right angle, in a large plaster apparatus. The radiograph showed an absolutely perfect result.

At the meeting of the Société Médicale des Hôpitaux, Queyrat presented some extremely interesting cases demonstrating indisputably the possibility of autoinoculation of the syphilitic chancre. It is well known that one of the dogmas on which the specificity of the syphilitic chancre rests, is that it is not inoculable in the patient who possesses it. On this point almost all syphilographers agree. But Queyrat reports several experimental results tending to prove the theory that syphilitic immunization is progressively acquired and that it is positive only for a time—about a month after the inoculation. The author has made a series of experiments directly on man by practising these autoinoculations on syphilitic subjects. Out of thirteen cases he has obtained positive results three times. He presented at the same time to the society a female orang-outang, in which Metchnikoff, of the Pasteur Institute, produced several successive syphilitic chancres by inoculation. This animal was first inoculated on the left eyebrow from a syphilitic chancre of the macacus; ten days later, it was inoculated anew with the virus of a human chancre on the right superciliary arch and eyelid. The first inoculation gave rise twenty-six days later to a large syphilitic chancre; the second inoculation had as a result four syphilitic chancres, which appeared after twenty days of incubation. This experiment of Metchnikoff's appears to prove that the immunization of the organization against the syphilitic virus is not established so rapidly as has hitherto been believed.

At the Académie des Sciences, Professor Armand Gautier showed some apparatus, the outcome of researches by Albert Lévy and Bécoul, which was made for the purpose of determining approximately the quantity of oxide of carbon that the atmosphere of any locality can contain. This apparatus is based on the property of carbonic oxide which decomposes iodated substances, thus setting iodine free. The air to be examined is conveyed into the apparatus where it is intimately mixed with an iodic solution heated to 60° C. If the air contains oxide of carbon, it will set free iodine in amount proportionate to that of the oxide of carbon contained in the air. In order to measure the quantity of iodine set free, and consequently the quantity of carbonic oxide contained in the air, we pass the air into a tube containing chloroform; this will be colored rose to a greater or less degree. It is sufficient then to compare the coloration obtained with that of a series of test-tubes containing chloroform and tinted with carbonic oxide in definite proportions, in order to determine the amount of poisonous gases in the air examined. This method has a practical application, for it has been shown by it that the troubles experienced by the employees in the crematory of Père-Lachaise, are due to the poisonous action of the gas liberated by the combustion of coke.

Among the noted men who have recently died should be mentioned Dr. Lécorché, professeur agrégé at the Faculté de Médecine, honorary physician to the Paris hospitals. He was the author of several important works, among which are one on gout, another on diabetes, and a third on diseases of the kidneys.

OUR LETTER FROM CONSTANTINOPLE.

(From Our Special Correspondent.)

SMALLPOX—WORK OF THE MEDICAL SOCIETY—MODE OF PROPAGATION OF LEPROSY—FISH-EATING THEORY—ARGUMENTS FOR THE NON-CONTAGIOUSNESS OF THE DISEASE—NEW BRITISH SEAMEN'S HOSPITAL—TURKISH QUARANTINE—DEATH OF DR. BOUKOWSKY.

CONSTANTINOPLE, January 30, 1905.

FROM a medical point of view there has been little of interest doing in Constantinople during the last few months. Public hygiene has been much written about, but all the writings amount to paper plausibilities in the form of instructions, recommendations, and the important action of "trades," *i.e.* a putting forward of arguments in favor of anything possible or impossible.

Smallpox is prevalent, as usual, at this season; vaccination and revaccination are not only recommended but commanded. The intelligent of the population anticipate the recommendations and instructions, and there the matter ends, to be taken up again next season. The conditions favoring the propagation of infectious diseases are always and everywhere present in the Turkish Empire, and epidemic recrudescence is a matter of course.

Vaccination is a spasmodic and seasonal performance. It is, therefore, not necessary to assume fresh importations of the disease to explain the perennial recurrence of smallpox. American and European statistics with reference to the seasonal appearance of this disease have no correlation with its occurrence in any large town in Turkey. The disease never dies out. From early winter to spring it is active; in summer it is more quiescent. On the strictly geographical distribution and periodicity of smallpox Turkey throws no light. New centers of infection are continually being produced, as may naturally be expected from the wandering and, at times, the gregarious massing of certain classes of the population in the many "Khans" for travelers from the interior, where smallpox prevails, and who are clothed with materials to which infection clings.

The winter session of the Medical Society has so far been marked by good work, *i. e.* by practical demonstrations. The most interesting subject, however, is that of the contagion of leprosy, which was before the Society some years ago. Several commissions were appointed to examine and report, but the results of their labors are apparently still in abeyance.

At the International Medical Congress of Madrid, Dr. Zambaco Pacha, who is, and has been always, an anti-contagionist with regard to leprosy—made a communication on the subject, which appears not to have received the attention it deserved, nor what the learned Pacha anticipated. However that may be, the communication has been followed up by an annex communication—"Epilogue Annexe de la Communication faite àu Congrès International de Madrid," in which Dr. Zambaco, after some years, reviews the course of his studies and arguments, reexamines the surviving lepers he has watched for many years, and the new cases which have occurred more frequently in the newly established clinics during those years, and with the collaboration of numerous colleagues who were well placed and qualified for the work, ever practising in the countries and localities where leprosy more or less abounded, and who devoted long investigation concerning the contagion and heredity of leprosy in this part of the East. The *pros* and *cons* are given fully and in detail. "For 32 years," writes Dr. Zambaco, "I have given myself to the special study of lepers, and in the midst of their surroundings, without ever having met one single case of contagion. My numerous colleagues, whether in the leprous districts of the Ottoman Empire, or otherwise, have never shown me an example of transmission by means of intimate contact, even by conjugal relations, over periods of 15 to 20 years, and beyond. Bacteriology, however, having shown the bacillus of the disease, it is generally understood that leprosy should be fatally and everywhere contagious. According to me, the question cannot be resolved except by the attentive and prolonged study of the sick, *i.e.* by clinical study, for there are many secrets of the mode of propagation of leprosy that even bacteriology has not been able to penetrate."

The facts advanced and the evidence adduced by our learned and distinguished colleague are worth careful perusal and study of both contagionists and non-contagionists. His studies cover a large field of inquiry; they indicate the localities where the subject may be carefully studied under various and different conditions of national and social life, climate, dietary, the relations of the sexes, marriage, and offspring. Turkey, European and Asiatic; Greece; the islands of the Archipelago; Egypt, Syria and Palestine, in short every place where leprosy exists, has in some measure and manner, given facts in support of Dr. Zambaco's views of heredity of leprosy, but not of contagion, whilst his numerous colleagues—men of learning and distinction—are singularly unanimous in support of his views.

With reference to the fish-eating theory of the cause of leprosy, Dr. Zambaco states (on the authority of Dr. Karamarondi, one of his collaborators) "that, in the island of Samos, the Lenten session and fasts of the Orthodox give 150 days a year," and asks, "what diet is observed during these days of abstinence? Dried or salted fish, and infected, frightfully stinking, which the people moisten with "eau de vie" at one piastre the litre, and with a local wine containing from 20 to 30 per cent. of alcohol. Such a diet and such a hygiene, under the rays of a subtropical sun, are favorable to all cutaneous diseases—favorable to the culture of the bacillus—yet, in no way, do these conditions appear to influence the contagion of leprosy." The islands of Leries, Volo, Libassia, Platanos, Kerassia, Gano, and Thassas, present similar conditions, yet not one case proving contagion has been established. Egypt and Palestine, which, from time immemorial have been endemic centers of leprosy, especially Jerusalem and Damascus, are also considered in detail. Dr. Zambaco lays stress on the reports of Dr. Engel Bey, who, though a contagionist, whilst insisting on the antiquity of leprosy in Egypt in the time of the Pharoahs and other neighboring peoples, is astonished to see that, although no measures have been taken even to restrain the malady—the lepers living pell mell with the inhabitants—the number should be relatively so small, and that strangers coming to Egypt are not infected in the very cradle of leprosy, where the most favorable conditions for its propagation are reunited —Alexandria being a striking proof, as there live many Europeans, and no leper among them—though there are some from Crete. Further, that Dr. Engel Bey, estimating the number of lepers in Egypt at 18,000, has not in twenty-two years seen a leper contaminate either a native or a foreigner, though lepers everywhere abound, which statement is confirmed by other physicians practising there, clearly proving that the bacillus is not aggressive in Egypt.

The leper house at Scutari, which is supposed to be for isolation, is adduced as a proof of the non-contagiousness of the disease, "for there strangers enter freely into the chamber of the lepers, and remain there, eating and drinking with them from the same vessels, breathing for hours the supposed-to-be-infected air, even resting on the beds without thought or fear of contagion, which is, indeed, rare, and under exceptional conditions—a mere coincidence." A certain class of Spanish Jews, driven by persecution from Spain, took refuge in Turkey in the reign of Bayazid II. Since then they fixed themselves at Stamboul, and in the province of Salonica. Now, these Spanish Jews only among the native races of Constantinople count many lepers. They preserve their leprosy by ancestral heredity. They had it already in Egypt under the Pharoahs—the cradle of leprosy—before the Exodus, and imported it into the desert and wherever they established themselves. Besides these Jews of Hebrew origin—there are at Constantinople Jews of Polish, Russian, German, Hungarian, Roumanian origin, abounding in quarters of Galata, miserable and sordid, yet they count not a single case of leprosy. They are different in origin, being Tartar, German, clans of Indo-European race, and do not suffer from leprosy as do their coreligionists from Spain, who have been in Constantinople for 400 years, and have always numerous cases of leprosy amongst them, and are in continual communication with the other elements of the population, without communicating leprosy to them. Hence, concludes Zambaco Pacha, the leprosy of the Spanish Jews is due to ancestral heredity—ethnical—from their direct descent from the Hebrews of Moses.

The learned Pacha then gives an historical sketch of the Jewish race, bearing on the subject of leprosy, which is full of interest. In Egypt, Constantinople, and elsewhere it is notorious that the lepers mix in general society. They are venders of vegetables, fruits, milk, and other merchandise. They are in domestic service, mix together in churches, cafés, and places of public entertainment, and are not generally avoided unless their appearance is repugnant from open sores. Such is the summary of the "Epilogue Annexe" of Dr. Zambaco Pacha. The statements and facts are brought forward as a protest against the conclusions of the Berlin Conference of 1897, proclaiming the contagiosity of leprosy as "always and everywhere—even in Central Europe—equal to that of smallpox and plague."

Your correspondent, who has practised in Egypt and Turkey for thirty-six years, who has visited most of the leper establishments, and taken an interest in the subject of leprosy, has arrived at the conclusion that the disease—the bacillus notwithstanding—is feebly, if at all, contagious in these parts of the East, and that the evidence of heredity is strong.

The new British Seamen's Hospital was formally opened on January 18. It is a solid construction, erected on the old site. It has accommodation for forty patients and is in all respects up to date. It is lighted by electricity, and has an electric lift; is elegantly furnished. The general and private wards are spacious and airy. The operating theater is a marked feature of the hospital, is supplied with the latest appliances for aseptic and antiseptic surgery, and has a good stock of instruments. After a short religious service, the hospital was declared to be open by the Lady Susan Townley, wife of H. B. M.'s chargé d'affaires.

The operations of Quarantine appear to be satisfactory, since no complaints are made by the shipping interests. In regard to quarantine, Turkey has fallen into line with the other Powers, instead of as formerly being passively obstructive.

Dr. Boukowsky Pacha, the chief government chemist, and head of the hygienic service, died a few days ago. His services were much appreciated by the Imperial Government during the plague and cholera epidemics in Syria and Asia Minor, where he organized a special service.

A Human Toxophile.—At present there is in Glasgow one Captain Vetrio, who styles himself the "poison-proof man," giving exhibitions in one of the places of entertainment of his ability to swallow lethal doses of certain poisons, such as strychnine, phosphorus, and so on, with apparent impunity. With these we are told he varies his *menu* by eating glass and flower-pots! Before he made his first public appearance, a number of medical men responded to his invitation to meet him in the Windsor Hotel, where he swallowed half a grain of strychnine in their presence, and also, we are told, partook in quick succession of considerable doses of paris green, blue indigo, verdigris, and so on, without evil effects. This demonstration, we are further told, concluded by Captain Vetrio's eating a considerable portion of a stick of phosphorus. He invites medical men to bring their own poison. A letter appeared in the *Glasgow Herald* pointing out the responsibility resting with any medical man, from a medicolegal standpoint, who should, in the event of this man's death, have supplied him with the poison.—*Medical Press.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, February 16, 1905.

Perilous Calms of Appendicitis.—Robert Wallace Hardon sums up his paper as follows: Defervescence of symptoms and apparent better condition of a patient do not always mean recovery, but may be the forerunner of a more dangerous condition. There being no specific for the disease, no matter what treatment is used, the one who procrastinates should shoulder the responsibility for the death. When a clear diagnosis is made, but one treatment should be advised, that of operation as soon as possible under the conditions, or the golden opportunity may be forever gone. The physician who does not explain the great dangers of delay and the small comparative danger of operation is doing his patient a serious injustice, which often leads to fatal results. Operation at the proper time usually greatly shortens convalescence, and eliminates all danger from this cause hereafter. Procrastination is the greatest cause of surgical deaths, operation often being performed as a last resort, when but little hope of recovery exists.

The Prognosis of Epilepsy.—William Aldren Turner declares that sex plays little part in the general prognosis of epilepsy. As to the influence of sex upon the mental condition in epilepsy it appears that a larger percentage of women escape the deteriorating influence of epilepsy upon the mind than men, but that when dementia develops, a rather higher percentage of women are affected. The hereditary maladies taken into consideration in the writer's investigation were epilepsy and insanity. The conclusions in this regard are that there is as great a chance of arrest of epileptic fits in those who have, as in those who have not, a known family history of epilepsy. In those who have an hereditary history, the chances as to whether the fits become arrested, improved or confirmed, are in any given case about equal. As regards general improvement, more is to be expected in those who have no hereditary disposition, while a considerably smaller percentage of confirmed epileptics is to be found among those who have no family predisposition to the disease. A family tendency to either epilepsy or insanity, although it offers no obstacle to the arrest of the seizures in favorable cases, materially increases the likelihood of the disease becoming confirmed and the supervention of dementia. As to the influence of age at the onset of the disease, the writer concludes that epilepsy commencing in infancy and childhood is the least favorable for the arrest of the fits, and the most favorable for the production of the confirmed disease. The common type of the disease, or that commencing during puberty, is the most favorable form of epilepsy both in relation to the arrest of the seizures and the absence of mental infirmity. Adult epilepsy is unfavorable. Senile epilepsy is tractable. Generally speaking, the earlier a case is brought under systematic treatment, the more hopeful the prognosis and the greater the probability of improvement. The longer the interval between the attacks, the greater the prospect of arrest or improvement. Major attacks are more readily influenced by drugs than are the minor seizures. As to the cure of epilepsy, the writer speaks of 15 cases in his series out of a total of 147, which have been observed for a period of at least nine years, as being arrested for this time. This makes a percentage of 10.2 cures. It may be taken as a general rule that a cure of epilepsy has been established after an arrest of nine years. Nevertheless, a very small percentage of cases relapse after that period.

A Study of the Birth-Rates, General Death-Rates, and Death-Rates from Cancer for the New England States for the Year 1900.—William F. Whitney states that when compared with foreign countries our birth-rates are low. In a comparison of the death-rates for Massachusetts for the years 1850, 1875 and 1900, it has been found that a marked improvement has taken place in those of the earlier periods of life. From five to ten, the three more thinly populated states have a slightly lower death-rate than the others; from ten to forty there is practically no difference. From that on, each separate decade appears to be decidedly in favor of the more rural communities. However, when the ages are taken in the aggregate these differences are lost sight of. As to the death-rate from cancer, it appears that there has been a gain all along the line in each of the states. Massachusetts, however, is far below the others. It is scarcely credible that the greater gain in the other states is due to a real advance in the disease itself, but rather to more careful registration, which has now brought their vital statistics up to the standard of Massachusetts. The writer concludes by saying that it will probably be many years yet, even with modern accuracy, before the truth as to the alleged increase of cancer will be known. It is possible that it will then appear that at the end of the last century we were on the crest of a cancer wave, to the apparent height of which more accurate diagnoses and registration had greatly contributed, and the commencing secession of which is foreshadowed by its slight increase in Massachusetts for the quinquennium of 1900.

New York Medical Journal, February 18, 1905.

Locomotor Ataxia Successfully Treated with Ultra-Violet Rays.—J. M. Liebermann calls attention to the importance of diagnosis in the pre-ataxic stage and reports his results in the treatment of 36 cases of the disease. Of these 34 were males. The ages varied from 24 to 63 years. Four patients were restored to good health and were able to resume their usual occupations. Twelve were greatly benefited, their power of coordination restored, pain abolished and they became able to use unassisted the upper and lower limbs. In 18 the disease was apparently arrested, with hope of further improvement. Two died during treatment, one from lobar pneumonia and the other from erysipelas of the head. The author has employed local cataphoric dehematization before applying the ultra-violet ray. The lamp for the latter was excited by a static machine, the large Leyden jars being used as condensers. Sittings have been given thrice weekly from ten to thirty minutes. A warm half-bath has been advised together with light massage each night. Static electricity by means of the Morton wave current or wooden bunt has been given daily for from fifteen to twenty minutes. The author does not claim that this plan will cure every case, but feels much encouraged from results thus far obtained. He notes that the application of the ultra-violet ray to dehematized tissues should be made with great care and judgment. In his opinion it is a very powerful remedy and should never be applied to more than two localities at each séance, and the area should be varied so that every day a different region of the cord is treated. He divides the spine into three regions, cervical, lumbar, and sacral, treating these alternately or in rotation.

Fibroma of the Vulva.—T. S. Burr reports a case of this nature. He has found but comparatively few cases in the literature of gynecology, though he sees no reason why this region should be exempt on histological grounds. His own patient was a multipara of forty-two years. Several small masses had been removed from different vulvar sites during the previous eighteen years. When first seen by him, the patient presented four growths, all in the left labium majus, varying in size from a hickory nut to a large walnut. Operation was by enucleation and elliptical incision. Recovery was without incident. Eighteen months later there had been no recurrence. The author discusses the histology of these growths and the differential diagnosis of vulvar neoplasms.

Medical News, February 18, 1905.

Intrapleural Complications in Pulmonary Tuberculosis.—S. G. Bonney has observed over fifteen hundred cases of pulmonary tuberculosis in private work. He calls attention to several complications of this disease, the first one being pleurisy with effusion. This condition is far more frequent than is generally supposed. This is due largely to the fact that it is often overlooked. Sometimes small effusions—and even moderate ones also—exist without any rational symptoms to suggest their presence. The writer believes in the practice of ordinary aspiration in a case of pleural effusion of any nature and extent with any combination of rational symptoms, if the indications for its removal are sufficiently clear. A subsequent line of treatment can be safely and intelligently followed with the additional information secured through the gross appearance and the bacteriological examination of the exudate. The employment of the exploratory puncture for diagnostic purposes only, is, however, to be condemned. Ordinary aspiration when once practised should be repeated at intervals as long as there are valid indications for it, and it should be suspended whenever such conditions cease. If the effusion is purulent, the discussion comes under the head of empyema. The writer's custom in the empyema of consumptives, especially if it is not too far advanced, is to let it alone unless there is some special indication for interference. In such a case, simple aspiration is first employed. If this is not sufficient, syphon drainage should be instituted. Not until this proves unsatisfactory should there be resort to radical measures. The one exception relates to thoroughly septic cases with advanced tuberculosis infection and preferably with well circumscribed empyema. Such a condition demands free opening and thorough drainage at once. As to pneumothorax, the prognosis of acute cases must be regarded not only from their present condition but from the basis of their possible chronicity. In cases of open pneumothorax, the indications for treatment consists solely in excessive stimulation for a few hours. In urgent cases, besides stimulation, aspiration of the air is indicated. This is applicable only to cases of the valvular type permitting the ingress of air with each inspiration, but preventing its exit upon expiration and occasioning a positive hyperdistention in the pleural cavity. The prognostic influence of closed pneumothorax upon pulmonary tuberculosis, if unassociated with liquid, is not necessarily unfavorable. Indeed, actual benefit may result from the compression. The danger lies in the opportunity for the development of infection and the transformation of the condition into pneumopyothorax. This latter condition is likely to be unrecognized without a thorough and comprehensive chest examination. It is chronic. Aside from such considerations as hyperdistention, the prognosis is to a great degree, dependent upon the degree of sepsis existing, if any is present. Unless the gravity of the symptoms demand interference, it is well to let the patient alone. If, however, treatment is indicated, occasional aspiration, syphon drainage, and finally the permanent opening of the pleural cavity, may be necessary.

Case of Primary Malignant Tumor of the Lung.—Maurice Packard reports this case. The patient, a man fifty-five years old, began to be troubled with cough and pain five years before he presented himself at the clinic. There was no expectoration at first. Three years later, mucous expectoration appeared and gradually increased. Dyspnea became more intense and permanent. The expectoration became bloody. His weight kept constant during all this time, and he did not suffer from nightsweats or fever. The bowels were regular, and micturition normal. The patient denied ever having syphilis or any venereal disease. There was no trace of cancer or tuberculosis in the family. On examination, no enlarged glands could be felt in the cervical, axillary, epitrochlear or inguinal regions. Both jugulars were enormously dilated and tortuous. The superficial veins of the chest and upper part of the abdomen, especially on the right half of the trunk, were also greatly dilated and tortuous. There was a slight superficial edema of the right chest. The space above and below the clavicle was rather full. Respiratory motion was much reduced in the right thorax. On percussion, nearly the whole right chest was absolutely flat. Over the same area pectoral fremitus was completely absent. The voice was diminished. There were no râles. An aspirating needle introduced into the dull area seemed to enter solid material. A slight leucocytosis was present. No tubercle bacilli, elastic fibers or particles of tumor could be found. Careful search for actinomyces, and other abnormalities proved negative. The stomach examination showed the presence of free hydrochloric acid and the absence of lactic acid. The diagnosis of a primary neoplasm of the right lung was made. The patient remained under observation for two months, during which time the disease progressed with great rapidity. The patient died suddenly from a profuse hemorrhage. Autopsy revealed the presence of a typical flat-celled carcinoma in the primary growth, as well as in the metastatic deposits.

American Medicine, February 18, 1905.

Kidney Diseases Requiring Surgical Interference.—J. M. Baldy reports two cases of floating kidney, one of cystic kidney and adenoma, one of tuberculosis of the right kidney and ureter and one case of surgical kidney. In none of these five cases were the symptoms such as to draw attention directly to the diseased kidney, and yet all five patients were cured by operation. Baldy has often noticed this lack of prominence of the symptoms direct from the kidney and the chance of their being overshadowed by symptoms coming apparently from other organs. In many cases the patients have been sent for other troubles and their physicians were surprised when told of the true situation. In ordinary cases the kidney lesion should be readily detected; the diagnosis is not so very difficult, at least for a suspicion, if time be only taken for the investigation. Mistakes in diagnosis in the hospitals are almost always due to being tempted to operate the day after the arrival of the patient, because both the doctor (who comes a long distance and must return) and the patient desire it, and unless the kidney symptom is sufficiently prominent to draw attention at once at even a casual examination, we are tempted to yield.

The Efficiency of Copper Foil in Destroying Typhoid and Colon Bacilli in Water.—Henry Kraemer carried out a series of experiments for testing the efficiency of the copper method for the purification of drinking water. The experiments were made mostly with copper foil rather than copper sulphate. It was found that in every instance colon and typhoid bacilli were completely destroyed in less than four hours by placing strips of copper foil in water containing pure cultures of these organisms. In the duplicate experiments, namely, in those in which no copper foil was used, it was found that the organisms persisted and continued to multiply even for sixty days. Kraemer considers it extremely fortunate that in the copper treatment of water a method has been devised which is so effective in destroying intestinal microorganisms and which can be applied so easily on a large scale and so safely by the average householder. The method suggested for domestic purposes consists simply in placing a piece of copper foil 3½ inches square in a quart of water, allowing this to stand from 6 to 8 hours, or over night, at the ordinary temperature, and then removing the foil or drawing off the water.

Classification of Gastric Ulcers.—A. L. Benedict urges the same general use of the term ulcer in the case of the stomach, as of other parts of the body, first because there is no unanimously accepted definition of gastric ulcer and, second, if there were, it would be impossible to make all cases correspond to it. Without hemorrhage or opportunity for inspection, the diagnosis of ulcer can only be tentative, but a diligent search should be made for small hemorrhages. If hemorrhage is clinically demonstrated to be from the stomach, it almost always means an ulcer in the proper general sense of a solution of superficial continuity. He classifies ulcers of the stomach, including certain conditions associated with hemorrhage, as follows: (1) Peptic ulcer, the most frequent, occurs in patients who do not have apoplexy, thrombosis, embolism and organic vascular lesions elsewhere and in whom a primary organic basis for the necrosis is untenable. He asserts that the digestion of the necrotic area is not simply an erosion by excess of HCl and he is also skeptical as to the uniform association of hyperchlorhydria and peptic ulcer. (2) Superficial erosions due to chemic and thermic caustics. (3) Ulcers due to vascular lesions, occurring in syphilitics and in elderly persons. He reports such a case in detail and alludes to others. (4) "Catarrhal" ulcers, analogous to eczematous ulcers of the skin, not strictly separable from the foregoing, but without definite, conspicuous, local vascular lesions. (5) Varicose ulcerations, due to venous obstruction and, practically, almost always to hepatic sclerosis. (6) Toxemic diapedesis, as in scurvy, purpuras, etc. (7) Vicarious menstruation. (6 and 7 are not true ulcers.) (8) Gangrenous ulcer. Such cases usually illustrate 3 and 4 and, still more frequently, cancerous ulceration and do not really constitute a distinct, pathologic type. (9) Phlegmonous ulcers. Unless due to pyemia or subphrenic or other abscess contiguous to the stomach, such ulcers are usually due to iodin, poisoning. (10) Specific ulcers include exanthematous, pneumococcic, tuberculous, syphilitic, actinomycotic and similar conditions due to special germs and, by an extension of terms, those due to the breaking down of neoplasms, especially cancer. (11) Traumatic ulcers, due to foreign bodies, hard particles in food; crushing injuries, gross parasites, etc.

Strangulated Hernia in the Very Old.—D. C. Peyton believes the process of inflammation of the imprisoned loop offers a satisfactory explanation of the cause of strangulation. The obstructive venous congestion is the first step in the inflammatory process, and this inflammatory process, begun in obstruction, by pressure engorgement is the result of the increased activity and virulence of B. coli communis, and several varieties of the staphylococcus and streptococcus, which, if not arrested, results in gangrene and death. The treatment is operative only, and the earlier the operation the more satisfactory will be the results. He believes taxis is not only a mistake but a menace to the life of the patient and should never be resorted to. Extreme age should be considered a bar to operation, the patient's general condition should be considered only. In the very old, the minimum degree of general anesthesia is desired, so that the injection locally of Schleich's solution, along the line of incision has proved of great advantage by reason of its local effect. When the heart is weakened, the use of oxygen alternating with ether is an excellent precaution. Old people do not stand confinement to bed, so it is of greatest importance to get your old patients out of bed and into an invalid chair in not longer than four or five days. Turn them to the sound side in 24 hours after operation. Oftentimes success may be determined by this fact. Less than a year ago Peyton operated on a woman of 84, less than 8 hours after strangulation of a femoral hernia. The sac was opened, and extensive adhesions broken up, the omentum well pulled down, ligated and cut off, the intestine returned to the cavity, and the ring closed with the pursestring suture. The patient made an uninterrupted recovery; was out of bed and in an invalid chair in four days, and in 17 days walked.

The Journal of the American Medical Association, February 18, 1905.

Chylous Ascites with Eosinophilia.—L. Napoleon Boston reports a case of true chylous ascites occurring in conjunction with tuberculosis of the peritoneum, and points out the diagnostic features of this form as contrasted with those of pseudochylous effusion. In the latter the emulsion is less perfect and contains large numbers of epithelial cells and granular débris in various stages of degeneration and there are few fat droplets. It also collects more slowly, does not contain sugar as a rule, is not affected by diet as to the amount of fat contained or as to its odor, and a heavy sediment is likely to collect at the bottom. In true chylous effusion the opposite conditions are observed and there is no layer of fat globules such as may occur in the pseudochylous form. He analyzes 126 cases reported in the literature as regards sex, age, existing abdominal conditions, treatment and results, as well as their exciting causes, such as malignant disease, tuberculosis, cardiovascular conditions, liver affections, puerperal sepsis, congenital cysts, filariasis and injuries to the thoracic ducts and receptaculum chyli by obstruction or trauma. Sixty-one of the cases were females, fifty males, and in the remainder the sex was not given. The larger number of cases occurred after the thirtieth year of life.

Tuberculosis Sanatoria.—F. L. Hills outlines the essentials of sanatorium treatment of pulmonary tuebrculosis. He would make six months the minimum term of residence, excepting in the very incipient cases. He insists on the importance of following up the cases after discharge; this would give us valuable facts as to the ultimate results of sanatorium treatment, the percentage of permanent cures, duration of arrests, and other facts of importance for the guidance of future therapeutic work.

Intermittent Exophthalmos.—W. C. Posey reports an instance of this rare affection, of which he is able to collect only 39 cases in the literature. He thinks that it is probably more frequent than supposed. Its characteristic symptom is the pushing or falling forward of the eyeball when in a dependent position or when the return of blood from the head is interfered with by holding the breath, pressure on the jugulars, coughing, sneezing, tight collars, etc. The proptosis is usually unaccompanied by pain and the patient may be unconscious of it. Vision may be unaffected or permanently impaired or lost. Generally it is only impaired during the protrusion. The diagnosis is easy and the prognosis is generally good. The patient should avoid excessive strain and anything that causes the eye to proptose. Ordinarily operation should be advised against, though where hemorrhage has occurred and vision is threatened Hitschmann's counsel to lay bare and resect the affected veins may perhaps be followed, Krönlein's operation being resorted to if necessary.

Locomotor Ataxia.—Guy Hindsdale reports an apparently typical case of tabes without positive syphilitic history treated by rest, massage, electricity, and educational movements and, internally, nitrate of silver and extract of belladonna (as there was intolerance for the iodides). The symptoms gradually disappeared. In eight weeks there was an increase of nearly forty pounds in weight. The urine, which had contained albumin and casts, became normal, and in three months he returned to his former occupation apparently well. After three years he came again under treatment with similar symptoms. His weight was reduced to 104 pounds. The same treatment, with the addition of hypodermic administration of mercuric chloride, 1-20 grain twice daily, was employed with like results as in the first attack. In nine weeks he had gained forty-six pounds. The case is reported as of interest in showing the value of the rest treatment when employed sufficiently early with electricity and massage or exercise. While a cure is not claimed in the case, there is at latest reports improvement in all lines.

The Lancet, February 4 *and* 11, 1905.

A Case of Typhoid Fever Presenting Some Unusual Features.—The case is reported by Kenneth Anderson. The peculiar features of the case centered first of all about the diagnosis. The disease began with a rigor and acute localized nephritic pain. Cystitis also came on while certain chest signs led to a suspicion of tuberculosis. Widal's reaction, however, was positive, and the later appearance of spots, the enlarged spleen and the character of the stools led to a diagnosis of typhoid. The temperature subsided to normal after a run of fifteen days. There were then three relapses separated by short apyrexial intervals, and a later fourth recrudescence of fever. The discharge of a carneous mole was the first indication that pregnancy coexisted for a previous vaginal examination, had not detected any uterine enlargement, bimamial examination being hindered by rigid abdominal muscles. The foul condition of the uterine contents may have accounted for the pyrexia of the second relapse. Other points of interest were (1) The inability to continue the administration of digitalis by the mouth (called for by the weak heart), owing to gastric irritation so produced. Fortunately, the cardiac condition improved at this time. (2) The occurrence of stomatitis after the administration of mercury (given for constipation), in small doses for about three weeks. (3) The enlargement of the liver, which was present when the patient left the hospital. (4) The absence of any sequelæ.

The Prognostic Value of the Diazo-reaction in Typhoid Fever.—Basing his experience on results in sixty-five cases of the disease, J. D. Rolleston summarizes as follows: (1) In all but severe attacks the diazo-reaction tends to disappear in the course of the second or third week, this disappearance shortly preceding, or coinciding with, the commencement of lysis; (2) its reappearance during or after the completion of lysis is a warning of recrudescence or relapse, or of complications directly due to the specific bacillus; (3) a sudden disappearance of the reaction associated with a deterioration of the general condition is of bad omen; and (4) the character of the reaction is a useful check to the history.

Non-Traumatic Cerebral Hemorrhage in a Child Aged Ten Years.—H. Taylor reports the case, the patient being a little girl, previously always well, who suddenly put her hand to her head exclaiming, "Oh, my head!" gave a cry, fell down, and was in a minute or so very sick. The parents were at first inclined to ascribe the attack to overeating, but on raising her into a chair they discovered that "she had lost the use of her limbs." The author saw her about an hour afterwards. She had been very sick and was still inclined to retch. She was reclining in an arm-chair in a semi-comatose condition, her pupils were dilated and fixed, her temperature was 97.8° F., and her pulse was uncountable. The mouth was drawn over to the right side of the face, the head was inclined to the right shoulder, and her left leg was quite paralyzed, but the left arm was not so much implicated. Early the next morning she tried to "turn over" in bed, made an abortive attempt at vomiting, and quietly died. The father was a strongly built "workman"; the mother a weakly anemic rheumatic woman, had a large family, and one sister suffering from constantly recurring tonsilitis. A necropsy disclosed a hemorrhage which, starting from some vessel in the corpus striatum or optic thalamus, had literally ploughed its way into the right lateral ventricle, the resulting clot completely filling the cavity.

The Rôle of an Excessive Meat Diet in the Induction of Gout.—D. C. Watson has sought to determine by observations on animals, whether an excessive meat diet produced any specific action on the ductless glands. He finds that raw meat and water do profoundly affect the thyroid glandular system. In poultry such a diet induced a striking hypertrophy of the thyroid and parathyroid, the tissue of the former assuming appearances characteristic of simple parenchymatous goitre in the human subject, viz., great enlargement of spaces which were distended with colloid material, enlargement of the vesicle walls and in some areas, proliferation and shedding of the epithelial cells with hemorrhage into the vesicle cavities. The same diet in rats showed a diminution in the amount of colloid material, epithelial cell and connective tissue proliferation, vascular congestion and rapid degeneration of the colloid into a mucinoid substance, in other words changes suggestive of those seen in exophthalmic goitre in man. The author has no theory by which to explain the contrasted changes in the two classes of animals. He believes it possible that as one result of the excessive use of meat during recent years, there has been established in many subjects an alteration in the character of the thyroid secretion, which defect is remedied in the cases in question by the administration of thyroid gland. The adoption of this view has led him in the past year to try the effect of the administration of small doses of thyroid extract in two inveterate cases of chronic gout which had not been amenable to dietetic measures aided by skilled balneological methods. In both cases the symtpoms were relieved to a striking degree, this relief having been so far of a fairly permanent nature.

Carbonic Acid as a Factor in the Genesis of the Gouty State.—D. F. Shearer states that while it is not possible to show by direct experiment that either fibrous or muscular hypertrophy follow upon excess of carbonic acid or that the latter inhibits urinary secretion, clinical experience shows that in many patients, carbonic-acid excess will produce high vascular tension with headache, vomiting and partial anemia, and that as recovery comes on, we get a soft pulse and profuse diuresis, the urine being loaded with water. These attacks may be due to excess of food, especially alcohol and lack of proper exercise, or the breathing of air containing carbonic-acid excess. Persistent excess may lead to chronic nephritis and arterio-sclerosis. Now, gout as well as the two diseases just named, and in fact, all so-called uric-acid conditions, are bound up with antecedent states in which the main and common factor is the carbonic-acid excess in the arterial blood. This it is which determines whether the uric acid shall be eliminated or retained. Its power to limit the water secreted by the kidneys may be overborne by the high tension in the glomeruli while still retaining the controlling influence over the uric acid. This latter, then, in this view, occupies a secondary place, it remains no longer an etiological factor but becomes merely a retained normal secretion which under certain conditions obtains a pathological importance by being deposited in the neighborhood of a joint and becoming the active cause of a local inflammation. The primary place must be assigned to the unnatural excess of carbonic acid in arterial blood as the most potent factor in bringing about those changes which go to make up the gouty state.

The Rational Treatment of Fractures.—According to J. S. Mellish, the surgeon's duty is, after having approximated the fractured ends of the bone, to keep the circulation of the limb in a healthy condition. Hence the less splinting necessary, the better, and dependence must be placed upon rubbing and movement of a voluntary kind. When we are obliged to use a splint as with the humerus or femur or both bones of the leg, rubbing must be practiced, and the patient induced to move his joints voluntarily every day, the splints being removed for this purpose, and then replaced. The rubbing should always be in the direction of the venous return, commencing at the proximal end of the swelling in the region of the fracture, and working toward the distal end. The joints are given free play where possible, and in this way wasting and stiffness are reduced to a minimum. The patient must be persuaded to execute, while the bone is held, all the movements normal to the joints between which the fracture lies. The author considers this plan both more rational and more efficacious than to wait a conventional time after the receipt of the injury and then begin passive motion.

General Gonococcal Infection.—W. H. Wynn reports three cases with autopsy findings. The lesions and symptoms in such a state are referable to (1) direct infection with the gonococcus itself; (2) the absorption of a toxin, and (3) mixed infection with other germs. There is no longer doubt that the gonococci can circulate in the blood and produce the lesions found in the various organs. The author gives some statistics as to isolation of the gonococci in general infection, and describes the technical methods employed in studying them under such conditions.

British Medical Journal, February 4, 1905.

The Prodromal Rashes of Measles.—J. D. Rolleston believes that the frequency and diagnostic value of the prodromal rashes in measles entitle them to a wider recognition than they have at present received. Large statistics are not available. In the writer's cases the percentage of such rashes has been estimated at 42.8%. The average age of 30 patients showing a prodromal rash was 3.5 years. In the majority of these cases, this rash appeared on the first day of the disease. The following varieties of rash have been met with: Isolated macules, blotchy erythema, isolated papules, urticarra, scarlatiniform rash, and circinate erythema. The trunk is the favorite site. The postauricular region is the next more frequent spot. These rashes have a very short-lived existence, although the scarlatiniform eruptions may last for a day and a night, and the isolated macules and papules longer. The distribution of these rashes is capricious, as they may be met with in any part of the trunk or limbs. Several varieties of eruption may appear simultaneously. These prodromal rashes are strikingly free from cutaneous irritation. There is no noticeable pain nor pruritus nor any subsequent desquamation. In measles, the initial rashes do not appear to be of any assistance in prognosis. The course of the disease in ths cases in which they were noted, in no way differed from that of the cases in which they were absent. The occurrence of the rashes above mentioned, in an epidemic focus, should alone arouse suspicion of infection, and prompt examination of the buccal mucosa for Koplik's spots and the characteristic stomatitis should be made, and a close watch for any catarrhal symptoms should be instigated. In only two cases did the prodromal rash appear subsequent to the catarrhal symptoms. In some of the cases, the rash preceded the appearance of Koplik's spots, while in others the two phenomena were first observed on the same day.

Note on Lobar Pneumonia Following Measles.—F. C. Bottomley has noted in his observations that the occurrence of lobar pneumonia is more frequent than that of bronchopneumonia as a complication of measles. These cases have been marked by the same characteristics as are present in ordinary lobar pneumonia in children—sudden onset without preliminary bronchitis, and a generally favorable termination. The writer has observed thirteen cases. The ages of the children varied from one year to five years. In seven cases, the pneumonia began at the time the rash appeared. In all of the cases the pneumonia appeared before the rash had died away. One or both lobes in all cases were affected. In five cases one side only was involved. The disease in some instances terminated suddenly, in others, gradually. Rarely did the temperature exceed 102° F. All of the cases recovered, with the exception of one boy of eighteen months, who died of convulsions two days after the crisis. Bronchitis was not present in any case. During the period in which these cases occurred, only three cases of bronchopneumonia following measles were seen, and they all died. These data show the difference in the severity of the two affections. It is important to differentiate these diseases, in order to be able to give an intelligent prognosis.

Case of Precocious Puberty in a Female Cretin.—F. Wellesley Kendle reports the case of a cretin aged nine, the youngest of seven children. She presented the appearance in general of a typical cretin. But in one particular, she was different from every other recorded case. The breasts were fully developed, with well-shaped prominent nipples. There was coarse hair in the axillæ and pubes. Menstruation had begun at the age of five, and had continued at irregular intervals of from two to four months. After being on thyroid extract for six months, she has made great progress. She has grown nearly five inches in height, and has lost seven pounds in weight. She is far more intelligent. She has cut four double teeth, and is shedding her decayed incisors. The coarse hair has been replaced by a much finer growth. The skin is soft and natural, and the improvement in every respect is most marked. She has not menstruated since the thyroid extract was resumed—for at the time the child was weaned she was treated for about two years with the extract with great success, but was then lost sight of till the age of nine. The breasts are much smaller, the nipples less prominent; the hair has disappeared from the axillæ and pubes. The voice is not so deep, and the whole organism seems to have reverted to a more childlike type. The latest note was made in January, 1905. Progress still continues, menstruation has not returned. The child has grown another two inches.

Green Milk.—G. Arbour Stephens observed a woman, the mother of a baby of twelve months, whose milk was green. The milk seemed very rich in fat, and was of a duck's egg green color. The woman stated that the first lot that was drawn off was of a much darker shade of green, "like a leaf." On testing with nitric acid, the writer did not get the display of colors characteristic of this test for bile pigment. The woman was taking no medicine, nor was a belladonna plaster or paint applied to the breast. The milk was green as it came away from the breast, and not as a result of changes produced while standing. The writer asks what was the cause of this sudden change in the milk?

Berliner klinische Wochenschrift, January 30, 1905.

Intestinal Putrefaction in Catarrhal Jaundice.—Blumenthal records observations made on the urine in a case of catarrhal jaundice in order to determine the best criterion of the degree of intestinal putrefaction going on in such cases. Many authors have asserted that estimation of the ethereal sulphates in the urine gives a satisfactory index of the amount of albuminous decomposition; but others have pointed out that this method is incomplete since not all the aromatic bodies produced take this form, and advise directing the attention to some single aromatic product like indican. In the author's case, however, this would have led to very erroneous results as the indican was entirely absent on some days, and increased in quantity only during convalescence when bile began to be poured out into the intestine again. The author's view is that in order to obtain a reliable indication as to the amount of intestinal putrefaction it is not sufficient to measure any single product such as the indican, phenol or ethereal sulphates, but that in addition to all three it is necessary to ascertain the quantity of the volatile fatty acids formed in order to determine whether acid fermentation may not be taking the place of the production of aromatic bodies. In the present case the total intestinal decomposition products were much increased during the period when bile was absent from the intestine, but were especially high at the time when the secretion began to reappear.

Chemical Features of Carcinoma.—Neuberg reports some experiments which he believes will, when elaborated, have bearing on the nature of carcinomatous cachexia. In previous communications he has shown that the *x*-rays have the property of modifying the fermentative processes in carcinoma cells, and that in the autolysis of carcinomatous tissue from the liver reducing pentose is to be found, which is not the case in autodigestion of normal liver. In the present study he used not only the cancerous material found in the hepatic metastases, but also that obtained from the primary focus in the stomach. It was found that autolysis of the hepatic growth yields abnormally large amounts of pentose, whereas the material from the stomach gave the opposite result. That is, in their migration from one organ to another the carcinomatous cells either suffered a change in already existing ferments or new ones were formed. Digestion experiments carried out with liver carcinoma and lung tissue gave results exactly opposite to those obtained when healthy liver is used. The carcinomatous extract produces abnormally great decomposition of the pulmonary albumins, but is not able to break up the resulting albumoses, which probably reach the circulation. These observations, showing the radical departures from the normal exhibited by the cells of malignant growths in regard to their enzyme content, appear to have a decided bearing on the production of cachexia.

Münchener medizinische Wochenschrift, January 31, 1905.

A Simple Test for Bile Pigment.—Presslich says that he has found a method which, for practical purposes at least, presents many advantages over the tests for bile in the urine usually employed. It consists simply in adding to the suspected urine a few drops of foaming nitric acid, and stirring. In the presence of bile pigment a well marked green color is produced. Comparison with Gmelin's and Rosin's tests showed that the author's method yields more satisfactory results. It does not react to urobilin, nor to the substances occurring in the urine of patients who have been taking rhubarb, salol, aspirin, sodium salicylate or antipyrin. The simplicity of the test, the ease of performance, and the fact that large quantities of urine may be turned green by the use of fifteen to twenty drops of the acid, so that the color is easily recognizable, render it a useful method for everyday use.

A Case of Acute Syphilitic Nephritis.—Thiemann reports what he believes is an indisputable case of acute nephritis of syphilitic origin, inasmuch as it conforms to the postulates set by Welander, Justus and Karvoner. These are: (1) that the kidneys were healthy before the syphilitic infection; (2) that the nephritic manifestations ran a parallel course with the other syphilitic symptoms; (3) that the albuminuria was cured or improved by the use of mercury. The patient was a woman of twenty-four, with a negative past history, who exhibited a typical syphilitic eruption together with generalized edema, hydrothorax and ascites. The spleen was enlarged and a well marked chancre was found on one labium. There was a systolic heart murmur, and the urine contained 1% of albumen (Esbach), and many casts. One-half gram of bichloride of mercury was given in fifty hypodermic injections, and at the end of two months the patient was discharged relieved of all symptoms. The eruption, ascites, edema, heart murmur, etc., had all disappeared, and the urine remained permanently free from albumen. The complete restoration of the kidneys argues for the fact of their having been in healthy condition before the onset of the specific infection.

Deutsche medizinische Wochenschrift, January 19 and 26, 1905.

The Dangers of the Common Communion Cup.—Roepke and Huss have made an extensive series of experiments to determine how great the danger of the transmission of disease germs through the agency of the communion cup really is. Sterile cups of the usual type, and containing sterilized wine were drunk from in succession by several healthy persons, and then by individuals known to have tuberculosis. The recommendations of the Imperial Health Commission to the effect that the cup shall be turned before presenting it to a fresh communicant, and that its rim shall frequently be rubbed off with a clean cloth, were carried out, but of the ten rabbits inoculated with the material obtained by wiping the lip marks with sterile gauze, eight died of tuberculosis. Not only was the rim of the cup capable of conveying infection even after rubbing with a clean cloth, but it was found that the wine itself also became infected, so that the presentation to each person of a fresh spot on the rim would not insure security. The only solution of the problem which is practical is for each communicant to have his own cup, while the church should have a suitable supply of individual cups for those who come without them, and out of deference to those who have conscientious scruples, the older form might still be retained for the use of persons preferring it.

The Diagnosis and Treatment of Renal Tuberculosis.—Casper reviews the various diagnostic measures at our command for the detection of renal tuberculosis, and says that he considers positive results after guinea pig inoculation the most important aid in recognizing the existence of the disease, and that catheterization of the ureters is essential to the determination of the side on which it is located, and of the condition of the other kidney. The statistics of five surgeons operating before the introduction of ureteral catheterization, and of five others who employed the measure, serve to emphasize the value of the procedure. Without ureteral catheterization 129 nephrectomies are reported with a mortality of 21.7%; with ureteral catheterization 130 nephrectomies with a mortality of 10%. As the operative technique has been practically unchanged during the last five years, the better results must be due to the improvement in diagnosis. This is still more plainly shown by the fact that of the deaths under the old school 22.7% were due to insufficiency of the remaining organ, while the later operators lost only 7.7% from this cause.

The Exhaustion Diseases of the Nervous System.—Edinger at the termination of a series of papers on this subject summarizes his views as follows. All of the diseases of the nervous system may be classified as focal affections, toxic affections, and exhaustion affections.. The normal exhaustion of the nervous system is demonstrable by morphological changes, and when the process is carried too far, or is not compensated for by repair, destriction of cells and fibers follows. Conditions in which this occurs the author terms exhaustion diseases, and he says that they may arise in the following three ways: (1) Through excessive demands on the normal functions and normal repair; types are occupation atrophies and neuritises. (2) Through insufficient compensation for normal function, nearly always caused by some poison such as lead, syphilis, etc. According to the nature of the poison, the exhaustion has different forms. Types are: Polyneuritis, tabes, combined systemic diseases, paralysis. (3) Through innate inability of the separate tracts to withstand the demands of the normal functions. (Types are, the hereditary nervous disorders, most combined scleroses, spastic paraplegia, amyotrophic diseases in the medulla and cord, etc. In types one and two, either one or several tracts may be successively or simultaneously diseased, tabes being one of the commonest instances of such combinations. This conception is important both for prophylaxis and treatment. Since the author has allowed his tabetics to walk very little, and to perform only such exercises as are not fatiguing, and directed them to urinate every hour, to wear smoked glasses in the sunshine, and to dread all exertion, the general improvement has been very marked, and the same principles are to be applied to neuritises, palsies, etc.

French and Italian Journals.

Physiological Effects of Ovariotomy in the Goat, Especially on the Milk.—P. Oceanu and A. Babes have performed ovariotomy on the goat in order to note the effects of this operation on the elements composing the milk, on the fattening of the animal, on the prolongation of the lacteal secretion, and on the disagreeable taste and hircin odor of goat's milk. The operation was practised on the goat as on the sow, through the flank, and not through the vagina, on account of the narrowness of the vulva and vaginal canal. The advantages of the operation are as follows: The hircin odor of the milk disappears, ovariotomy being a means more simple, less costly, and more rapid in its effects than selection, and attaining the same result. The duration of the period of lactation is increased—from thirteen to fifteen months in the animals operated upon. The animal's fat increases and the flesh becomes superior to the original, without the disagreeable taste and without the hircin odor. The amount of milk given is increased. The physiological constituents of the milk are advantageously modified, in that the quantity of butter, of casein and of phosphoric acid is increased, while the amount of lactose is diminished.—*Le Bulletin Médical*, January 25, 1905.

Recent Observations in Relation to General Paralysis.—Guilly has studied in detail the etiology of aortitis which a large number of general paralytics and tabetics exhibit. He offers the following conclusions: In the course of tabes, aortitis is frequent. It is, with myocarditis and cardiac sclerosis, the cardiac lesion which is encountered in ataxic patients. Aortitis, like tabes, may be of syphilitic origin; it may be syphilitic aortitis, either acute or chronic, or it may be hereditary syphilitic aortitis. Specific treatment has a curative action on acute aortitis and on its subsequent attacks, as it has on tertiary phenomena in general. It has less effect on chronic aortitis. The treatment has no effect on the dystrophies consecutive to hereditary syphilis. In the course of general paralysis, aortitis is frequent, being found once in about five cases. Aortitis, as seen by the writer, has developed for the most part in young general paralytics, or at least in those under 45 years of age. It is, therefore, difficult to attribute these lesions to the advanced age of the patient. In the absence of any other appreciable cause, it seems to the writer permissible to refer to syphilis as the cause.—*Revue Française de Médecine et de Chirurgie*, January 23, 1905.

A Fatal Case of Amebic Dysentery.—Albu observed this unusual case. The patient lived in Berlin, and was a man of 22 years. He had never been out of Europe. While on a trip to Silesia he contracted, in an unknown maner, a severe case of dysentery which proved rebellious to all treatment and which ended in his death after six months of suffering. At every microscopical examination of the stools there were found, and always in considerable numbers, amebæ characteristic of the dysentery of the tropics. In the last weeks of the illness these amebæ completely disappeared. At autopsy, ulcers were discovered involving the mucosa of the large intestine, extending from the anus to the valve of Bauhin. These lesions were not limited to the mucosa, but were found here and there in the muscular layer, although not having caused complete perforation.—*La Presse Médicale*, January 14, 1905.

Book Reviews.

Being Done Good. Comments on the Advance Made by Medical Science During the Past 5,500 Years, in the Treatment of Rheumatism. By Edward B. Lent, with a Foreword by Charles M. Skinner. Second Edition. Brooklyn-New York: The Brooklyn Eagle Press, 1904.

This is a humorous, and yet, beneath the surface, a truly pathetic, account of the author's search for health and deliverance from the pangs and disabling fetters of chronic rheumatism. He begins with the regular physician, and carries his readers through the baths of all kinds—electric, Turkish, and natural mineral water—the plaster cast of the orthopedist, the fathomless idiocy of the Christian Scientist, the manipulations of the osteopath, the dilutions of the homeopath, the visions of the clairvoyant, the teas of the herbalist, and the magnetic fluid of the natural healer. He tried ointments and blisters, electricity and cataphoresis, stomach washing and liver medicines, the advice of friends and the wisdom of the consulting physician, and then sat down—or, rather, sat up in bed—to tell of his experience. He sees the humor of it all, and brings this out in his narrative, ignoring the pain and the suffering; and with every right to rail at the powerlessness of medicine to relieve, and to curse therapeutic pretension, there is never a bitter word, never an unkind one. Through it all there is a lesson and an example of the patient and even cheerful bearing of one's burdens that many a less afflicted reader may well take to heart and meditate upon with profit to himself and relief to those about him. The book is one, too, that physicians may read with profit, especially when they are disposed to descant with words of pride and vain boasting upon the triumphs of the healing art. Chronic rheumatism is an old disease, probably as old as seasickness, and it seems to be just about as amenable as the latter to the therapeutic tentatives of the physician and the healer. But there is no need to drop into cynicism; we can read the book, and read it with appreciative enjoyment, as the author would have us to do.

Atlas and Epitome of Operative Ophthalmology. By Dr. O. Haab of Zurich. Edited with editions by George E. de Schweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania. Philadelphia, New York, and London: W. B. Saunders & Company, 1905.

This new volume by Prof. Haab forms an admirable conclusion to his series of atlases on the eye beginning with a discussion of the proper arrangement of operating rooms, the subject of narcosis, and the sterilization of ophthalmic instruments, the eye operations are next described with all the accuracy that the author's many years of conscientious practice on the eye warrant. The colored illustrations show with clearness of detail the most recent methods of performing the major operations. Dr. de Schweinitz, as editor of the work, has added much of practical worth and interest.

Guide to the Examination of the Throat, Nose and Ear. For Senior Students and Junior Practitioners. By William Lamb, M.D., C.M., Edinburgh. Honorary Surgeon, Birmingham Ear and Throat Hospital. New York: William Wood & Co., 1905.

Of introductory manuals to the study of the specialties there seems to be no end. All traverse the same ground, but as each teacher has his own point of view, so each manual has its peculiarities. The present one is simple and well executed. It follows to a certain degree, the laboratory method of teaching in that the reader is gradually carried from simple matters to those more complex and is told what he should look for and how to find it. An occasional dogmatic statement crops out, but this is to be expected under the circumstances. On the whole we regard the manual as one to be commended to those for whom it has been written.

The Art of Cross-Examination. By Francis L. Wellman of the New York Bar. With the Cross-Examinations of Important Witnesses in Some Celebrated Cases. New and Enlarged Edition. New York: The Macmillan Company; London: Macmillan & Co., Ltd., 1904.

No doubt the accounts of operations and dissertations on painful maladies found in medical works appear sufficiently horrifying to the lay reader. The feeling must be something akin to the sensations with which one follows the present author as he details the various "methods" likely to be found serviceable to the cross-examiner in extirpating the self-possession of a witness, cauterizing his nerves, probing his past, and decorticating his inner consciousness; but the surgeon at least performs his manipulations under an anesthetic, and the sufferings he inflicts are physical, whereas it is the mind that is tortured by his brother of the gown. Still, the volume is fascinating enough, with its excerpts from the notes of famous trials to illustrate the tangled webs woven by skilful counsellors to enmesh their victims, and many a tale of the discomfiture of medical witnesses is used to point a moral and adorn the narrative.

Malignant Disease of the Larnyx (Carcinoma and Sarcoma). By Philip De Santi, F.R.C.S., Surgeon to the Throat, Nose and Ear Departments, Westminster Hospital, etc. London, New York: William Wood & Co., 1905.

This book is an exposition of the well-known views of modern English surgeons on the matter of malignant disease of the larynx. The general attitude taken is that exploited so widely by Butlin and Semon. This portion of the work traverses only familiar ground. Statistics are here collected and some of the unusual cases on record are briefly analyzed. Particular emphasis is laid on the lymphatics of the region which, according to the author, are sharply divided into an upper area and a lower, they being separated by an intermediary zone formed by the true vocal bands, at which level the lymphatic radicles are very scanty though not wholly absent. This peculiarity explains the fact that intrinsic growths give late glandular involvement, while extrinsic growths show it early. In fact the whole matter of local spread of the disease is conditioned on the arrangement of the lymph channels. The book is interesting and accurate.

Blood, Urine, Feces and Moisture. A Book of Tests. By Henry Emerson Wetherill, M.D. Philadelphia: George P. Pilling & Son, 1905.

This book of test scales consists of five circular charts colored to correspond with the percentages of hemoglobin in the blood during life and twenty-four hours after death, to standardize the colors of the urine, to show the gradations from blue to pink manifested by a disc of cobalt paper as it becomes permeated by moisture, and to form a fecal color scale. A descriptive list appended to the latter recognizes one hundred different phases of fecal-coloration. The general idea and execution of the booklet are excellent, though the author's prefatory assertion that it is made to stand wear in use is not borne out by the facts, for three of the leaves of the present copy have become detached in the comparatively slight handling to which it has been subjected by the reviewer.

A Practical Treatise on Nervous Exhaustion (Neurasthenia), Its Symptoms, Nature, Sequences, Treatment. By George M. Beard, A.M., M.D., Fellow of the New York Academy of Medicine; of the New York Academy of Sciences; Vice-President of the American Academy of Medicine, etc. Edited, with Notes and Additions, by A. D. Rockwell, A.M., M.D., Neurologist and Electro-therapeutist to the Flushing Hospital; Professor of Electrotherapeutics in the New York Post Graduate Medical School and Hospital, etc. Fifth Edition, Enlarged. New York: E. B. Treat & Co., 1905.

On its first appearance this book at once received recognition as the standard treatise on the subject of nervous breakdowns, and subsequent experience has found but little to add to the original matter. The present edition differs from its predecessor in the addition of a chapter by Dr. Rockwell on the relation of the neuron theory to the conceptions of neurasthenia. While it is not unlikely that the neuron theory, as it now stands, will before long undergo more or less radical modification, as the works of Apathy, Nissl, and others seem to foreshadow, it is instructive to see the clinical and theoretical aspects of the subject correlated, and this Dr. Rockwell has accomplished in adequate fashion.

A Manual of Personal Hygiene. Proper Living upon a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A.M., M.D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia; Secretary of the Section on Ophthalmology, American Medical Association; Associate Member of the American Ophthalmological Society; Fellow of the College of Physicians of Philadelphia, etc. Contributors: D. H. Bergey, M.D., J. W. Courtney, M.D., George Howard Fox, M.D., E. Fletcher Ingals, M.D., Walter L. Pyle, M.D., B. Alexander Randall, M.D., G. N. Stewart, M.D. (Edinburgh), Charles G. Stockton, M.D. Second Edition, Revised and Enlarged. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

The appearance of the second edition of this work now only a short time after the first, is evidence that it has fulfilled the aim with which it was written. The book is made up of eight sections, each written by a prominent American physician upon his chosen specialty. In this volume new and fully illustrated chapters are presented on Domestic Hygiene and on Home Gymnastics, as well as an Appendix containing methods of Hydrotherapy, Thermotherapy, Mechanotherapy, and First Aid suggestions in medical and surgical accidents and emergencies. This manual is written with a simplicity, conciseness, and authority that make it invaluable for all interested in personal hygiene.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, Held January 17, 1905.

DR. CHARLES H. LEWIS, CHAIRMAN.

Report of Case of Muscular Insufficiency of the Heart, with Gross and Microscopical Findings.—Dr. BOND STOW reported this case to show the error in physical diagnosis, comparing it with the post-mortem diagnosis. The patient was a man aged 61, a laborer, who weighed 245 pounds. He had used whiskey in large amounts for the past fifteen years and chewed tobacco in considerable quantities. He denied any venereal history except gonorrhea. His general health up to recently had been excellent. During the past four years he had had varicose ulcers on each leg. One year ago he had an attack of polyarthritis rheumatica, with apparently good recovery. Three weeks ago a cake of ice fell and crushed three of his fingers, for which he sought hospital aid. Ten days after entering hospital he noticed that he had some dyspnea, particularly upon lying down. He had also a short hacking cough, worse at night whenever he attempted to assume the reclining position. On November 9 his legs began to swell and his scrotum became edematous, but the edema soon disappeared. He complained of palpitation of the heart, headache, dizziness, and diarrhea. He expectorated a white, frothy, transparent, mucous sputum. The patient was a bright and intelligent man, with powerfully developed muscles; his skin and mucous membranes were cyanotic. He assumed the half sitting, half reclining posture, favoring the right side. There was edema of the eyelids, the scrotum, and the lower extremities. There was a venous pulse in the neck. The chest was barrel shaped. The lower right and left side anteriorly appeared to be distended, with the intercostal spaces well filled out. The respiration was rapid and labored, of abdominal type. The upper half of both right and left chests anteriorly was hyperresonant as far down as the third interspace. Vocal fremitus was increased in the upper half of both chests. In the lower half anteriorly and posteriorly it was lost. Mucous rales were heard over both sides and at the sixth interspace in the axillary line, immediately above the line of extreme dullness, was heard distinct amphoric breathing. The apex beat was in the sixth interspace, 1.5 cm. to the left of the mammary line and fully three fingers in breadth. The area of dulness, on the left side, was relative at the upper margin of third rib, absolute in the third interspace; on the right side, relative 2.5 cm. to right of right sternal line as high as third interspace, absolute 1.5 cm. to right of right sternal line. Epigastric pulsation was well marked. At the apex there was a loud presystolic systolic murmur, that at times was distinctly solely presystolic in character. The pulmonic sound was very strongly accentuated. Over the fifth interspace on the right sternal line could be heard a distinct systolic murmur. There was pulsation to be felt in the second interspace at the left sternal line, and also absolute dulness on percussion at this point. No distinct thrill could be felt at the apex, but at the third interspace one could be felt which appeared to be presystolic. A liver venous pulsation could be readily made out. The abdomen was moderately distended with fluid. The urinary analysis showed the presence of a passive congestion of the kidney. The diagnosis made was mitral insufficiency and stenosis, probably dating from his attack of polyarthritis rheumatica of a year ago, which caused an endocarditis that involved the mitral valve in usual fibrous changes found in endocarditis of rheumatic origin. Also relative insufficiency of tricuspid with passive congestion of the internal organs, fatty degeneration of the heart muscle with failing compensation causing edema of the lower extremities, etc. The post-mortem examination was made on November 23. The chest was found to contain about 800 c.c. of a pale transparent fluid in the left pleural cavity and about 1,000 c.c. in the right. There were no evidences of any pleuritis. The visceral and epicardial layers of the pericardium were united by young tender fibrinous bands that readily admitted being torn apart, evidence of a very recent pericarditis. Both ventricles were soft and flabby, and filled with a dark bluish non-coagulable blood and appeared to be dilated to their fullest extent. Upon opening the heart there were no evidences of any endocardial changes whatever. All valves appeared to be normal in structure. The weight of the heart was one pound ten ounces. The heart muscle was of a pale light brownish color. The papillary muscles showed streaks of yellow. Both lungs showed extreme congestion and edema, but there were no other evidences of pathological changes. The spleen was one-half larger than normal, weighing eight ounces. The liver weighed four pounds and three ounces and was of firm consistency. The blood vessels were deeply congested. The post-mortem diagnosis was fatty degeneration of the heart muscle with resulting muscular insufficiency of bicuspid and tricuspid valves, with subsequent cyanotic induration of the internal organs. The immediate cause of death was edema of the lungs and brain, in consequence of failing compensation of heart lesion. The particular interest in this case lay in the comparison of the diagnosis with the post-mortem one, where it was proven that the endocardium was entirely free of any inflammatory change.

Four Cases of Exophthalmic Goitre in One Family.—Dr. JOHN J. COTTER presented clinical reports of these four cases occurring in one family. The father was to-day sound and well at the age of 60 years. The mother had a "full neck" and died at the age of 42 years from valvular heart disease.

The first case was in a girl aged 12 years, the youngest of the family, in whom nothing was noted until July, 1904, when she appeared paler than normal. The child was found to be anemic, with a slight fulness in the thyroid region on both sides. The pulse ranged from 86 to 100 and was regular. There was no exophthalmos. A tonic was ordered and the child had been in apparently good health ever since.

The second patient was a woman aged 28 years, first observed in February, 1904. She complained of frontal headaches, tired easily, but complained of no cardiac symptoms. She had a very palpable increase in the size of the thyroid, more on the right side. The pulse was 99 and of good quality. Tonic measures and rest were instituted, but without effect except for a lesser degree of the anemia.

The third was a young woman, 19 years old when first observed. On exertion she had fluttering of the heart and dyspnea. Her color was fair. There was no exophthalmos or interference with vision. There was some tremor of the hands. The thyroid gland was moderately enlarged and firmer than normal. The pulse was rapid, from 100 to 120, was soft and compressible. The heart was hypertrophied and displaced to the left, with apex beat diffused. Since September, 1902, she had been under continuous observation and various combinations of arsenic, iron, belladonna, and strophanthus seemed at times to affect the heart's action favorably, but there was no freedom from the pain in the lower abdomen or along the vertebral column. In October she went to the Island of Guernsey for a change of environment, and there had been reported some general improvement.

The fourth patient was a lad aged 17 years, a clerk, first seen in December, 1902. He had been ill for some time. Sore throat was the only thing complained of. Both tonsils were greatly hypertrophied and the pharyngeal wall was studded with many islands of lymphatic tissue. The thyroid gland was enlarged bilaterally, the neck measuring fifteen inches at the greatest circumference. There was no exophthalmos. The pulse was 120. The heart was hypertrophied, the apex beat was diffused, the sounds were accentuated, but there were no murmurs. The tonsils were excised and a diagnosis of status lymphaticus suggested itself then. An interval of almost two years passed before he again presented himself. On February 6, 1904, the goitre was very prominent and the neck measured fifteen and three-quarters inches. There was dyspnea on moderate exertion. His sleep was much disturbed by coughing. His pulse was from 120 to 135 and irregular. On March 23, 1904, the patient had lost much flesh and strength and the anemia was very pronounced. Very severe dyspnea manifested itself upon the least exertion. Excision of the thyroid was performed, it having been decided that this offered the best hope for improvement. The patient did not regain consciousness and died suddenly ten hours after operation.

Dr. William H. Thomson believed that the surgical treatment of exophthalmic goitre would soon be abandoned, and that the whole condition was due to an intestinal toxemia and did not depend on lesions of the thyroid gland.

Dr. L. Pierce Clark presented a photograph of exophthalmic goitre with unilateral exophthalmos and referred to his experience with operative cases seen at the Vanderbilt Clinic.

Dr. William B. Noyes spoke of a patient with exophthalmic goitre which had been treated by him in the Demilt Dispensary, and who had died on the table during an operation for the removal of the cervical sympathetic ganglia.

The Treatment of High Blood Pressure.—Dr. George B. Wallace read this paper. By blood pressure was meant the pressure under which the blood was circulating through the arteries, reaching a maximum with the ventricular systole, equivalent in normal adults of from 90 to 145 mm. of mercury, and a minimum with diastole, which was about 30 mm. lower than the systolic. The average systolic pressure was about 120 mm., the diastolic about 90 mm. He then considered a number of different factors which entered into the maintenance of this normal pressure. The output of blood from the heart, other factors being unchanged, must be fairly constant, and this depended upon the strength of the individual contractions and the rate at which the heart was beating. Secondly, the degree of constriction or relaxation of the peripheral blood-vessels was an important factor in regulating blood pressure. Thirdly, the volume of circulating blood had a definite relationship to the blood pressure. These various physiological factors did not act independently of each other, but a condition of equilibrium existed in a normal individual; if this equilibrium was partially or completely lost, then the condition would become decidedly pathological.

Among the different pathological conditions giving rise to hypertension were found some which exerted a rather temporary effect, which passed off as soon as proper treatment removed the exciting cause, and in this category would be included decidedly nervous temperaments, the excessive use of tobacco, and Graves' disease. The fault here seemed to be due to some disturbances of the nervous mechanism, either a lack of equilibrium between vagus inhibition and sympathetic stimulation, or a condition of increased irritability of the vasomotor center. Another condition which might be termed a temporary one was angina pectoris. The high blood pressure was due to a reflex set up by the anginal pain. The fatal result was explained as follows: The nerves of the heart were in a very irritable and hypersensitive state. Some slight cause, acting suddenly, increased their irritability, and the typical cardiac pain appeared; reflexly, an arterial spasm occurred and, finally, the heart failed through inability to cope with the greatly increased peripheral resistance. The pathological state most responsible for, or at least most generally accompanied by, high blood pressure, was arterial sclerosis. A cardiac hypertrophy was a regular accompaniment, almost always confined to the left ventricle. It would seem, however, that no special relationship existed between general arterial sclerosis and cardiac hypertrophy and hypertension. In spite of the high blood pressure existing in this condition the various organs of the body might receive much less blood than normally; thus, the cerebral symptoms so frequently complained of in arterial sclerosis were to be explained not as due to cerebral congestion, but to cerebral anemia, the heart and other organs being similarly affected. The chief object of treatment of the hypertension of arterial sclerosis was to relieve the heart of the great resistance against which it had to contend and yet to keep up a sufficient circulation through the capillaries. In connection with arterial sclerosis he mentioned atheroma, or more particularly the arterial calcification which was so frequently a sequel to it. The areas of calcification were not general, but more or less localized; therefore, what was said concerning the treatment of arterial sclerosis would apply here.

Amyl nitrite gave the most relief during attacks of angina pectoris, although in some cases it was powerless, undoubtedly because the vasomotor action was much more powerful than the muscular depression; if such was the case then the administration of vasomotor depressants, such as morphine, or chloroform inhalations, might reverse the condition and the nitrite muscular relaxation would occur. Frequently the heart had undergone an excessive hypertrophy and, in such cases, tincture of aconite would be beneficial. Again, in cases with pronounced nervousness, potassium iodide might work wonders. Cardiac malnutrition was frequently a factor and here digitalis, or better, strophanthus, would cause improvement. The nitrites should be used as well, and it should be remembered that a single dose of digitalis would act for three hours or more, while the action of nitroglycerin was usually over within an hour, and that of sodium nitrite in one and a half hours. Erythrol tetranitrate was better than the others because its action was about as lasting as that of digitalis. In the treatment of arterial sclerosis it should be remembered that the heart as a rule was hypertrophied, and therefore it needed no treatment addressed to it. Cardiac stimulants often did harm. It was a vascular relaxation which was desired and he said it was fortunate that the blood-vessels were never so diseased as to be non-relaxable. The nitrites did the most good in these cases. Glonoin could be used for years with no untoward results and no establishment of a tolerance. Glonoin, 1-50th of a grain, three times a day, was often sufficient to remove symptoms, but it was very questionable in cases where the pressure was in the neighborhood of 250 mm. of mercury whether this dosage would have as good an effect in prolonging life as would a larger dose. The iodides seemed occasionally to have the effect of giving relief in that they removed apparently some of the pathological changes responsible for high pressure.

Calcareous degeneration in connection with arterial sclerosis should, as a rule, be treated as a general sclerosis, but in addition the condition of the heart required special treatment. Cardiac stimulants were indicated, but should be used with caution, since that organ had but little reserve force and might easily become exhausted if stimulated too freely. Strophanthus would be a better drug to use in these cases, since its effect on the blood-vessels was so much less marked. In the hypertrophies of interstitial nephritis the vascular condition was strictly analogous to that of arterial sclerosis, and the treatment would, therefore, be identical. In the treatment of uremia such drugs as chloroform, chloral, and morphine were frequently of greater service than were the nitrites, since in addition to the lowering of the tension the nervous symptoms were also lessened. Care should be used, however, since these drugs were heart depressants. They were probably better used in all cases in combination with the nitrites than alone. In chronic lead poisoning with its accompanying high tension, a combination of morphine and atropine usually af- blood-vessels were localized so that the blood pressure but by stopping the intense intestinal contraction. Amyl nitrite frequently brought about the same end, since it acted on other unstriped muscle than those in the vessels it probably accomplished its purpose here primarily by relieving the intestinal spasm. Chronic lead poisoning, with continuous high pressure, came under the head of arterial sclerosis and interstitial nephritis.

Dr. Egbert Le Fevre believed that the arterial sclerosis in these conditions were localized, *i. e.* the changes in the blood-vessels were localized so that the blood pressure in different parts was unequal. If there was congestion of the abdominal vessels there was sent more blood to the brain, and that explained the tendency to rupture of the cerebral vessels. He believed that the use of nitroglycerin in these conditions often did more harm than good.

Dr. William H. Thomson criticized the reader of the paper for not having mentioned the cause of high blood pressure, the excess of secretion from the suprarenal gland, and he pointed out the relationship between kidney disease, especially when accompanied by high blood pressure, and the adrenals. In certain types of kidney disease microscopical changes could be detected in the adrenals.

Dr. Henry P. Loomis said that in using the Riva-Rocci apparatus for estimating blood pressure he had never detected any fall in the blood pressure after using nitroglycerin and the prevalent idea concerning this agent in its action in lowering the blood pressure was handed down from the older textbooks. During the past five or six years no experimental work had been done to show this. In his experience small doses of chloral were most beneficial as tension reducers, a fact which he said Dr. Wallace neglected to speak of in his paper.

Dr. Wallace said that while an excess of suprarenal secretion would cause high blood pressure, the fact that high blood pressure existed did not prove that there was any excess of suprarenal secretion. In fact, there was no proof whatever of this. With regard to chloral as a tension reducer the danger of its habitual use would contraindicate it for this purpose. With regard to nitroglycerin he believed that preparations of it must have deteriorated in activity. In one case he referred to in his paper one-eighth of a grain of nitroglycerin caused a fall of from 214 mm. of mercury to under 60 mm.

NEW YORK NEUROLOGICAL SOCIETY.

Regular Meeting, Held January 3, 1905.

Dr. J. Arthur Booth, President, *pro tem.*

A Case of Graves' Disease in a Child.—Dr. J. Arthur Booth presented a girl 13 years old, whose family history was negative. Her parents were both healthy, and there was no history of any degenerative disease in either branch of the family. The child had suffered from measles, whooping cough, and scarlet fever in infancy. She had never had a convulsion. There was no history of fright, nor could any other etiological factor be discovered. Eighteen months ago—that is, when the child was 11 years old—the exophthalmus was first noticed. Six months later the enlargement of the thyroid became noticeable, and during the past year all her symptoms had become more aggravated. The exophthalmus and thyroid enlargement were very marked, as well as the tachycardia, the pulse ranging between 120 and 140 per minute. In addition to these symptoms, there was tremor, general nervousness, sweating and insomnia, also occasional headaches. Dr. Booth said the interesting feature of the case was the early age at which the disease had manifested itself. It was usually observed between the 15th and the 25th or 30th year. There were four other children in this patient's family, who were all enjoying good health.

Adenoma of the Pineal Gland, Occluding the Aqueduct of Sylvius, with Escape of Cerebrospinal Fluid Through the Nose and Perforation of the Frontal Horn of the Right Lateral Ventricle.—Dr. Adolf Meyer presented this patient, a man who, in 1894, when diving, struck the top of his head. Following this, he complained of headache. He became blind in 1898, with chiasma symptoms. In 1899 he had transitory attacks of numbness on the left side of the face, leaving out part of the area of the middle branch. From that time there was difficulty in moving the lower jaw towards the left. There was no atrophy of the masseter. In August, 1900, cerebrospinal fluid began to drip from the right nostril, with considerable relief of the general symptoms; on the few occasions when the flow stopped the patient would become sleepy and stuporous for two or three days. During May and October, 1902, the patient, who was then 22 years old, had several general convulsions. It was during that year that he was presented by Dr. Meyer at one of the meetings of the New York Neurological Society. In January, 1904, death occured in a status epilepticus. The only permanent symptoms had been weakness of the left side of the jaw, a small area of loss of pain sensation of the lower corner of the mouth, and subjective numbness in the left side of the tongue. The gait remained normal; the knee jerks were both increased; there was no clonus. At the autopsy a tumor was found in the form of an adenoma of the pineal gland. It had pressed itself through the roof of the mid-brain, behind the posterior commissure, protruding into the third and fourth ventricle and displacing the posterior corpora quadrigemina; the adenoma had practically no sand and but slight pigmentation. The right lateral ventricle had a funnel-shaped depression in the anterior end, with a perforation through the cortex. In the case reported by Wollenberg (*Arch. f. Psychiatrie und Nervenkrankheiten*, 31, p. 206) there was a tumor of the occipital lobes, but there was no occlusion of the ventricle to help account for the perforation. In connection with the case reported by Dr. Meyer, photographs made by Dr. C. I. Lambert were presented, and Dr. C. B. Dunlap demonstrated some microscopic sections.

Dr. Meyer, in reply to a question, said the only motor symptoms the patient presented were those of the masticatory segment, which showed in the deviation of the jaw to the right whenever the mouth was opened. In other words, there was a weakness of the left pterygoid muscles. It was impossible to demonstrate any atrophy of the masseters. There were no motor symptoms referable to the upper extremities.

Old Fracture-Dislocation of the Spine, with Paralysis, Followed by Recovery.—Dr. J. Ramsay Hunt presented a patient, a laborer 45 years old. Twenty years ago he had a venereal sore, followed by a suppurating bubo. He received internal medication for one month. No secondary symptoms were noted. He has had numerous attacks of gonorrhea, followed by the development of strictures. At present a stricture of small caliber existed in the membranous portion of the urethra. In 1895 he met with a severe accident, falling three stories through an air-shaft. He was unconscious for a few minutes, and was taken to Bellevue Hospital in an ambulance. Following the accident he complained of severe pains in the back, and both legs were paralyzed, although not completely, as he could move them slightly in the bed. It was necessary to catheterize him a few times after the injury, but this difficulty soon passed away. After the accident, an angular deformity of the spine was noted, which still exists. It was located about the level of the twelfth dorsal vertebra, and it was safe to assume that the spine had suffered a fracture-dislocation at that point, and that the spinal cord had been injured at the same time. After remaining in bed for two months the legs began to improve. This improvement continued, and six or seven months later he was able to resume his occupation as a truck-driver, a laborious one, which necessitated the lifting of heavy weights. One year after the injury he was able to do a full day's work and was suffering no pain nor inconvenience. He admitted, however, that his legs were not quite as limber nor as strong as they were before the accident. He could not run as fast as formerly, owing to a slight stiffness in the knees. There were no sensory nor vesical symptoms during this period. For four years or more the patient remained in this condition. He drove a truck and led the vigorous outdoor life of a laboring man. About three years ago there developed, very gradually, symptoms of trouble in the lower extremities. He began to complain of sensations of numbness and cold in the feet and legs, accompanied by stiffness and weakness. Upon stooping he felt a numbness in the lower portion of the back, extending down the posterior thighs and legs. During the past two years these symptoms had progressed slowly and steadily, without any sudden exacerbation and without acute pain. The left leg was weaker than the right, and it was important that this was true of the initial paralysis and the long period of disability during convalescence. At present the patient's condition was as follows: He had a well-marked kyphosis, the tip of which corresponded to the twelfth dorsal vertebra. Corresponding to this there was a posterior bilateral band of hyperesthesia at the same level. The spinal column was fairly mobile and was not tender to direct pressure or on jarring. There has been no change in the degree of the kyphosis since the accident. There was spastic paraplegia of the lower extremities, with the spasticity and clonus more marked on the left side. Babinsky's phenomenon was present on both sides. The skin reflexes were present and there were distinct objective sensory disturbances in the lower extremities, including touch, pain, and temperature, more pronounced on the right side. The man was able to stand fairly well with his eyes closed. He had considerable difficulty in urination, with occasional incontinence. He also complained of sharp, painful sensations and prickling down the posterior aspect of the thighs and legs, and on stooping he felt numb from the hips down. His sexual power was apparently unaffected. Coarse myokymic twitchings were present in the back below the level of the lesion, also in the buttocks, thighs and legs, especially their posterior aspect, after exertion and exposure to the cold. Occasionally during the past year he had sharp, shooting pains in the course of the sciatic nerves, causing reflex movements in the legs; these were more pronounced on the left side.

Fracture-Dislocation of the Spine, Causing a Unilateral or Partial Lesion of the Cord.—Dr. J. Ramsay Hunt presented this patient, an elevator-operator 22 years old, who about two months ago fell six stories with his elevator. He was unconscious fifteen minutes after the fall. He was removed to the Gouverneur Hospital, where it was found that he had suffered a fracture-dislocation of the spine, the deformity corresponding to the eleventh and twelfth dorsal and the first and second lumbar vertebræ. In addition there was a fracture of the internal and external malleoli of the left ankle joint. The case was seen by Dr. Hunt six weeks later, through the courtesy of Dr. John Rogers. At that time there was an oval area of anesthesia to touch, pain, and temperature over the anterior and lateral surfaces of the right thigh. The right knee jerk was absent; the right Achilles jerk was present and not exaggerated. The left leg was weak and spastic, with clonus. The Babinsky reflex was not elicitable on either side. A girdle sensation was felt in the lower abdominal region, especially on the right side. There was difficulty on urination. Dr. Hunt said the case was a good example of a unilateral or partial lesion of the cord, resulting from a fracture-dislocation of the vertebræ. The interesting features of the first case were the recovery from the initial paralysis, the long interval of comparative normal function, during which period a laborious occupation was practiced, and then the gradual reappearance of cord symptoms referable to the same level of the cord. The progression of the disease had been most insidious, but always steadily advancing, and of such a nature as to suggest a very gradual compression of the spinal cord. It seemed reasonable to infer in such a case that the cord was undergoing gradual compression in the spinal canal, already narrowed by the fracture-dislocation and produced by an osseous outgrowth (chronic proliferating osteitis) plus pachymeningeal thickening and adhesions. Spinal syphilis or chronic inflammatory changes within the cord could be excluded. Dr. Hunt believed that surgical measures should be taken to relieve the compression.

Dr. Joseph Fraenkel said it was rather difficult to decide the exact nature of the lesion in Case I, shown by Dr. Hunt. Pressure on the cord, due to an osseous lesion, he thought, would give rise to more severe symptoms than were present in the case, and he suggested the possibility of a post-traumatic hematomyelia.

Dr. Booth agreed with Dr. Fraenkel that an exostosis would probably give rise to more pain.

Dr. Hunt, in closing, said that in studying the case the possibility of a post-traumatic syringomyelia had been considered, as well as syphilis, or a chronic inflammatory condition of the cord, originating at the site of the old injury. The theory that the symptoms followed a hematomyelia, he thought, could be discarded, from the fact that such a lesion was generally found in the gray matter of the cord, and that it would have given rise to dissociate sensory symptoms. In the first case shown it is true there were coarse myokymic twitchings, but no atrophies and no dissociate sensory symptoms. The symptoms were those of a gradual compression of the cord. In cases where the compression was of insidious onset, sharp pains were often absent. In the case shown there were pains of sufficient severity to suggest involvement of the posterior roots. The differential diagnosis was important in cases of this character, Dr. Hunt said, because of the treatment. The symptoms were growing progressively worse, and if they were the result of compression, osseous or otherwise, the advisability of an exploratory operation was worthy of consideration. This would be decided, the speaker said, on further observation and after an x-ray picture had been taken.

Diffuse Cauliflower-like Puckering of the Cortex in Arteriosclerotic Epilepsy, or Diffuse Cortical Cirrhosis.—Dr. Adolf Meyer demonstrated a brain that he had obtained through the courtesy of Dr. M. C. Ashley, of the Middletown State Hospital. The specimen showed a form of vascular affection, principally of the cortical terminals, in a patient 55 years old. This patient gave a history of having had syphilis at the age of 20. There was mental deterioration, with epilepsy, for 12 years, and slowly progressive left hemiplegia during the last year of life. The small vessels of the pia in the affected regions were diffusely occluded. The lesions affected principally the occipital lobes; the temporal and parietofrontal regions were also affected, leaving, however, intact the convolutions bordering on the Sylvian fossa. The case belonged to a group of which Dr. Meyer had described two instances in the Pathological Report of the Illinois Eastern Hospital for the Insane, at Kankakee, in 1896. The condition was frequently called diffuse sclerosis, but presented a distinct variety of a progressive disorder of middle life or senescence, akin to the cases reported by Pozzi, Hess, Prout, Blackburn, and, probably, also by Greiff. The term cirrhosis was used instead of sclerosis, because the latter referred more to the broader lesions taking in the white substance, whereas cirrhosis, as applied to the kidney and liver, directed the attention more to the parenchymatous portions, and in this case to the cortex itself.

Dr. T. P. Prout said that in one case he had observed, where the early history was obtained it was found that it belonged to the realm of infantile cerebral palsies, upon which epilepsy was subsequently ingrafted. This was the light, the speaker said, in which he had during recent years come to regard these cases. The epilepsy was ingrafted upon an early cerebral palsy, in the same way as we saw it ingrafted upon other brain lesions.

Dr. Fraenkel said he had seen quite a number of cases in which the epileptiform seizures developed late in life, accompanied by some mental deterioration. The diagnosis was of importance, because in a younger person such a condition would be regarded as a general paresis. It was interesting to study the onset of these seizures, which could usually be differentiated from those of ordinary epilepsy by the slight focal symptoms.

Dr. Meyer, in closing, said he did not think it was justifiable to assume an infantile lesion in these cases, because it was possible to demonstrate all degrees of mor recent and older foci, with numerous granule cells. In reply to the suggestion made by one of the speakers to call these cases pseudoparalysis, Dr. Meyer said this would be apt to involve them in the general confusion of that term, which for a while stood for the cases of general paralysis on a demonstrable syphilitic basis, but which we had since learned to recognize as the backbone of that disease.

The following officers were elected for the ensuing year: *President*, Dr. Joseph Fraenkel; *First Vice-President*, Dr. J. Arthur Booth; *Second Vice-President*, Dr. Smith Ely Jelliffe; *Recording Secretary*, Dr. J. Ramsay Hunt; *Treasurer*, Dr. G. M. Hammond; *Corresponding Secretary*, Dr. F. K. Hallock.

Chicago Surgical Society.

At a meeting held January 16, 1905, Dr. D. N. Eisendrath presented a case of "Stricture of the Esophagus." The patient began to have difficulty in swallowing, with regurgitation of food, about one year ago, necessitating eventually a gastrostomy. This operation was done in New York, with apparently a good result. An esophageal bougie could not be passed beyond the level of the junction of the manubrium with the gladiolus. He had the patient swallow a large amount of bismuth, and then made a radiograph, which showed the obstruction, and to the left of it a tumor. The obstruction was a sacculated one. After the passage of steel sounds the man was able to swallow milk, but at present was feeding himself through the gastrostomy wound. This case showed the value of the *x*-ray and bismuth, in the author's opinion, for diagnosing these conditions.

Dr. William Hessert presented a young woman, aged 15, with "Actinomycosis of the Jaw." The patient gave a history of toothache and a swelling of the right jaw for several months. A decayed tooth was visible, and the trouble seemed to be a necrosis of the jaw, with cellulitis in the surrounding tissue. Operation failed to disclose pus. There was a hard, indurated mass, the bone being denuded. The wound healed, but the tumor increased in size. Later, small areas of softening appeared, three or four of which were excised, and in the discharge the ray fungus was found. The patient was put on large doses of iodide of potassium and had improved steadily. The mass had diminished in size about one-half, and she could now open her mouth better than ever before. He also reported a case of metastatic renal abscesses.

In the general discussion on these cases, Dr. A. E. Halstead thought that the tumor which showed in the radiograph of Dr. Eisendrath's case probably was a diverticulum, although it might be an aneurysm. He did not think skiagraphing these diverticuli with bismuth was as good as passing a soft rubber tube filled with shot and then skiagraphing. Dr. Eisendrath said he had extirpated a kidney about five years ago for ascending pyelonephritis with multiple abscesses, and later doubted whether he did not make a mistake in so doing. Fortunately, the patient recovered without further symptoms. Dr. A. H. Ferguson referred to a case he reported some years ago of multiple abscesses of the right kidney, where he excised some of the abscesses and opened others. The other kidney became involved two years later, but the patient refused operation and died from sepsis. Dr. W. M. Harsha spoke of two cases of actinomycosis he had seen in the past year, saying that the tissue around the broken-down masses was very hard, almost gristly. This condition was so marked that he considered it a valuable diagnostic sign. Dr. D. A. K. Steele favored conservative treatment in multiple embolic abscesses. Nephrectomy, however, should be the rule in tuberculous cases. Dr. Eisendrath had failed to find any evidence of aneurysm or tumor in his case after repeated examinations, and he was unable to differentiate at present between aneurysm, tumor, and diverticulum.

Dr. John E. Owens reported an interesting case of "Cerebral Tumor," removed in two stages by the osteoplastic method, with subsequent wiring of the bone flap, and the introduction of a gold plate. The primary result was excellent. Dr. A. E. Halstead and Dr. Charles P. Clark reported jointly a case of "Hydrocele in the Female." Dr. L. L. McArthur reported a case that gave a history of "Calculi in the Common Duct and Biliary Passages." One hundred and forty stones were removed. The patient died from sepsis on the third day after the operation. On section of the liver, stones were found in all the biliary ducts.

Dr. Eisendrath exhibited a specimen which illustrated the mechanism of rotary dislocations of the atlas upon the axis. He also showed an *x*-ray picture of the pelvis and both femora, in which the head of the left femur was seen to be entirely destroyed through the presence of a metastatic growth from a primary tumor of an undescended testis.

Chicago Medical Society.

At the February meeting of this Society, Dr. Joseph L. Miller read a paper entitled "Chloride Retention in Nephritis." A review of the literature since Widal and Javal's original communication showed quite uniform confirmation of their views, that patients with acute and chronic parenchymatous nephritis have marked inability to eliminate chlorides. As a result of the retention, the patient increases in weight, due to edema. The albumin in the urine, following the ingestion of 10 grams of sodium chloride daily was increased, and the patient might develop symptoms resembling uremia. In animals with artificial nephritis the use of salt increased the albumin. The organs of patients with nephritis showed excessive sodium chloride. Kovesi had shown that nephritics after the ingestion of large amounts of NaCl did not perspire, due to increased osmotic pressure of the blood, and the edema was the result of this retained fluid. As it had been shown that ingestion of large amounts of salt might increase the edema due to portal obstruction or cardiac insufficiency, and even inflammatory edema, many believed the chloride retention might be of extrarenal origin. The author had studied two cases of acute and seven of chronic parenchymatous nephritis. The chlorides were estimated by the Salkowski-Volhard method for nine consecutive days. For three days in the middle of this period the patients received, in addition to their food, 10 grams of sodium chloride daily. All showed a retention of 10 to 25 grams during the three days. The edema became more marked, the patients gained in weight, and the amount of albumin increased. Two patients showed uremic symptoms following the extra sodium chloride. Four normal individuals were examined in the same manner, and all showed a chloride retention equal to the nephritis. They also gained in weight. From this it was concluded that these patients developed an undetectable edema, while in the nephritics with the tissues already waterlogged, a moderate increase in edema could be detected. These patients did not show any albuminuria or uremic symptoms. As a final conclusion upon this matter, there was no doubt that the sodium chloride should be restricted in nephritis. The broths and soups contained a very large amount of salt. That furnished the patients in Cook County Hospital contained 11.3 grams per litre. Subcutaneous injections of salt solution must be used with caution, if at all. Dr. H. T. Ricketts read a paper on "Present Limitations in Serum-therapy." The author stated that the therapeutic value of diphtheria antitoxin was well established. No results of value had been obtained by bactericidal serums in the treatment of established infections, as, for instance, by antityphoid serum, anticholera serum, or antiplague serum. Antistreptococcic and pneumococcic serum had proven of very little value. The chief value of tetanus antitoxin was as a prophylactic, as it had been clearly demonstrated that if it was given to a patient in whom there was any suspicion or likelihood of tetanus developing, the disease did not develop. Dr. Paul C. Freer, Superintendent of Laboratories of the Philippine Islands, spoke on plague and the late cholera epidemic in the Philippine Islands. He detailed the measures which were taken to limit the spread of these diseases. Whenever plague was suspected to exist in a certain house, a member of the laboratory staff was called in for diagnosis, and if the case proved to be plague, the patient was taken to the hospital, or, if he died, his body to the morgue, and a radical alteration of the house undertaken, either its destruction by fire, if beyond repair, or complete rebuilding, thorough disinfection, etc. The question of prophylaxis and the use of serums having become a serious one, a serum laboratory had been established there. In this laboratory were now made all of the antitoxins and sera necessary for diseases in the tropics, including rinderpest serum. The Board of Health of Manila had procured new ambulances, had enlarged its disinfecting corps, and had perfected district organization, so that now they were enabled to cope with any epidemic of either plague or cholera efficiently.

Philadelphia County Medical Society.

At a stated meeting, held January 25, Dr. John B. Roberts presented a group of specimens illustrating the need of early intervention in surgical diseases of the abdomen. One was a specimen of perforative appendicitis, in which death had resulted in consequence of delay in operation. Two were specimens of gall-stones that could have been successfully removed at an early period in their history, but that, neglected, were responsible for a fatal termination, notwithstanding surgical intervention. One was a specimen of perforation of the duodenum in which operation was deferred from a desire to reach a correct diagnosis, the fatal result taking place in the interval. One was a specimen of obstruction of the sigmoid flexure in a case in which jejunostomy was performed for the relief of a supposed obstruction at the pyloric orifice of the stomach. Dr. Roberts pointed out that often it is wise to operate when the indications for operation are present, although the exact nature of the condition demanding operation may not be clear.

Dr. H. C. Masland demonstrated "A New Saw Especially Adapted for Cranial Surgery." The instrument was a circular saw mounted in a strong, rigid handle, having a cutting edge of only 1 mm. in width, and operated by electric power. Only rectilinear incisions were possible, but these could be made in an exceedingly brief time and with great safety. The instrument was separable and capable of perfect sterilization.

Dr. B. C. Hirst presented a communication entitled "The Limitations and Possibilities of Electricity in the Treatment of the Diseases of Women." He commended warmly the employment of galvanism and faradism in the treatment of some cases of uterine fibroids, uterine hemorrhage, atony of the myometrium, and lack of development of the internal generative organs.

Dr. T. H. Weisenburg read a paper entitled "The Toxic Changes in Brain and Spinal Cord Due to Carcinoma." He pointed out that, in addition to metastasis to the nervous system and its coverings, symptoms of disease of this system are not rarely observed in cases of malignant disease. He reported the finding of degenerative changes in the cells of the brain and cord, sometimes even independently of recognized clinical phenomena. The symptoms are sometimes transitory, and they may give rise to confusion by simulating organic disease.

At a stated meeting held February 8 a symposium was held on the subject of "Gastric Ulcer." Dr. Joseph McFarland discussed the Etiology and Pathology, taking up for consideration questions of age, sex, occupation, incidence, number, and situation, and rehearsing the various theories that have been proposed to explain the occurrence of the lesion. He was inclined to accept the view that the underlying cause is a loss in local resistance or of immunity in consequence of circulatory conditions influenced perhaps by nervous conditions. Dr. A. P. Francine presented a communication on "The Incidence of Gastric Ulcer in Philadelphia, with Special Reference to the Post-mortem Records of the Philadelphia Hospital." He had found that the total number of medical admissions to the Philadelphia Hospital between the years 1893 and 1902, inclusive, was 39,542, the total number of autopsies 2,830, and the total number of cases of gastric ulcer 38, of duodenal ulcer 2, and of gastric and duodenal ulcer 2. These figures showed, in conjunction with others from other sources, that both clinically and pathologically gastric ulcer was less frequent in the United States than in London and on the continent of Europe, and likewise more common in the northeastern than in the more southern portions of the United States, with the exception of San Francisco. Particular importance was attached to nephritis and tuberculosis as etiological factors in the development of gastric ulcer. Dr. Campbell P. Howard of Baltimore read by invitation a paper on the "Symptomatology and Diagnosis of Gastric Ulcer." He dwelt upon the cardinal symptoms of pain, vomiting, and hematemesis, and considered also the derangements of gastric function, the changes in the blood, and the impairment of nutrition, special attention being directed to the presence of blood in the stools. He pointed out the difficulties in diagnosis, and referred to a number of conditions from which ulcer of the stomach was to be differentiated. Dr. F. P. Henry read a paper on the "Medical Treatment of Gastric Ulcer." He dwelt on the necessity for rest, both general and local. The former was to be secured by recumbency in bed, the latter by rectal feeding. The disease must be considered a medical one in the absence of alarming hemorrhage or of perforation. Dr. W. L. Rodman read a paper on the "Surgical Treatment of Gastric Ulcer." He took the ground that surgical intervention was justified only when medical means had failed after a fair trial. The treatment would vary somewhat, as the ulcer was acute or chronic. In the one instance the indication for treatment would be found in the occurrence of copious or dangerous hemorrhage, and in the danger of perforation, and the treatment would consist in excision and suture. In the second instance, while the indications were essentially the same, the treatment would vary somewhat in accordance with the conditions present. In a given case excision and suture might be required, in another dilatation of the pylorus, in a third gastroenterostomy.

Northern Medical Association of Philadelphia.

At a stated meeting, held January 27, Dr. Augustus A. Eshner read a paper on "Epilepsy." He defined this affection as a paroxysmal neurosis, characterized by attacks attended with derangement of consciousness or of motor coordination, with or without convulsions. The factors underlying the epileptic paroxysm were considered as consisting in the action of some irritating influence upon an unduly irritable or unstable sensorimotor mechanism. The irritant might be chemical (introduced from without or generated within the body), or mechanical (vascular or circulatory, foreign bodies, extravasations, products of inflammatory, hyperplsaitc, or neoplastic processes). The morbid irritability or instability might be inherited or acquired. Four types of epilepsy were considered briefly, viz., major, minor, focal, and psychic. The indications for treatment comprise the removal of irritating influences and the correction of abnormal irritability or instability. Each case must be studied by itself and be treated individually. The entire mode of living should be adjusted and regularity and moderation in all activities insisted upon. Excitement, overtaxation, and fatigue should be avoided. The diet should be simple, digestible, nutritious, and unstimulating. The patient should eat slowly and masticate thoroughly. The use of tea, coffee, alcohol, tobacco, and meat should be interdicted. Outdoor exercise and sufficient sleep should be secured. The functions of all organs should be maintained in as high a state of perfection as possible. Opportunity should be afforded for healthful and agreeable occupation, and this can be best attained through the colony method of care and treatment. To avoid accident the patient should be left alone as little as possible. Therapeutically, effort should be directed to breaking up the convulsive habit. For this purpose the bromides in varying doses and combination constitute the most reliable remedy. Antipyrin is a useful adjunct, and so also, especially in cases of petit mal, is digitalis. Sodium borate in doses of 5 or 10 grains thrice daily has proved a satisfactory alternate with the bromides. Mere change in treatment or in the attending physician sometimes has a good effect.

Surgical Suggestions.

Amputation Suggestions.—Murphy offers the following hints on amputations of the lower extremity: Anterior and posterior muscle flaps when obtainable are to be preferred to the circular cuff of skin. The fibula should be cut off at a higher level than the tibia in leg amputations, and care should be taken to bevel off bony prominences such as the sharp anterior tibial edge. Suture of the periosteum and approximation of the muscles and fasciæ are desirable. Drainage of the stump is advised, unless the dead space is obliterated by means of buried sutures. Partial amputations of the foot or amputations at the ankle-joint, except under unusual conditions, are not as satisfactory as those above the ankle-joint. Tibial stumps between six and eight inches long are the most serviceable. Amputations through the knee-joint are inferior to those just above the condyles. The longer the thigh stump the better, provided the condyles have been removed. In general, in tibial amputations down to four inches and in thigh amputations down to five inches, sacrifice bone in order to obtain good muscle flaps.—*Harvard Medical Bulletin.*

Phlebitis.—Tavel treats phlebitis of the saphenous vein by ligating it above the inflamed portion in order to prevent embolism.

Prosthetic Paraffin Injections.—Stolz says that this method of repairing defects should be used with great caution in gynecological practice. It is only in exceptional cases that it is to be recommended in cases of uterine or vaginal prolapse, and then only when operation must be avoided, pessary treatment is inadequate, and subsequent pregnancy need not be feared. The greatest care should be taken to gain the assurance that the point of the needle is not within a vein, and it is best to inject only small quantities at each sitting. At subsequent sessions the injection should always be made into the center of the already present mass in order to diminish the risk of embolism. The prolapse should be corrected before the injection, and a pessary be worn for twenty-four hours afterward, or the vagina be packed. Rest in bed should follow the injection. The question as to whether vaselin or hard paraffin is preferable in these cases is still undecided, but, theoretically at least, paraffin seems most suitable.—*Monatschrift für Geburtshülfe und Gynäkologie.*

Treatment of Tuberculous Ascites.—Schumann reports excellent results in these cases following the aspiration of the fluid through a trocar of moderate size, through which iodoform emulsion is then injected into the peritoneal cavity. The emulsion is made in a strength of from one to five parts of iodoform to one hundred of glycerin. The first injection is of 1-2 c.c. of the 1 per cent. solution and the amount and concentration are increased according to the progress of the case. The injections are repeated at intervals of from four to eight days. The author considers the method in every respect preferable to treatment by laparotomy.—*Centralblatt für Chirurgie.*

Diagnostic Value of Leucocytosis.—McCaskey says that a single leucocyte count is entirely insufficient as a basis of conclusion in any given case, and should be followed up by several others made under different conditions. In the diagnosis of malignant disease a leucocytosis is of very subordinate value, and when present is probably not due to the malignant disease *per se* but to coexisting chemotactic toxins.—*American Journal of the Medical Sciences.*

Paraphimosis.—When chancroid or a mixed sore is the cause of, or complicates, paraphimosis, the sore, as well as the incision, should be at once cauterized with carbolic acid crystals. Neglect promptly to reduce paraphimosis may result in gangrene of the parts in front of the constricting band, with all the coincident dangers to the organ and to life itself.—Prendergast, in *Memphis Medical Monthly.*

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Common Lot. By Robert Herrick. 8vo, 426 pages, muslin. The Macmillan Company, New York.

Precis de Chimie Physiologique. Par Allyre Chassevant. 8vo, 424 pages, illustrated, paper. Felix Alcan, Paris.

Les Nerfs du Cœur. Anatomie et Physiologie. Par. Elie de Cyon. 8vo, 255 pages, illustrated, paper. Felix Alcan, Paris.

Die angeborene Pylorusstenose im Säuglingsalter. Von Dr. Jussuf Ibrahim. 8vo, 120 pages, paper. S. Karger, Berlin.

The Old Family Doctor. By Henry C. Brainerd, M.D. 12mo, 117 pages, muslin. The Arthur H. Clark Company, Cleveland. Price, $1.00 net.

The Diseases of Society. By G. Frank Lydston, M.D. 8vo, 626 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia. Price, $3.00 net.

Blood, Urine, Feces, and Moisture. A Book of Tests. By Henry Emerson Wetherill, M.D. 48mo, illustrated, muslin. C. P. Pilling & Son, Philadelphia.

Morphology and Anthropology. By W. L. H. Duckworth, M.A. 8vo, 465 pages, illustrated, muslin. The Macmillan Company, New York. Price, $4.50.

Malignant Diseases of the Larynx. By Philip R. W. De Santi, F.R.C. 12mo, 107 pages, muslin. William Wood & Company, New York. Price, $1.50 net.

Transactions of the State Medical Association of Texas—Thirty-Sixth Annual Session Held at Austin, Texas, April 25-29, 1904. 8vo, 648 pages, muslin.

A Textbook of Legal Medicine. By Frank Winthrop Draper, A.M., M.D. 8vo, 573 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $4.00 net.

Diet in Health and Disease. By Julius Friedenwald, M.D., and John Ruhrah, M.D. 8vo, 689 pages, muslin. W. B. Saunders & Company, Philadelphia. Price, $4.00 net.

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Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 18, 1905:

	Cases.	Deaths.
Measles	209	8
Diphtheria and Croup	272	47
Scarlet Fever	225	20
Smallpox	1	1
Chickenpox	132	......
Tuberculosis	339	171
Typhoid Fever	23	4
Cerebrospinal Meningitis	......	40
Typhus Fever	......	......
Yellow Fever	......	......
Cholera	......	......
Totals	1,201	291

Hebotomy (Extra-Median Symphyseotomy).—Th. H. Van De Velde in citing one of the cases in which he has performed hebotomy, gives the following description of the operation: The patient was placed in the gynecological position, but with the legs not strongly flexed. A compress closed off the vulva entirely. The bladder, which was lying on the left side, was catheterized. The skin was incised almost two fingers' breadth to the right of the median line, beginning at the upper border of the os pubis, running somewhat inwards and downwards through the outer side of the labium majus to below the border of the pubic bone. There was very little bleeding. The index finger of the left hand pushed the fat aside in the lower angle of the wound and was pressed forward to the edge of the pubic bone, where it remained, and guided the needle which was introduced by the right hand and was easily passed around the os pubis. The point emerged from behind through the muscular attachments on the upper border, whereupon the left hand, no longer having to support the needle below, pressed the tissue against it from above. As the needle became visible in the upper angle of the wound the wire saw of Gigli was hooked into it, the instrument was withdrawn, keeping the saw moderately tense, the needle was turned into a handle for the saw by a simple manipulation, and the bone was sawed through in a few strokes. The patient had a generally narrowed, flat, rachitic pelvis, and the child was large. When the wound had been covered with a gauze compress, the child was extracted, the head being drawn through the pelvic entrance very easily. After the birth of the second child, for it was a twin pregnancy, the vulva was again entirely covered with a compress, and, after renewed disinfection of the hand, the hebotomy wound was closed with a continuous silk suture. A small rubber drain was laid in the lower angle of the wound. On about the eighth day the sawed ends of the bone were bound together by an evident callus. All tenderness had disappeared. The writer designed a permanent enlargement of the pelvis, which was obtained in a very simple manner. In this respect, as well as in every other, the writer thinks that hebotomy is far superior to symphyseotomy. This enlargement is not obtained at the expense of the solidity of the pelvis. As to the side to be sawed through, it should be decided on which side it is to be expected that the parietal eminences will pass through. For on that side the opening in the pelvic ring should be made. The presence of varices or hernia or an evident situation of the bladder on one side will be an indication for making the incision on the other side. In spontaneous or artificial breech positions, hebotomy should be performed on the side on which the back of the child lies, and the anterior foot should be brought down. If it is preferable to saw through on the other side, extraction should be performed by the posterior leg. When anesthesia is formally contraindicated, the operation can very well be performed without it. The spreading apart of the sawed surfaces seems to be slightly or not at all painful. The writer does not omit drainage in general. The cutaneous incision should be in the labium majus, as far outward as possible, but the cut through the bone should not be too far from the median line. Hemorrhage should be checked at once. After the separation, a large gauze pad should be pressed firmly on the wound. The patient should be laid on a hard mattress after the operation, with a cloth smeared with unguentum camphoræ under the sacrum. It is unnecessary to use an immobilizing bandage. The writer considers hebotomy an ideal operation.—*Annals of Gynecology and Pediatry.*

Japanese Army Ration.—The Japanese soldier does his fighting on a diet consisting largely of rice and dried fish. According to a correspondent of *London Truth,* the rice is cooked in the following way: It is boiled until quite thick and glutinous. Next it is placed on a ceramic slab, rolled out and cut into squares. The squares are then placed in the sun to dry and often turned. When hard as sea biscuit and greatly reduced in weight they can be stored. A certain number are allowed each day to the soldier. All he has to do is to break up a square in boiling water and to add the dried fish. In a few minutes he has what seems to him a delicious thick soup. If he cannot procure boiling water, he simply eats his rice cake dry. In the fruit season he substitutes fruit, when he can obtain it, for the fish.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended February 17, 1905:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, San Francisco	Jan. 21–28	1	..
Illinois, Chicago	Feb. 4–11	26	2
Galesburg	Feb. 4–11	1	..
Kentucky, Louisville	Feb. 2–9	2	..
Louisiana, New Orleans	Feb. 4–11	8, 4 import'd	
Michigan, Detroit	Feb. 4–11	1	..
Missouri, Saint Louis	Feb. 4–11	41	2
New York, New York	Feb. 4–11	3	1
Ohio, Dayton	Feb. 4–11	1	..
Pennsylvania, Altoona	Feb. 4–11	1 imported from Portage.	
Lancaster	Jan. 28–Feb. 4	1	..
Tennessee, Memphis	Feb. 4–11	3	..
Nashville	Feb. 4–11	2	..

SMALLPOX—FOREIGN.

		Cases.	Deaths.
Argentine, Buenos Aires	Nov. 1–30	..	18
China, Shanghai	Dec. 24–Jan. 7	15 foreigners, 136 deaths natives.	
Ecuador, Guayaquil	Jan. 18–25	..	1
France, Paris	Jan. 21–28	17	4
Germany, Bremen	Jan. 14–21	4	..
Great Britain, Hull	Jan. 21–28	7	..
Leeds	Jan. 28–Feb. 4	20	1
New-Castle-on-Tyne	Jan. 1–28	7	1
South Shields	Jan. 21–28	2	..
India, Bombay	Jan. 10–17	..	62
Calcutta	Jan. 7–14	..	2
Karachi	Jan. 8–15	1	..
Madras	Dec. 31–Jan. 13	..	4
Italy, Lecce Province	Jan. 12–26	95	..
Palermo	Jan. 21–28	31	5
Norway, Christiania	Jan. 21–28	2	..
Russia, Warsaw	Dec. 3–10	..	4
Turkey, Constantinople	Jan. 22–29	..	9

YELLOW FEVER.

		Cases.	Deaths.
Ecuador, Guayaquil	Jan. 18–25	..	3
Mexico, Coatzacoalcos	Jan. 28–Feb. 4	..	1
Juchitan	Jan. 20–Feb. 4	2	..
Panama, Colon	Jan. 23–29	1	1
Panama	Jan. 1–28	13	4

CHOLERA.

		Cases.	Deaths.
India, Calcutta	Jan. 7–14	106	..
Russia, Don territory	Dec. 31	..	2
Government of Astrachan	Nov. 14–21	3	..
	Dec. 21–27	1	..
Government of Baku	Nov. 14–21	168	5
	Dec. 14–21	..	273
Government of Erivan	Nov. 14–21	324	279
Government of Samara	Dec. 21–27	1	..
Government of Saratow	Nov. 14–21	11	..
	Dec. 21–27	8	3
Trans Caspian territory	Nov. 14–21	37	..
	Dec. 21–24	3	..
Volga Province	Nov. 14–21	69	..
Turkey in Asia, Van	Dec. 31	27	12

PLAGUE—FOREIGN.

		Cases.	Deaths.
Brazil, Para	Jan. 1–9	..	1
Egypt, Suez	Jan. 7–14	5	4
Tukh District	Jan. 7–14	4	3
India, Bombay	Jan. 10–17	..	208
Calcutta	Jan. 7–14	..	33
Karachi	Jan. 8–15	61	54
Mauritius	Nov. 4–Dec. 1	97	60
Russia, Ural Territory	Dec. 26–28	34	35
Straits Settlements, Singapore	Dec. 24–31	..	5

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Original Articles.

THE DIGESTION OF CASEINS, AND ITS RELATION TO CERTAIN PROBLEMS IN INFANT FEEDING.*

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DESPITE the steady advances which have been effected during the last decade in the technique of the artificial feeding of young infants, and a vastly clearer understanding of the indications calling for definite changes in the percentages of fat and proteids in modifications of cow's milk to meet definite clinical symptoms, no commensurate progress has been made until very recently in elucidating the complex problems of digestion. In the absence of such progress all methods of infant feeding have rested chiefly upon empirical bases. This has been largely due to the fact that Hammarsten's conclusions of twenty-eight years ago concerning the precipitation of casein in the presence of acids were stated by him with such positiveness that they have since been accepted and copied without question by writers upon this subject. Fortunately, however, the spirit of modern commercialism which leads to the yearly appropriation of thousands of dollars of public moneys for the investigation of methods of improved feeding and caring for domestic animals by which they and their marketable products shall bring increased wealth to the nation, has through the study of able scientists solved this problem which also has so important a bearing upon the welfare of the modern human infant.

Van Slyke and Hart, in their studies of the production of cheddar and cottage cheeses, established the fact that both organic and inorganic acids have a definite action upon calcium casein, the form in which casein exists in combination with calcium in fresh cow's milk, and upon calcium paracasein, the clot produced by the action of rennet on fresh milk, forming first free casein and free paracasein and then compounds of casein and paracasein with the acids. They also undertook experiments to discover the relative digestibility of these compounds. Their discoveries published in the bulletins of the New York Agricultural Experiment Station at Geneva, N. Y., and in the American Chemical Journal, have not thus far found their way generally into our text-books, nor has any attempt been made to apply the important principles involved fully and clearly to the physiology of infant feeding. To make these plain to the general practitioner is the purpose of this article. This new light which is extremely interesting and suggestive to the pediatrician, while establishing upon a firm basis many views which have been arrived at by the long and tedious processes of clinical observation and experimentation, will at the same time call for a recasting of much of our accepted teaching.

The milks of all species of mammals have certain characteristics in common in that they all contain fat, sugar, proteids, mineral salts and water. Of these, the fat and sugar may be said roughly to be the heat and energy producing elements, which keep the young alive and furnish the motive power to the body, while proteid, which alone contains nitrogen, is the constructive element which builds the body, making blood, repairing waste, and forming new cells in growth.

The proteids of milk are divisible into casein and a group of soluble albuminous bodies. These latter, the soluble albuminous bodies, are not precipitated, as is casein, during digestion, but remain in the fluid which separates from the casein curd, and are readily absorbed by the digestive tract. The quantity of proteid or nitrogenous bodies contained in the milk of different species varies very decidedly. This amount of cell-forming, tissue-building material, varies in direct proportion to the rapidity with which the young of the species grow and the length of the period after birth in which they mature and become independent of the mother's mammary glands for nutrition, being greater in those which require it for rapid development. But this is not all, for the physical characteristics of the casein curd formed during digestion bears a definite relation to the type of digestive organs peculiar to the species as seen in the familiar examples of the fine flocculent curds of breast milk in the infant's stomach and the solid and more massive curding of cow's milk in the stomach of the calf whose digestive apparatus is to be fitted to deal with coarse bulky food. This diversity in the physical characteristics of the casein curd formed in the milk of different species forces upon us the conclusion, not as yet absolutely proven, that there are probably certain differences in the caseins of the various milks, and it must be clearly borne in mind that when we speak of the caseins of milks we are speaking of dissimilar bodies which react to rennet, acids, or the digestive juices in very different ways. One of the great obstacles to a proper understanding of this subject in the past has lain in the fact that the caseins of all milks were supposed to be alike. It is now definitely accepted that the caseins of different milks are not interchangeable with equal digestibility for the stomachs of the young of different species.

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* Read at a meeting of the Pediatric Section of the New York Academy of Medicine, February 9, 1905.

With the kind permission and coöperation of Prof. L. L. Van Slyke, the nomenclature of the casein compounds has been changed in the text of this paper, subsequent to its reading at the Academy of Medicine, in order to conform to his advanced work upon this subject, which is about to be published.

Casein as it exists in milk is called calcium casein. The rennet clot of milk is called calcium paracasein. The products resulting from the action of small amounts of acids upon these two bodies, formerly called mono-acid salts, are now known as free casein and free paracasein. Those resulting from the action of larger amounts of acids, formerly called di-acid salts, are now known as lactate, hydrochloride, etc., of casein and paracasein.

It has long been known that the casein of milk was precipitated in more or less solid form outside the body in the presence of rennet or by acids, and also during the process of digestion by the action of the digestive secretions. But important as the question is, our knowledge of the chemical changes which take place in casein when acted upon by acids as during digestion have until very recently been based largely upon theory owing to Hammarsten's incorrect deductions from his experiments. The discoveries of Van Slyke and Hart make it clear that acids have a definite chemical action upon calcium casein and calcium paracasein, and have furnished proof that no gastric digestion by pepsin takes place until calcium casein or calcium paracasein has been acted upon by acid and converted either into free casein or free paracasein (base-free proteids), or into their compounds with acid.

A clear conception of the processes which take place during the digestion of milk has long been needed and will now prove of the greatest aid in understanding the hitherto obscure and complex problems of infant feeding.

Immediately after the birth of the young the mammary glands secrete a fluid called colostrum which is transformed by gradual changes into that to which we give the name of milk. Colostrum is less readily coagulated than milk, and being suited for intestinal digestion passes quickly through the stomach, but in its passage doubtless has the property of awakening and stimulating the digestive secretions of the stomach.

The first secretion of the stomach of the young is the ferment rennet. The rennet ferment acts upon the calcium casein of the milk, forming a soft clot which is called calcium paracasein (junket). If no acid is present this paracasein clot may pass on into the intestine where it is readily digested by the pancreatic and intestinal secretions. The pepsin secreted by the stomach will not attack calcium paracasein in the absence of acid. But when hydrochloric acid begins to be secreted by the stomach this reacts with the calcium paracasein formed by the action of the rennet ferment, making first free paracasein and then a definite chemical compound known as hydrochloride of paracasein which is fitted for gastric digestion and is now readily attacked by pepsin, and true stomach digestion begins.

The physical character of these curds, both in size and density, varies according to the species of the mammal, and the free paracasein and hydrochloride of paracasein curds have a tendency to shrink and become more or less tough, depending upon the kind of milk. This tendency to shrink into tough curds is especially marked in cow's milk.

The digestion of the infant is in process of evolution and is not to be thought of as the same as the digestion of the adult. In the adult, gastric digestion is accomplished by the hydrochloric acid and pepsin of the gastric juice, which also disintegrates the food which leaves the mouth in particles of varying size. Digestion progresses most rapidly when free acid is present. In the young animal whose gastric function is in process of development, and who secretes at first no acid, and later but gradually increasing amounts, coarse food causes disturbances for some time after birth, until both the stomach and its secretions are developed. It is one of the most remarkable things in nature that milk which itself retains practically the same composition throughout lactation, is changed by the action upon it of the developing gastric secretions into forms and compounds which require at first moderate, and later more extended gastric digestion, by which means the stomach is progressively called upon to perform more and more work until it is sufficiently developed anatomically and physiologically for the animal to begin its subsistence upon the types of food consumed by the adult of its species.

If the stomach secretes a small amount of acid only, but little of the soft calcium paracasein clot is changed into the somewhat tougher free paracasein, through the union of the acid with the calcium. The free paracasein is readily dissolved in dilute salt solution, which suggests an explanation of the good results claimed from the addition of salt to the infant's bottle. With such moderate secretion of acid by the stomach, a part only of the calcium paracasein is therefore prepared for gastric digestion by pepsin, while the remainder of the soft unaltered calcium paracasein which cannot be attacked by pepsin, passes on into the intestine, where it undergoes digestion by the intestinal ferment trypsin and other digestive secretions. A still more abundant secretion of gastric juice, *i.e.* of hydrochloric acid plus pepsin will change more of the milk into a form suited for gastric digestion than a less abundant secretion. Thus the work performed by the stomach is normally regulated automatically.

But this is not all, for when the hydrochloric acid comes to be present in amounts greater than is necessary to form free paracasein with those parts of the calcium paracasein clot which it can readily attack, depending upon the size and density of the curds, the excess of acid unites with some exposed portions of the free paracasein in such a way as to form a definite compound, hydrochloride of paracasein. Such a salt of paracasein is more difficult to digest in the absence of uncombined acid in the stomach than free paracasein, but when there is acid enough secreted by the stomach to also give uncombined free acid, the acid compounds of paracasein are more readily digested by pepsin. These changes in the curds increase the scope and task of gastric digestion by which the developing stomach is trained to cope with more and more difficult problems in its preparation for its future task of digesting the solid food of adult life. But since the calcium paracasein clot is attacked upon its surface by acid, and curds, especially of the milks of different species, may vary much in size and density, the chemical action of the acid may penetrate them to different degrees, and it is consequently entirely possible to have at the same time within the curd or in the gastric contents, in varying proportion, paracasein hydrochloride, free paracasein, and calcium paracasein, depending either upon the admixture or contact of the acid with the stomach contents or upon the strength and quantity of the gastric secretions.

The nursing infant secures directly from th maternal breast a fresh and unchanged milk whic nature has adapted to its peculiar needs and its digestive equipment. When cow's milk is substitute with its different proteids and its liability to change of bacterial origin, certain new factors are introduced, which must be discussed in the light of ou recently acquired knowledge.

Not only may the hydrochloric acid of the stomac form with paracasein definite compounds in th forms of curds such as alone occur when fresh breas milk is taken directly into the infant's stomach, bu similar compounds may be formed by the combination of casein with other acids, sulphuric, aceti etc., but notably also by lactic acid, which is th normal acid of sour milk. Since lactic acid forming bacteria are invariably present in commerci cow's milk, however carefully it is handled, the actio of the smaller or larger amount of lactic acid which they produce in the milk must be definitely reckoned with. Neither the lactic acid bacteria nor the lactic acid which they form are hurtful *per se*, in fact, lactic acid may be administered under certain conditions as a remedial agent, but the combinations resulting from the action of lactic acid with calcium paracasein may under certain circumstances interfere with normal digestion.

Lactic acid reacts with calcium casein outside the body to form first free casein (formerly called monolactate) and casein lactate (formerly called dilactate). This is the curd of sour milk or the familiar cottage cheese.

If milk which has begun to sour from the development of lactic acid, but has not yet curdled, is taken into the stomach where it meets with rennet even in the absence of hydrochloric acid secretion, the rennet ferment will attack it, forming curds which rapidly turn into tough curds of free paracasein and lactate of paracasein.

Again where milk is ingested in which the lactic acid forming bacteria have had an opportunity to multiply, even though their growth has not advanced so far as to make the milk taste sour or to cause curdling, the growth of these germs does not cease when they reach the stomach, but on the contrary, the temperature of the body is most favorable for further development, and the formation of firm masses of free paracasein and lactate of paracasein is the inevitable result.

Hydrochloric acid and pepsin are presumably secreted by the normal stomach in physiological proportions to each other. When, however, more acid is introduced from outside in the form of lactic acid, or produced under favorable conditions by lactic acid bacteria in the stomach, the total acids are disproportionate to the amount of pepsin secreted. More of the paracasein is therefore transformed by this resulting excess of acid into a form calling for gastric digestion than the stomach can care for. Unfortunately this kind of curd of which an excess is formed, and which is fitted only for gastric digestion, is unfitted for intestinal digestion, and these tough curds, like foreign bodies, may pass through the intestines causing colic or other disturbance.

It is this production of lactic acid, whose presence may increase the quantity of tough curd beyond the digestive capabilities of the stomach, which often produces a portion at least of the pernicious results when an infant's food prepared from unpasteurized or unsterilized milk is kept at room temperature or in an improperly cooled ice box, or kept warm during a part of the night so as to be ready for the infant without further trouble to the parent, or when a bottle, once used, is reheated for a subsequent feeding. In fact, whenever unpasteurized or modified milk is subjected for a considerable time to a temperature above 60° F., which allows of the multiplication of lactic acid bacteria, and an increase of lactic acid short of that which produces a visible warning by the curdling of the casein.

On the other hand, if the souring of the milk has advanced outside the body to the point of complete curdling with the formation of curds of lactate of casein (not paracasein) in a very finely divided state such as is seen in buttermilk, the rennet ferment has no action on these curds when the milk is ingested and the formation of tough acid paracasein curds is prevented. Such a compound of casein with acid is less tough and more finely divided, and therefore, to this extent at least, more digestible than the corresponding compounds of paracasein with acid. Such facts as these probably account for the dangerous qualities of turning or partly soured milk, while fully soured clabber, buttermilk, etc., are more digestible. Animal experiments have even shown that sour milk is more readily digested by adults than sweet milk. The rather surprising results claimed by Baginsky and others from the use of buttermilk as a food for infants and young children will, if substantiated by more general employment, probably be shown to rest upon a similar basis. Both Koumiss and Zoolak, which are the products of certain alcoholic fermentations of milk with the production of lactic acid, contain soft flocculi of casein in combination with lactic acid, similar to the curds of sour milk and probably owe their digestibility to the fact that these, as we have seen, cannot be transformed into tougher, larger masses by the action of the rennet in the stomach.

Lactic acid has long been advocated, especially by the French school, as a remedial measure in diarrheas of bacterial origin. This use was based upon a knowledge of its influence in repressing bacterial growth. We now recognize more exactly that the lactic acid forming bacteria prevent especially the development of the groups of putrefactive bacteria, and that this is accomplished by the lactic acid which they produce.

Since lactic acid bacteria thrive and multiply in the presence of starch and sugar, their bactericidal influence would be intensified by a carbohydrate diet, and we may find in this a rational explanation of the beneficial results in intestinal conditions, and especially in the so-called summer-diarrheas of restricting the diet temporarily to gruels, because these furnish a favorable medium for the growth of the lactic acid germs while furnishing no pabulum to the putrefactive groups.

Pasteurization has a definite although indirect influence upon the digestibility of the calcium casein of cow's milk, in that by destroying the lactic acid germs, and preventing the formation of lactic acid, it allows the hydrochloric acid of the stomach alone to form combinations with the calcium paracasein, and the free paracasein and hydrochloride of paracasein which are thus formed will more probably be in proportion to the amount of pepsin secreted.

The author has shown elsewhere that the use of alkaline antacids, limewater and bicarbonate of soda, which were introduced into food mixtures for young children in order to make acid cow's milk correspond in reaction to a supposed alkaline breast milk was based upon a fallacious theory, since the use of a more accurate indicator, phenolphthalein, has now shown breast milk also to be faintly acid. He has also shown that the use of 5 per cent. limewater and one grain sodium bicarbonate to the ounce, which is one ounce of limewater or 20 grains sodium bicarbonate to every 20 ounces of pure milk or food mixture, as advised by certain authorities, was an erroneous application of the theory to practice, inasmuch as the actual proportion of the alkali to the quantity of milk varies, of course, with the number of ounces of milk in the twenty-ounce mixture. This results in a high alkalinization of the small amount of milk used in the mixtures for young infants, and a gradually decreasing alkalinization as the mixtures are made stronger by the addition of larger quantities of milk. The true explanation of the utility of alkaline antacids must therefore be sought in some other direction and is to be found aside from certain individual effects which each alkali produces upon the milk and in the neutralization of any lactic acid formed in the milk after it is drawn, in the fact that in the presence of an alkaline reaction the rennet ferment is retarded or inhibited and clotting and curding of the milk is prevented or delayed, allowing the escape into the intestine of part, at least, of the still fluid milk. This tends to divide the labor of digestion to a degree depending upon the amount and kind of alkaline antacid used, between the stomach and intestine and may thus avert the overtaxing of the stomach with subsequent disastrous effects upon the entire gastrointestinal canal.

Peptonization of milk is a well recognized measure for increasing the digestibility of its casein, but it is too frequently employed without knowledge of the principles involved. The term "peptonization" itself is perhaps an unfortunate one, since its root suggests to many digestion by pepsin, which can only take place in an acid medium and alone represents typical gastric digestion. This view is still encountered with great frequency among all classes. "Pancreatization" and "pancreatized milk" would have been better terms, since the preparation used for this purpose contains 5 grains of extractum pancreatis and 15 grains sodium bicarbonate. The process is therefore analogous to an intestinal digestion in an alkaline medium. Upon the length of time during which the ferment is allowed to work upon the milk before its activity is checked by heating or cooling depends the amount of the casein which is changed into a non-coagulable form, but whether much or little is transformed the alkalinity caused by the bicarbonate of soda, especially if the food has been subsequently heated, restrains the rennet and acids of the stomach to a larger or smaller degree from playing their usual part in the digestion of the remainder, and so prevents to any considerable extent, the formation with the unaltered casein of tough acid paracasein curds. In short, gastric digestion is more or less cut out and the intestine receives material upon which its own work of digestion is already more or less advanced.

With this explanation in mind, no practitioner will repeat the not very infrequent error of attempting to produce some sort of "peptonization" by adding pepsin to the child's bottle, for since commercial pepsin invariably contains the rennet ferment the result is to cause a clotting of the calcium casein in the form of calcium paracasein which is really a precipitate of "junket" or "curds and whey."

Chapin states, and any may repeat the experiment, that milk diluted with even as high as ten parts of water can be so manipulated that the curd formed by adding rennet and dilute hydrochloric acid will be all in one small piece. We have in this a demonstration that it is possible, even with very dilute milk, to have the formation in the stomach of typical solid curds, and milk approximately so diluted is not infrequently resorted to for cases of difficult digestion, especially for those in somewhat older infants. If we apply our knowledge of the reactions of casein with rennet and acids to this phenomenon of the formation of tough curds even in very dilute milk, we will see that the smaller the amount of casein in the child's food the greater will be the relative proportion to it of the hydrochloric acid secreted by the stomach. Such relative excess of acid would tend to form the tougher hydrochloride of paracasein, while if the food were made stronger, that is, if more milk within reasonable limits were added to the mixture which would increase the amount of casein, the same amount of hydrochloric acid would have the opportunity to combine with the larger amount of casein, and so tend to form the softer and more digestible curds of free paracasein. Such would be a possible explanation of the improved digestion and more normal stools which not infrequently follow a radical increase in the strength of the food where previously even very dilute mixtures have been accompanied by indigestion and curdy stools. It may also demonstrate why large quantities of dilute food may fail when smaller quantities of more concentrated food will succeed. In this connection, however, it should be stated that experiments upon the young of the lower animals show clearly that the growing stomach craves work, and increasing work, so that the continued use of highly diluted food which does not furnish a proper mechanical stimulus to the stomach may lead to deficient secretion and faulty digestion. This is remedied when a judicious increase in the strength or concentration of the food furnishes the required stimulus.

With a definite statement of the chemical changes taking place in casein when subjected during digestion to the action of the secretions and a knowledge of the factors which favor, intensify, retard or inhibit these processes an exceedingly fascinating field opens before us in the direct application of these principles to the ordinary clinical indications of infant feeding and to the elucidation of hitherto obscure questions. Take, for example, the familiar instance of the passing by an infant of firm, leathery curds in the stools. If true tough curds are passed in the stools it indicates that the milk has somehow been subjected to an excessive acidity, allowing the formation of too much tough acid curd of paracasein which the pepsin secretion has not been equal to the task of digesting and which was in a form unsuited for intestinal digestion. This may occur in several ways: (*a*) Excessive secretion of hydrochloric acid in the stomach; (*b*) milk slightly sour from formation of lactic acid before it was modified; (*c*) milk after modification kept too warm and so slightly soured from the production of lactic acid as the result of bacterial growth; (*d*) lactic acid or other acids formed in the milk after reaching the stomach, when there is tardy digestion.

In the last three cases the lactic or other acids are in addition to any hydrochloric acid secreted by the stomach. To remedy such a condition the problem requires investigation to see whether the milk was clean and fresh to start with, whether it was properly prepared and kept cool, or whether the difficulty has arisen directly from the child's digestive functions.

We may then have respectively,

To secure a fresher milk;

To see that it is kept properly cool;

To pasteurize it to kill the lactic acid forming bacteria;

To add alkalies in order to neutralize acids formed outside of the body, or present in the stomach when the milk is ingested.

To add alkalies in sufficient amount in order to prevent or to modify the action of the rennet ferment and hydrochloric acid of the stomach;

To peptonize it so that the casein can no longer form tough curds;

To use gruels to mechanically separate the curds;

To decrease the quantity of milk in the food so that no larger amount of curd is formed than the stomach is prepared to digest.

To increase the amount of milk, in rare cases, so that the type of curd shall be better suited for the individual digestion.

Each of these measures may have its special indications in certain cases. To discover the most probable cause and to choose the suitable remedies is therefore a definite but often a complicated problem.

Other problems will readily suggest themselves, and their number can probably be almost indefinitely extended, but the increased knowledge which we have acquired furnishes us with simple and intelligible explanations of many of the phenomena which have long been surrounded with mystery and necessarily been dealt with empirically. We are never to lose sight of the fact that cow's milk was made for the peculiar requirements and digestion of the calf, that however modified it was not primarily intended for a human infant's stomach, and that it is a strange substance which the stomach must adapt itself to digest. When difficulty is experienced in doing this, it should be remembered by the practitioner that there is a great deal in infant feeding beside dilution of the milk and the addition of sugar. The main thing is to get the child to absorb sufficient nutriment for well rounded development, and there is more than one way of doing this. If the stomach makes a botch of digestion the intestine can often be made to do the work, but this should not be continued after the stomach is again able to perform its functions. If the intestine is incompetent, the gastric digestion must be assisted to perform its functions creditably.

Granting, as we must, that there may always be a margin of variation between the chemical combinations and reactions produced in the chemist's laboratory and those which fickle but resourceful nature produces in the body, still a sufficient amount of what we have known and what we have surmised is now established upon such a definite basis as to furnish the incentive for further investigation along these lines of the chemistry and physiology of digestion, upon which most of the advances in infant feeding must now probably be made.

607 Madison Avenue.

A STUDY OF FIFTEEN CASES OF ERYSIPELAS TREATED BY INJECTIONS OF ANTISTREPTOCOCCUS SERUM.

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In a previous paper[1] I have given a composite statistical description of seventy-nine typical cases of erysipelas, all of which, with the exception of four cases, were treated by the usual methods in vogue before the introduction of serum therapy. With the data thus obtained as a basis of comparison, I have made a study of fifteen similar cases which came under my care at Bellevue Hospital in the summer of 1904, all of which were treated by subcutaneous injections of streptococcus antitoxin.

Since the introduction of serum therapy in the treatment of erysipelas by Marmorek in 1895, many observations on its effects have been made both in this country and in Europe, with what seem to be definitely good results. The efficacy of the treatment in this disease, as is the case in all diseases of this class treated by similar methods, depends very largely upon the length of time which has elapsed between the onset of the disease and the beginning of the treatment. Also, the amount of serum necessary to protect or cure increases in geometrical proportion with the time elapsed since inoculation with the disease.[3]

The immediate beneficial effects of the injection of 10 c.c. to 20 c.c. of serum are often very striking, although I regret to say, not uniformly so. In favorable cases, the patient's general condition is often greatly improved at the end of a few hours. His temperature comes down with a sudden drop; the pain and burning are diminished, he becomes less restless and often falls into a quiet sleep, awakening free from many of the distressing symptoms which ordinarily accompany an acute infectious disease; so that, barring the slight weakness incidental to the febrile state, he is scarcely conscious of being ill.

A decrease in the violence of the local conditions goes hand in hand with the constitutional improvement, so that frequently within a few hours after the first injection, the swelling becomes less marked, and desquamation begins to be apparent.

As regards the condition of the urine, Marmorek[4] makes the statement that when treatment begins within a few hours of the onset of the disease, no febrile albuminuria will develop; but that if the albuminuria has already shown itself, one or two injections of serum will cause it to disappear permanently. The effect on the leucocytosis is generally quite as striking as it is on the other conditions mentioned above. From a high initial count taken before the first injection, the count at the beginning of desquamation is usually within a few hundreds of normal. Suppuration beginning after the treatment has been well established is rare, and glandular enlargements are checked and reduced. It is said that patients who are subject to recurrent attacks of erysipelas will be protected against these recurrences by an injection of 10 c.c. per week for four or five weeks.

The deleterious effects which I have observed have been so mild and of such little consequence that they scarcely require more than a passing notice. As a matter of fact, the only bad result which I have personally observed, is that sometimes, at the site of the puncture, an erythematous or papular eruption appears, but this is usually of

CONDENSED HISTORY OF THE INDIVIDUAL CASES.

Serial number	Day of disease on which treatment was begun.	Duration of disease in days.	Days of the beginning of desquamation after first dose of serum.	Number of injections.	Amount of serum used in cubic centimeters.	Average c.c. per dose.	Initial leucocytosis.	Leucocytes at desquamation.	Type of disease.	Complications.
112	1st	4	3d	5	60	12	17,000	7,800	Leg	....
104	2d	11	3d	6	70	11	33,200	7,600	Leg	Sero-purulent vesication.
106	2d	5	3d	1	10	10	16,600	8,800	Thigh	....
88	3d	4½	1st	1	10	10	......	......	Face	....
93	3d	5	2d	2	20	10	......	......	Leg	?
95	3d	5	1st	2	40	20	......	 9,800	Face and scalp	....
98	3d	5	2d	3	40	13⅓	17,000	8,600	Face	....
103	3d	6	2d	2	20	10	18,800	9,200	Leg.	....
105	3d	6	2d	4	40	10	14,000	8,400	Face	Otitis media
108	3d	6	5th	3	30	10	42,500	8,400	Face	....
94	4th	7½	2d	2	20	10	......	......	Face	....
100	4th	12	7th	20	200	10	28,000	8,800	Face	Infected scalp wound
110	4th	9	4th	9	90	10	42,500	14,000	Of mastoid wound	Suppuration
111	5th	9	1st	6	70	11$\frac{6}{10}$	16,000	......	Face	Suppurating tbc. glands.
96	6th	11	1st	2	30	15	......	......	Face	....
Average........		7.6	2.6							

short duration, and is attended with no other symptoms worth mentioning.

In forming a judgment as to the value of one kind of treatment as compared to another, it is important that the mortality statistics of the disease in question should be of such a character that the exact cause of death is made perfectly clear. This requirement I do not find to be satisfactorily filled in my study of the statistics which I have at my command. For example, in the statistics given by Tison,[10] I find no mention of complications as a contributory cause of death, while in my own statistics, based on a study of seventy-nine cases, nearly all the deaths were directly traceable to complications, and not to erysipelas, *per se*. Tison give a mortality of 3.79 per cent. in 554 cases, but say nothing about complicating conditions; whereas, i my own statistics I find a mortality of 14.75 pe cent., of which only 1.25 per cent. was due to erysipelas directly, the other 13 per cent. having bee caused by a complicating wet brain, delirium tremens, pneumonia, uremia, chronic nephritis an pyemia. In view, therefore, of the unsatisfactor character of the mortality statistics in judging o the value of the serum treatment as compared to th older methods, I prefer to rely rather on my observations on the general conduct of the disease, it severity, duration, etc., as compared to similar conditions observed in cases treated by the older methods.

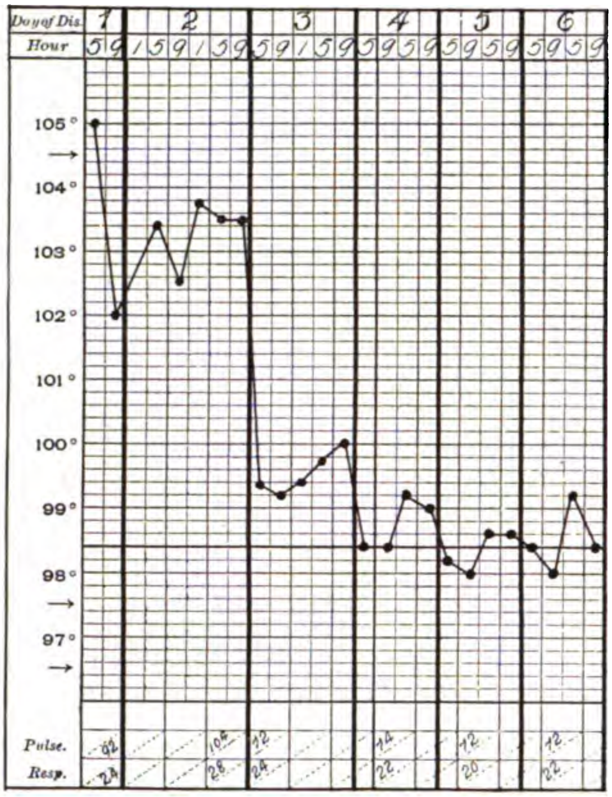


Chart of Case I.

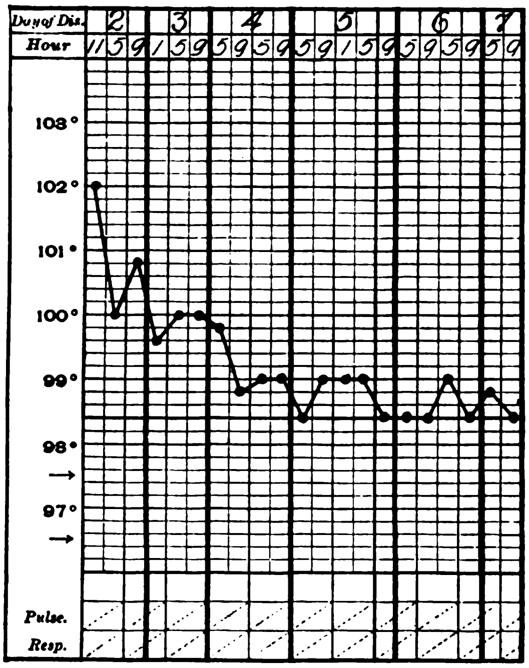


Chart of Case II.

On page 325 is a table which is designed to sho at a glance the salient points observed in each the fifteen cases under consideration, all of whic were treated with antistreptococcus serum begi ning from the time of the patients' admission the wards. The following is a summary of the tab showing the average duration of the disease wi reference to the time when treatment was begun.

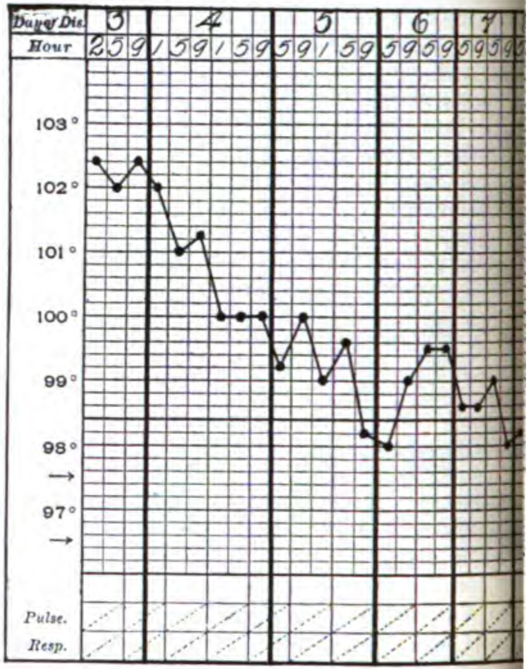


Chart of Case III.

In order to accentuate what I consider to be very important point, I have arranged the cas in a sequence based upon the length of time whi had elapsed between the initial symptoms of t disease, and the beginning of treatment—this latt being coincident with the time of the patient's a mission to the hospital.

Number of cases.	Day of Disease when Treatment was Begun.	Beginning of Desquamation after first dose of serum.	Duration of disease.
1	1st day	3d day	4 days
1	2d day	3d day	5 days
7	3d day	2d day	$5\frac{3}{10}$ days
3	4th day	4th day	$9\frac{1}{3}$ days
1	5th day	1st day	9 days
1	6th day	1st day	11 days

As my previous statistics were not based on t same data which I have used as a foundation f the present tables, I am unable to make any direct comparison between the two. The only positive statements which I can offer, based on the two sets of statistics, relate to the headings "average duration of disease" and "mortality," and these comparisons I give here, though the disparity between the number of cases in each set is too great to make the deductions of much importance. In the seventy-nine cases treated in the old way, the average duration of the disease was 9.4 days of the fifteen cases treated by serum, it was 7.6 days. The mortality under the old form of treatment was 1.25 per cent.; under the serum treatment it was *nil*.

I give below six charts of as many patients, with each of whom the treatment was begun on a different day of the disease, ranging from the first to the sixth day. A study of the temperature curves shows a general downward tendency, beginning, as a rule, immediately after the first dose of serum, though in one case considerably delayed. The holding up of the temperature in this case was undoubtedly due to the coexistence of a profusely suppurating surgical wound of the mastoid.

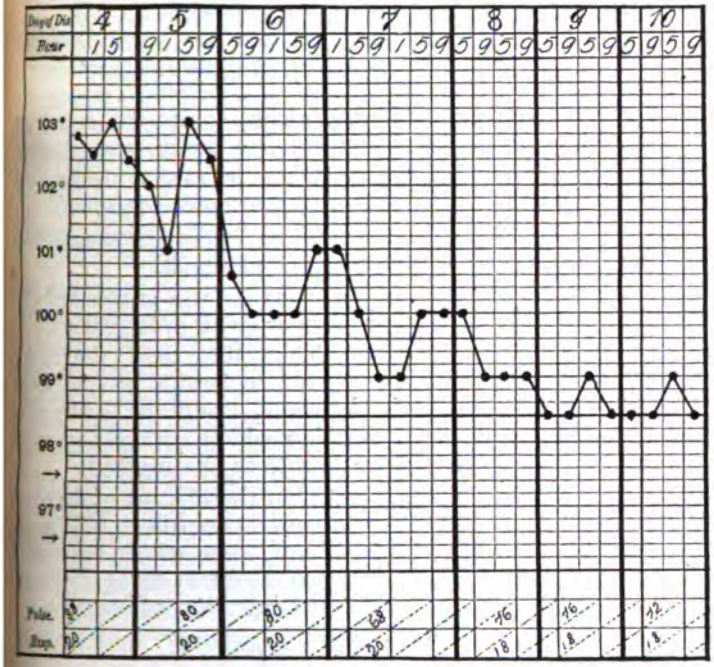
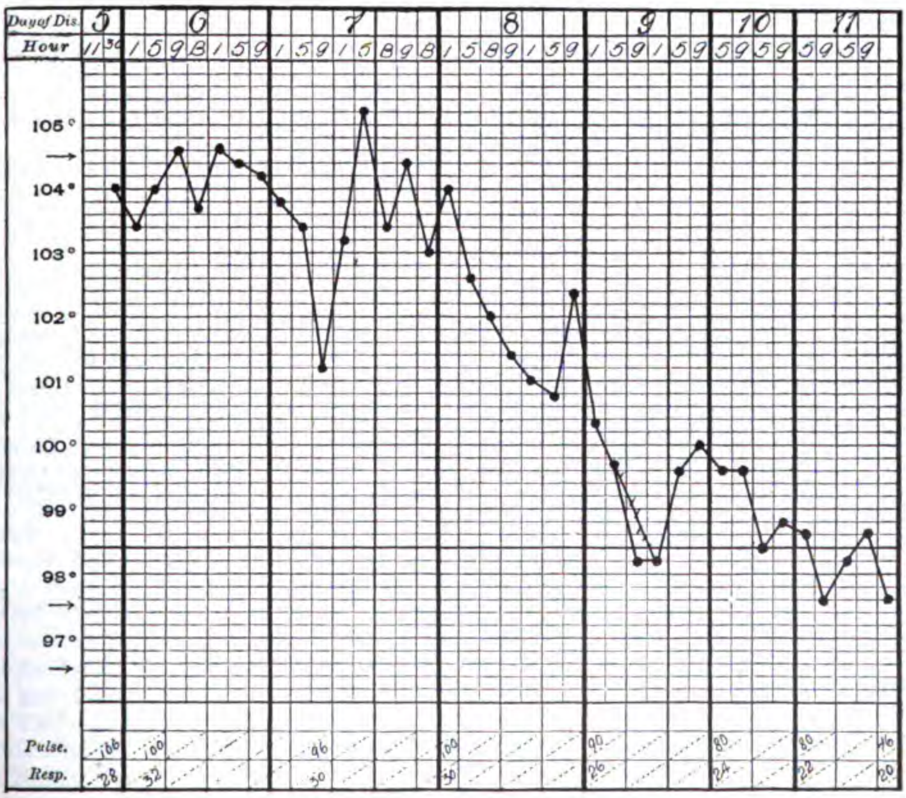


Chart of Case IV.

CASE I.—M. F., admitted July 27, 1904. This morning at 8 o'clock the patient had a well-marked chill, and one hour later vomited. At the same time she noticed her leg and ankle were red, swollen and tender. Admitted on the first day of disease. Local signs and symptoms diminished twenty-four hours after first dose of serum. July 27: 20 c.c. serum injected at 9 P. M. July 28: 10 c.c. serum injected at 10 A. M., 2, 6 and 10 P. M.; local signs and symptoms diminished; leucocytes 17,000. July 29: Nearly all signs of local inflammation have disappeared; leucocytes 7,800. July 30: Leg normal except slight swelling around ankle. July 31: Slight tenderness around heel is all that remains of the disease. August 1: Discharged cured.



CASE II.—T. M., admitted August 1, 1904. Yesterday he was attacked with chills and vomiting, and noticed that the skin about the knee was red, swollen, and tender. Admitted on second day of disease. Local signs began to disappear 14 hours after first dose of serum. August 1: 10 c.c. serum injected at 11 P. M.; patient complains of considerable pain; Leucocytes 16,600. August 2: No pain; feels well; local signs much improved; redness, swelling, and tenderness much less. August 3: Patient feels perfectly well; nearly all local signs have disappeared. August 4: All signs of acute process have disappeared; desquamation begun; patient up and about. August 5: No local signs; ready for discharge; leucocytes 8,800. August 6: Discharged cured.

CASE III.—J. M., æt. 36, admitted July 14, 1904. Twelve days ago the patient had convulsion and fell, sustaining scalp wound. He was well until two days ago, when he had general malaise, and at the same time the scalp wound became painful. The next day on awaking the face was swollen and red. The man had no chill or vomiting. Admitted on the third day of disease. Desquamation began 31 hours after first dose of serum. July 14: 20 c.c. serum injected at 3 P. M. July 15: 20 c.c. serum injected at 11 A. M. and at 8 P. M.; there was slight desquamation of face. July 16: Desquamation of face and forehead marked; leucocytes 9,800.

CASE IV.—H. W., æt. 18 years, admitted August 1, 1904. Three days previous to admission patient was operated upon at the Manhattan Eye and Ear Hospital for mastoiditis. The day before admission the region about the wound became red, swollen and tender, and patient had chilly sensations. Admitted on the fourth day of the disease. He did not respond to serum until the fourth day after first dose. August 1: 10 c.c. serum injected at 2, 6, and 10 P. M.; leucocytes 42,500. August 2: 10 c.c. serum injected at 5 and 9.30 P. M.; left side more swollen than yesterday; right side becoming involved. August 3: 10 c.c. serum injected at 11 A. M., 3 and 9 P. M.; local conditions same as yesterday; no improvement. August 4: 10 c.c. serum injected at 11 A. M.; both sides of face much better than yesterday; tenderness disappearing; leucocytes 14,000. August 5: Local signs almost completely disappeared.

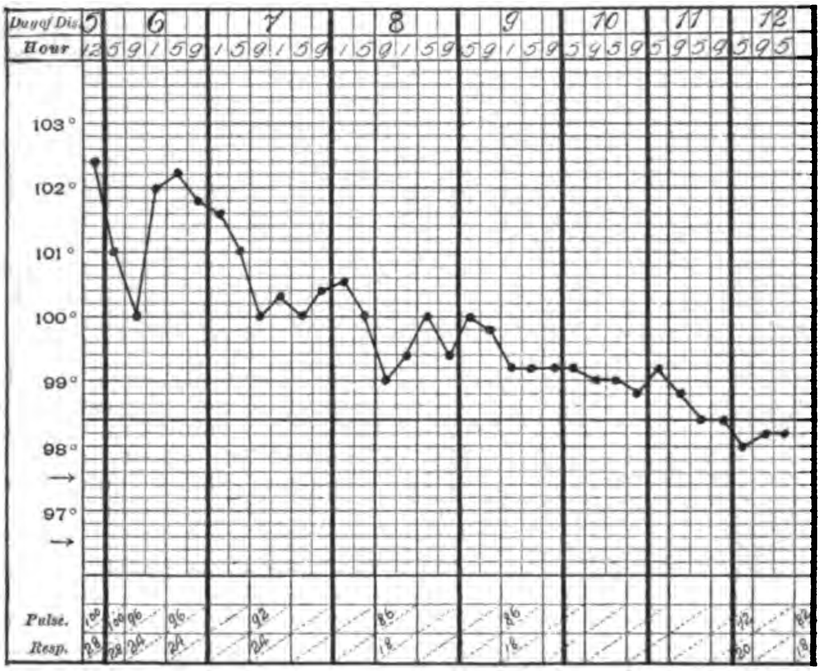


Chart of Case VI.

August 6: All local signs have disappeared. August 7: Patient up and about; retained in ward on account of mastoid wound, but the erysipelas is cured.

CASE V.—L. M., admitted July 20, 1904. Five days ago the patient noticed redness, swelling, and tenderness over the bridge of the nose. The same night she had chill and vomiting. Patient admitted on fifth day of disease. Her condition was complicated by suppurating tuberculous glands of the neck, which very probably contributed to the holding up of the temperature. Desquamation began 21½ hours after the first dose of serum. July 21: 20 c.c. serum injected at 11.30 P. M. July 22: 10 c.c. serum injected at 1 P. M.; at 9 P. M. slight desquamation on nose; leucocytes 16,000. July 22: Desquamation marked this morning; 10 c.c. serum injected at 11.30 A. M., 4, 8, and 11.30 P. M. July 23: Desquamating freely on face and forehead. July 24: Local signs have disappeared. July 25: Temperature normal; condition good; allowed to sit up in chair.

CASE VI.—A. E., æt. 53, admitted July 12, 1904. Five days ago the patient had severe chill and vomiting, and at the same time noticed redness and swelling at the base of the nose. On admission entire face, ears, and scalp were involved. Patient admitted on sixth day of disease. Desquamating freely 19 hours after first dose of serum. July 13: 10 c.c. serum injected at 1 A. M. July 14: 20 c.c. serum injected at 11 A. M.; at 8 P. M. he was desquamating freely.

As to the effects of the serum upon suppurating processes, my observations were not sufficiently extensive to be of any importance, though the impression gained from a very few cases was not encouraging.

The serum used, was, I am given to understand, prepared by a method similar to that which Marmorek used in making his original serum in 1895.

I am indebted to Dr. Blackwell, the House Surgeon, for the careful manner in which the records were kept from which I have made the above deductions.

CONCLUSIONS.

1. That the administration of antistreptococcu serum shortens considerably th course of uncomplicated attack o erysipelas.

2. That it tends to inhibit extension of the disease.

3. That it has a strikingly beneficial effect upon the general condition of the patient, reducing th temperature, pain and discomfo incidental to the disease.

4. That it rapidly reduces th pathological leucocytosis.

5. That it prevents or suppress febrile albuminaria.

6. That its use is attended wit no danger, even in large doses.

7. That the only disagreeabl symptom referable to the seru observed by the writer is a transie eruption which occasionally occu at the site of the injection.

8. That the efficacy of the seru treatment is in direct ratio to th length of time which has elapse between the onset of the disease an the first injection of serum.

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Antiseptic Feeding.—The chief of the Paris Labo in a popular lecture is reported to have said: "W man takes milk for breakfast preserved with formic hyde, when he eats at luncheon a slice of ham kept by borax, with spinach or French beans made green sulphite of copper, and when he washes all that down half a bottle of wine cleared with an excess of plast paris, and that for twenty years, how is it to be exp that such a man can have a stomach?"—*St. James Ga*

CHRONIC RHEUMATISM, GOUT AND OTHER URIC-ACID DIATHESES TREATED BY THE *X*-RAY, HIGH FREQUENCY CURRENTS, AND VIBRATORY MASSAGE.

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My own experience is based upon hospital as well as upon private cases, though the patients whose histories are briefly given in this paper were all treated in private practice.

The *x*-ray has been applied only locally and only in cases of palpable deposit about a joint or nerve of a nature which has been found resistant to the other applications. The *x*-ray does not form part of my "Uric Acid Technic," but has proven to be a most valuable adjunct in occasional cases. When required, the *x*-ray has been applied in the dosage indicated by the following formula:

I use an eight or twelve inch coil with primary winding to give a large amount of induction (self-induction in the primary), a Wehnelt Interrupter or an Electrolytic Interrupter of the type generally known as the Caldwell, with fine rapid interruptions —at least 10,000 a minute—a primary current of 3½ to 4 amperes. (The 110 volts direct current of the electric lighting system being cut down to this strength by the resistance of the interrupter and by a separate rheostat.) This would produce a continuous stream of sparks across a five-inch space, but is passed through an *x*-ray tube of 40 or 50 cm. rating, of the heavy anode Müeller, Gundelach or Friedlander regulating type. The most important element in the correct application of the *x*-ray for radiographic or therapeutic purposes, is the adjustment of the degree of vacuum in the tube. The quality of the light is absolutely dependent upon this. We have learned that it is as impossible to take a picture through the lumbar region with a tube in the wrong condition, as it is to read a newspaper in the dark; and my work in Röntgen therapy has taught me that success or failure here also is dependent upon technic. For these rheumatic or gouty deposits, the vacuum in the *x*-ray tube is regulated so that with the current described above, the resistance in the tube will back up a spark of three inches and the light will show clearly through three layers of tin-foil (100 square inches to the ounce) in the author's radiometer. The distance from the anode to the nearest skin surface is nine inches, the time of exposure from three to five minutes twice a week, the operator and all parts of the patient except the affected area—about five inches in diameter—are protected from the action of the *x*-ray by enveloping the tube itself in a Friedlander shield. The effect of such application of the *x*-ray is anodyne and resolvent of the deposits alluded to. But there are cases in which a thickening deformity and disability have existed for years and may prove incurable even by this means. The pain relieving quality of the *x*-ray, properly applied, is one of its most certain effects in these cases as well as in cancers and other conditions such as Rigg's disease of the gums in which it is used therapeutically. The *x*-ray is not applied in sufficient dosage in these rheumatc cases to excite any reaction in the skin, no redness or tanning or exfoliation, and it is only exceptionally that it is used at all in uric acid cases.

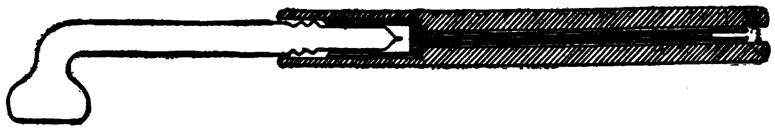


Fig. 1.—Tousey completely insulated handle for high frequency current electrode.

My "uric acid technic" consists in the application of vibratory massage over the abdomen and up and down the spine for about ten minutes twice a week and the application of high frequency currents on the same days for about fifteen minutes over the abdomen, up and down the spine and over the affected joints or nerves. The vibrator which I have used in most of these cases consists of a 1-16 horsepower motor with a flexible shaft, at the extremity of which is a hollow metal ball, within which an eccentric metal knob revolves at a very high rate of speed. The metal ball is applied in these cases, so that the effect produced is a tapping with wonderfully short quick strokes. We have to avoid the spines of the vertebræ, or other thinly covered bones, and with this precaution the application is very pleasant indeed.

The other portion of this technic consists in the application of high-frequency currents over the abdomen and up and down the spine and over the affected joints or nerves. The apparatus employed is an eight or twelve inch *x*-ray coil run by the direct 110 volt electric lighting current, either with an electrolytic interrupter, of the type described in the previous paragraph as used for the *x*-ray, or a Wehnelt interrupter in which there is a large jar containing dilute sulphuric acid in which one lead electrode rests, the other electrode terminating in a platinum point surrounded by a porcelain tube beyond which a greater or less length of the platinum point may be protruded. The greater the length exposed the less rapid are the interruptions and the heavier is the current transmitted. We use in the primary coil a current of about three and a half amperes interrupted about ten thousand times a minute. The poles of the *x*-ray coil in which a very powerful secondary current is thus excited are attached to the inner coatings of the two Leyden jars which form part of a d'Arsonal transformer. The inner coatings communicate with each other across an enclosed spark gap, and my best results have been obtained with the spark gap not much more than half an inch long. The outer coatings of the two Leyden jars are connected by a large loose coil of wire called a solenoid and another passes from the outer coat of each Leyden jar to the patient. One of these insulaed wires terminates in a metal handle held by the patient and the other terminates in an insulated handle of my own device, which is held by the operator and into which screws a glass vacuum tube of suitable dome shape for application over the surface of the body.

The handle is of heavy hard rubber, but these currents are of such high tension that it is necessary to secure further insulation from the operator's hands by having the handle hollow with the conducting wire stretched along its axis and surrounded by an air space. The whole is so constructed that no part of the metal (cords or handle) is exposed and it is impossible for operator or patient to receive any spark or current except from the glass electrodes.

This enables us to reach parts without inconvenience, which we would otherwise have to twist and turn around to treat.

In connection with this new handle and electrodes of mine (Figs. 1 and 2) the vacuum electrodes are best made with a fine wire passing through the glass at the point where the metallic contact is made with the handle. The current would pass through the glass without this wire, but this arrangement gives a stronger current and without it the glass would become quite hot at the point of contact with the handle. In operation, the vacuum tube becomes filled with waves of violet and ultra violet light; ten thousand a minute passing down and disappearing in the tissues of the patient. A certain amount of ozone is generated, some of which is carried into the tissues and which can be detected upon the surface several hours later. In addition, a current of very high frequency and tension and of about one hundred and twenty-five milliamperes passes through the body of the patient from the metallic handle which he holds, to the glass vacuum electrode. This is a current of greater actual volume than can be comfortably administered in any other manner, and in this case there is no sensation at all except a gentle warmth where the vacuum electrode is in contact with the patient. This, as will be noted, is a bipolar application, but a unipolar application producing much the same effect is made by means of the Oudin resonator. This consists of a separate loose spiral of heavily insulated wire made like a flat mat, the outer and inner terminals being connected with the two poles of the d'Arsonval transformer, and the inner terminal being connected more or less directly with a vacuum electrode. Only this one wire passes to the patient and a regular brush discharge takes place if the glass electrode is separated from the surface. The self induction in this additional coil of wire renders it possible to secure much more powerful effects, even painful effects if necessary.

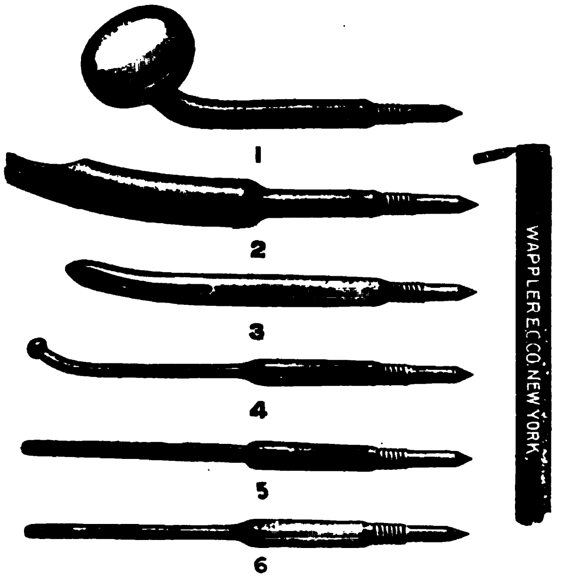


Fig. 2.—Electrodes for high frequency currents.

The immediate effects of the vibratory massage are an increase in the superficial circulation, an excitation of nerve function, and if the pressure is deep and prolonged an inhibition of nerve function and a stimulation of the blood circulation in, and the functional activity of, every viscus over which it is applied. So that it results in improvement of the functions of the liver, stomach, intestines and kidneys; and in this way it is perfectly easy to understand its usefulness in the uric acid diathesis; applied along the spine, however, the way in which it benefits is less evident; the fact that it does benefit this diathesis is something that I have verified again and again.

The immediate effect of high frequency currents over any considerable area of the body varies according to whether the glass vacuum electrode is in good contact with the skin and also whether it is moved rapidly over the surface. A good contact with the skin is facilitated by the application of some toilet powder and the current then passes into the body without sparking and with a sensation of warmth, which is greater when the electrode is moved slowly over the surface than when it is moved rapidly. With the author's technic there is practically no prickling sensation, no sensation like that from static sparks or from galvanic or faradic currents and no trace of muscular contraction like that from galvanism or faradism. There is a slight increase in the cutaneous circulation and sometimes a sense of exhilaration which used to cause one patient to feel like walking all the way home to Seabright, N. J.

Freund, in his excellent work on Radiotherapy, quotes the observations of d'Arsonval, Berlioz, Tripet, Lacaille, Denoyes, Martre, Rouvière and a great many others upon the physiological effect of high frequency currents in hundreds of cases. They go to show that an increase takes place in the amount of urine and in the amount of urea, uric acid and other solid ingredients contained therein; also an increase in the amount of oxyhemoglobin in the blood. But Freund says that these statements of d'Arsonval and his pupils have not been generally confirmed. The cases of uric acid diatheses treated by the present writer have practically all been in office practice and there has hardly been an opportunity to definitely settle either of these points. The ultimate beneficial result, however, has been demonstrable in the urine as well as in the bodily condition of the patient. I have sometimes taken a patient's temperature and found it the same before and after treatment by high frequency currents alone. Probably what takes place is a counter irritant effect upon the superficial nerves, with a reflex effect upon the blood circulation in, and functional activity of, the internal organs, and a certain added oxydizing effect from the free ozone absorbed, and an effect from the ultra violet and other rays so abundantly present.

Applied in a different way from my own very active counterirritation and even blistering or skin destruction can be produced, but these efforts are hardly desirable in the cases under consideration.

One characteristic case is that of Mr. J. P., whose history follows: Father's family in general robust and of large build. Grandfather died at fifty-nine of apoplexy, father died at thirty-nine of inflammatory rheumatism (convalescent, cold bath, relapse, heart affection), uncle died at seventy-seven of old age, another uncle died at fifty-six of "ossification of the heart," an aunt at sixty-four from "paralysis of the throat." Mother's family in general weakly, of slight and rather small build, grandfather died at seventy-nine of old age, grandmothe at eighty, having suffered from liver complaint between the ages of thirty and sixty years; mothe died at twenty-nine of puerperal fever, had alway been delicate, aunt died at seventy, worn out always, delicate, never any disease; sister died a twenty-three, rapid decline, always delicate; brothe living, strong constitution, probably weak hear light attack of inflammatory rheumatism lasting fo ten days at the age of forty-nine, but had been drinking freely.

The patient was a man aged fifty-four years, constitution inherited from mother's side; soft condition to the age of twenty-eight, never robust, torpi liver, only sickness since childhood inflammator rheumatism; in bed thirty-nine days, temperatur over 100° only five days, maximum 103.8°, hea not affected, vaccination has always shown blood in good condition, wounds heal readily, perspires very easily and freely, always muscularly weak, maximum walk without undue fatigue *only* some sixteen miles. At age of fifty-two his doctor told him he was one in ten thousand as to general condition. His present trouble dates from two years ago when he had an attack of lumbago of a gouty order, with which he was not sick in bed, but which was very severe for ten days; any movement in the morning being very difficult, but improving through each day; the symptoms disappearing in about two months. He attributes that attack to over fatigue at business by day and social calls, with late hours, by night, lack of nutrition in boarding house diet, and constant worry over money matters. His general condition is usually good until the end of March, when he becomes played out until he has had one month's daily sea-bathing, beginning June 20th; and after three months at the seaside his condition remains excellent until the end of the following March. He leads a very simple life with strictest moderation in all things. He is a man over six feet four inches in height and weighing about one hundred and seventy-eight pounds, with the arches of both feet somewhat broken down and this gives an extraordinary breadth to the ball of the foot. The right great toe-joint is swollen and stiff, and there is a gouty pain in it, especially on wakening. The middle toe of the right foot has a sensation as of slipping out of joint. The right knee has a feeling of rheumatism. There has been so much trouble along the lines indicated as to have put him to considerable expense in the matter of medical treatment and to have threatened to incapacitate him from business. Shortly after beginning treatment he had a fall which produced a severe ecchymosis of the left thigh, followed by stiffness of the knee, the left much more than the right, and a "crick" in the left knee and an added rheumatic pain in the left hand.

The treatment consisted in the high frequency currents and vibration twice a week, according to the author's "uric acid technic," the administration of ten grains of salophen three times a day, the application of flat-foot plates, and the recommendation to avoid tea, coffee, and tobacco. At the end of a month the gouty pain in the great toe had almost disappeared, the stiffness and the crick in the knee resulting from the blow had been reduced two-thirds. The sensation as of the middle toe slipping out of joint had almost gone. Only a trace remained of the rheumatic sensation in the right hand, and the rheumatic pain in the left hand brought on by the fall had been reduced three-fourths. After another two weeks' treatment the patient reported himself so well in every way that it seemed proper to discontinue treatment.

This case with the flat-foot element combined with the uric acid diathesis is typical of a large number, both in men and women, which are hard to cure by medical treatment alone. They are always benefited by the method of applying high frequency currents and may usually be cured. There is an altogether extraordinary improvement after the first treatment and before they have had the prescription for salophen made up. It has seemed from observations on many cases as if the very first treatment brought them up to their very best level from the period of greatest pain and depression, which has finally caused them to be sent for this special treatment. There is no backsliding from this level, but for two or three weeks there is very little perceptible advance. Then as suddenly as in the first instance further improvement begins and in a month or so the average case is well.

Another case is that of Miss D., aged fifty years, referred by Dr. Cyrus Strong. She is a very large woman, weighing two hundred and eighty-seven pounds, but without any surplus adipose tissue. An aunt died of chronic rheumatism after being helpless for years, and there was a similar tendency all through the family history. She, herself, had very serious trouble with her mouth, the permanent teeth having practically no enamel, being somewhat notched and having been preserved only by many years' attention when she was a young woman. She understands that her case is a classic one in dental history. She has always been careful about diet, but has gradually become more and more affected by a rheumatic or gouty condition, which in spite of the best medicinal treatment has finally almost crippled her and she has not been able to walk more than two or three blocks, and on coming to a curbstone would hesitate for some time before attempting to step up those two or three inches. The knees were badly swollen and the joints of both feet were stiff and swollen, as was also the middle finger of the right hand.

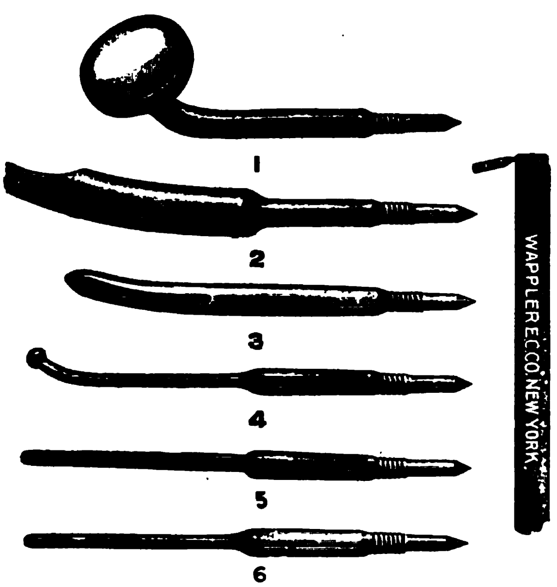
The first treatment consisted of high frequency currents over the abdomen, knees, feet, hand and up and down the spine, and the following day she was walking any number of blocks and going up and down stairs and "feeling like a bird." This was before she had begun any medication. At the subsequent treatment vibration was applied over the abdomen and up and down the spine in addition to the vacuum electrodes as above described. The original brilliant improvement remained, but was not surpassed until about two or three weeks more of two treatments a week. Then she started in to make a steady advance. The slowest things were one knee, which had been strained some time previously, and the middle finger of the right hand, and to these several applications of the *x*-ray were made.

The patient was under treatment from November 10, 1903, to March 20, 1904. At the latter date she seemed perfectly well, although there still remained a little enlargement of the joint of the middle finger. Now, many months after the cessation of treatment, she reports continual increase in health and strength and thinks that the greatest benefit comes after the course of treatment is all over. This answers the question often asked as to whether the benefit is not merely temporary and whether the treatment does not have to be continued indefinitely.

103 West Seventy-sixth Street.

Syphilis in the Sudan.—A. Balfour says that this disease is exceedingly prevalent in the Sudan. In the time of the Dervishes it was considered rather an honor to have acquired infection. A lad was not a man till he had developed a chancre. The results of this ignorant and pernicious *régime* are deplorable. Patients do not visit the hospitals till they are masses of ulceration and necrosis. True, they make use of tureba, a native preparation of mercury found locally, and they even fashion cones for fumigation with it, but their treatment is not conducted on sound principles and is probably more harmful than beneficial. Education, combined with proper sanitary measures, is the only remedy. The Sudanese are fond of their children, and if they could be made to understand how frequently they are themselves to blame for the pitiable condition of their offspring, be taught the dangers and crippling effects of the unchecked disease, and be instructed how to avoid acquiring it and how much can be done by proper treatment when it is acquired, a great step would have been taken to ameliorate their sad condition.—*Report of the Wellcome Research Laboratories at Khartoum.*

with the handle. The current would pass through the glass without this wire, but this arrangement gives a stronger current and without it the glass would become quite hot at the point of contact with the handle. In operation, the vacuum tube becomes filled with waves of violet and ultra violet light; ten thousand a minute passing down and disappearing in the tissues of the patient. A certain amount of ozone is generated, some of which is carried into the tissues and which can be detected upon the surface several hours later. In addition, a current of very high frequency and tension and of about one hundred and twenty-five milliamperes passes through the body of the patient from the metallic handle which he holds, to the glass vacuum electrode. This is a current of greater actual volume than can be comfortably administered in any other manner, and in this case there is no sensation at all except a gentle warmth where the vacuum electrode is in contact with the patient. This, as will be noted, is a bipolar application, but a unipolar application producing much the same effect is made by means of the Oudin resonator. This consists of a separate loose spiral of heavily insulated wire made like a flat mat, the outer and inner terminals being connected with the two poles of the d'Arsonval transformer, and the inner terminal being connected more or less directly with a vacuum electrode. Only this one wire passes to the patient and a regular brush discharge takes place if the glass electrode is separated from the surface. The self induction in this additional coil of wire renders it possible to secure much more powerful effects, even painful effects if necessary.



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diet and to speechlessness for a period of five or six weeks, gaining, at the most, imperfect fixation and an uncertain result. The commonly used metal or vulcanite interdental splint is open to the same objections, for, although it affords firmer fixation, it greatly limits the functions of the mandible. The Garretson splint, adjusted to the lower jaw alone, securing fixation by means of extension bars passing between the lips with a bandage passing between them and under the chin, embodies the right idea in that it allows for free motion of the mandible as a whole; it is nevertheless bulky, and also interferes greatly with mastication. All the above methods depend for their fixation upon some form of external head-gear, which at best requires constant attention, and is unsightly and a constant annoyance to the patient, while in restless and vicious children and in the insane it is impossible to keep it in its proper position.

The continued use, for any length of time, of a fixation bandage passing around the front of the chin, may result in positive and permanent harm, as the following case demonstrates.

The patient, a man, previously in good health, and with no recognized oral deformity was admitted to the hospital suffering from a fractured jaw, the result of a fall. At the time of admission he was given the routine hospital examination; the condition was recognized and a Barton bandage applied. Some weeks later, in the fall, he came into the hands of the Dental Staff still wearing the Barton bandage, when the following condition was noted. Externally the facial lines, although fairly symmetrical, showed marked contraction and recession about the chin; within the mouth, the right canine tooth was found almost directly behind the left canine and internal to it, showing a displacement and overlapping to the extent of nearly six teeth. There was fibrous union with the bones in this position which caused such contraction of the floor of the mouth that there was no room left for the tongue. Corrective treatment was offered but refused. It will be seen by this illustration that unless carefully watched, the constricting action of a bandage, without proper fixation of the parts by other means, is capable of entirely defeating our best efforts, and of causing permanent deformity.

The metallic cap splint affords a certain and effective means of securing fixation, while possessing none of the objectionable features of the previously mentioned fixtures. The preparation of this splint requires but average mechanical skill, and can be constructed and cemented into place in a few hours. The first requirement is an accurate cast of the teeth of the fractured jaw, best obtained by taking an impression in plaster from which the plaster cast is made. Plaster-of-paris is preferable to the other impression materials, because it can be used without the aid of a metallic impression-tray, which at best is very cumbersome and, if used here, would add greatly to the patient's discomfort. Another advantage of this material is its quality of fracturing sharply without changing shape when it has once become hard, a fact which is taken advantage of when removing the impression from the mouth.

When the impression has become thoroughly hardened in the mouth it is split into pieces with a sharp knife and removed piecemeal; afterwards these fragments are fitted together and held in position by a little sticky wax. The cast is made by pouring plaster, mixed to the proper consistency, into this impression, and when the cast is hard, cutting away the plaster of the impression from around it. A cast made after this manner will give us an accurate facsimile of the teeth in the patient's mouth. An impression in wax or modeling-compound is next taken of the upper teeth and another plaster cast is made from this. With the cast of the upper teeth for a guide, the cast of the fractured jaw is sawn apart so that the teeth can be placed in their former normal occlusion with their antagonists. This corrected cast is made whole again by the aid of a little freshly mixed plaster added to its base. The cast as it now stands, represents approximately the form and shape of the mandible before injury. This cast is now ready for the construction of the splint, according to the following method: Varnish the cast and when dry prepare a sand matrix and make a metallic die (for this purpose Babbitt metal is preferable to zinc because it does not contract on cooling) upon which, after cooling, a counter-die of lead is made. Between the die and counter-die the splint is swaged. This may be made of gold, platinum, silver or German-silver, as fancy or the pocket-book of the patient dictates. After careful fitting and adaptation to the cast, all prominent corners are filed away, the edges of the splint are trimmed to conform to the gingival festoon, and the whole carefully polished. The internal surface is grooved and etched with a sharp-pointed instrument to form better attachment for the cement.

During the cementing process, it may become necessary, if fibrous bands exist, or if the muscles are resistant, to resort to an anesthetic. This question must be decided in each individual case. After placing the patient in a convenient position, the mouth is prepared for the operation of inserting the splint. The teeth about to receive the splint are thoroughly and carefully dried by means of cotton-rolls and napkins, the final drying is accomplished with chloroform which is wiped over the teeth and then evaporated by a current of warm air under pressure. Oxyphosphate cement, mixed to the consistency of cream, is now applied to the teeth and to the splint, which is filled one-third full of the mixture, when it is immediately forced firmly down upon the teeth and held there until the cement is thoroughly set; this will require at least a half hour. All excess of cement should be removed from the gingival margin to prevent unnecessary irritation at that point.

A splint carefully constructed and inserted, if all moisture has been absolutely excluded during the operation, will remain firmly in place until it ceases to be of service and is removed from the mouth prior to the dismissal of the patient.

From the foregoing description it will be noted that this splint introduces the least amount of foreign substance into the mouth and is contained entirely within the mouth, thus reducing the patient's discomfort to a minimum, at the same time affording a rigid support for the fractured bone, while permitting of free movement of the mandible with easy access to the oral cavity from the very first.

For the first week the patient should remain quiet and make free use of antiseptic mouth-washes. Ice held in the mouth and allowed to melt there will greatly add to the patient's comfort and will also have a tendency to reduce inflammation.

The most convenient method of applying cleansing and antiseptic solutions to the mouth is by means of the atomizer. For this purpose, through the kindness of Mr. Joseph Ferguson, Jr., optician, I have had modified the ordinary De Vilbiss atomizer, with the vertically ajustible tip, so that it can be moved in a horizontal plane, thus making it practical to flush out all parts of the mouth, including the interspaces, by means of one atomizer. With this atomizer I employ air under a pressure of twenty pounds to the square inch. Subsequent treatment, in the average case, is quite simple and can be left largely in the hands of the patient, after the likelihood of complications has passed.

In those rare fractures occurring above the angle of the jaw, little can be accomplished other than attempts at moderate fixation and rest, depending for retention upon the splint-like action of the muscles attached to this part.

In fracture of the neck of the condyle, the condyle is drawn forward and cannot be returned to its normal position because of muscular tension. It becomes necessary, therefore, to bring the body and ramus of the bone forward to meet the displaced fragment. This may be done with wire ligatures passed from upper to lower teeth, or by means of an interdental splint made upon casts, articulated according to the modified position of the jaws required to obtain approximation of the fragments.

Fractures occurring in the body of the bone in edentulous subjects are very difficult to treat, inasmuch as they are hard to immobilize, and the results are often unsatisfactory. The only method at our disposal here, besides cutting down upon and wiring the fragments, is the insertion of an intermandibulo-maxillary splint, made upon plaster casts of the patient's jaws.

The use of silver-wire ligature passing through holes drilled in the body of the bone and bridging the site of fracture, is only to be resorted to after all other methods have failed, because practice has taught us that many cases so treated result in failure, and also because it is poor surgery to subject the patient to the increased danger of infection and necrosis accompanying this procedure without offering any greater chances of recovery.

1430 SPRUCE STREET.

ACUTE INTUSSUSCEPTION IN AN INFANT; RESECTION OF GANGRENOUS INTUSSUSCEPTUM; MURPHY BUTTON ANASTOMOSIS; RECOVERY.

By EDWARD W. PETERSON, M.D.,
NEW YORK.

ASSISTANT SURGEON TO THE POST GRADUATE HOSPITAL, AND TO THE BABIES' WARDS OF THE POST GRADUATE HOSPITAL.

THE patient, whose history follows, was admitted to the Babies' Wards on September 30, 1904, and was operated upon before the matriculates of the Post-Graduate Medical School.

Ida Ahrens, aged 4 months and 20 days, of German-American parentage, breast-fed, well nourished, and healthy. Had never previously been sick. September 28, was somewhat restless and fretful, and the following day suddenly became very ill. After one large fecal movement, she began to have frequent discharges of blood and mucus, without the passage of gas or feces, also paroxysms of colicky pains and tenesmus, and occasionally spells of vomiting. A physician who was called in diagnosed the case as "bloody dysentery." The mother, becoming alarmed at the increasing severity of the symptoms, brought the child to the hospital on the afternoon of September 30.

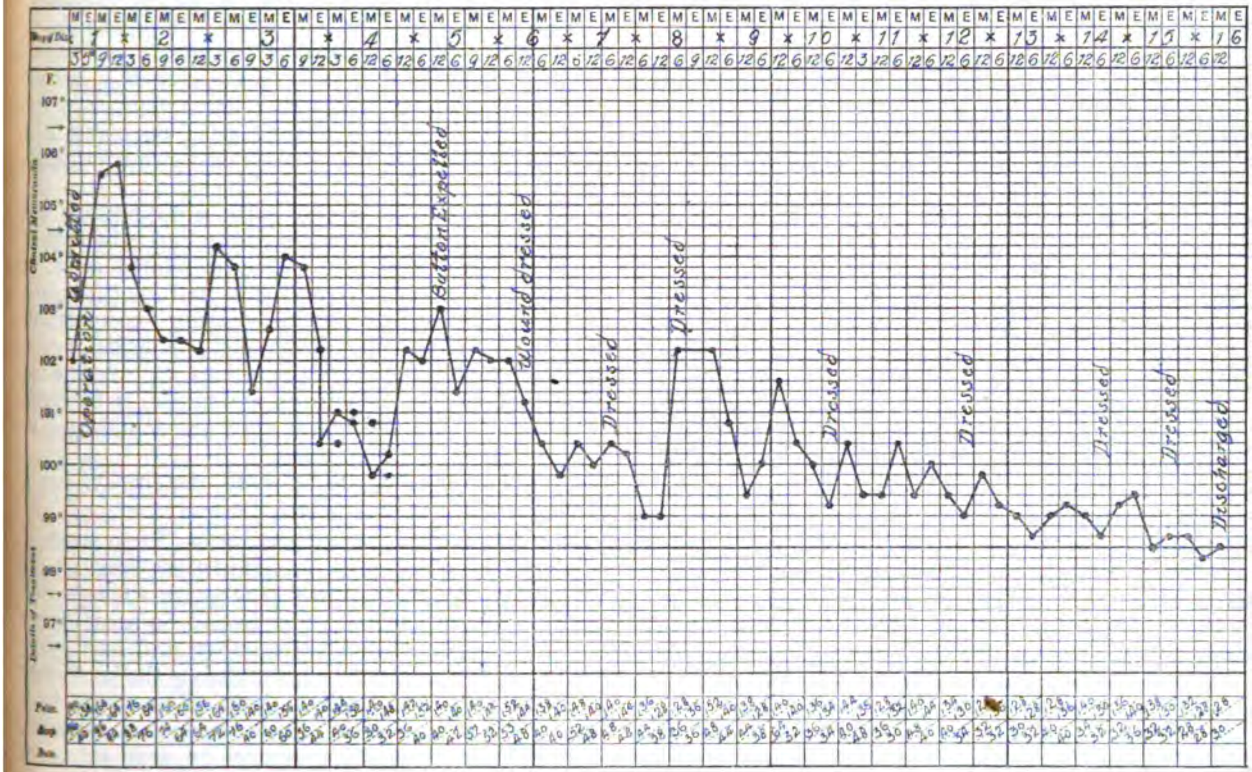
On admission the infant was very restless, constantly whining or crying out; facial expression anxious and uneasy; eyes "tired looking" and somewhat sunken; tongue dry; abdomen slightly distended, but no visible tumor present; thighs flexed on abdomen. The extremities were cool, the abdomen hot, somewhat rigid, and tender on pressure. An elongated tumor could be felt running from the right upper quadrant of the abdomen, across in the direction of the transverse colon, and then downward into the left iliac region. Rectal examination revealed a softened cylindrical tumor about two inches above the sanus; the examining finger when withdrawn from the bowel was covered with bloody mucus. The temperature was 102° F., pulse 146, and respiration 40.

A diagnosis was made of acute intussusception, of probably not less than thirty hours' duration, and preparation for immediate laparotomy was ordered. At this stage any other measure was deemed not only useless, but dangerous.

Operation.—A two and one-half inch incision was made through the right rectus muscle; a small amount of serous fluid escaped when the peritoneum was opened. Examination of the tumor confirmed the diagnosis of intussusception. Beginning at the distal end, or at the apex of the intussusceptum, with great care, the reduction was attempted. The gut was acutely congested and edematous, and the serous coat readily tore. Firm adhesions between the last inch of ileum and cecum, with beginning gangrene, rendered impossible the complete and successful reduction of the invagination. Removal of the gangrenous gut was decided upon. Four inches of the ileum, the cecum, and an inch of the ascending colon were resected, the mesentery having first been ligated. Then an end-to-end anastomosis, by means of a small Murphy button, was made. After attending to the gap in the mesentery, the abdominal incision was closed in layers, with catgut, and reinforced by three sutures of silkworm gut, through all the layers except the peritoneum. Dressings and bandage were applied, and the patient was returned to bed in a profound state of shock. A glance at the chart will show the stormy character of the convalescence. Respirations were exceedingly rapid and temperature high, immediately following the operation. The pulse, while very weak, did not show depression corresponding to respiration and temperature. Stimulants were freely used to combat the shock. Vomiting was frequent and annoying for the first fifteen hours, after which time it gradually abated. Only one dose of opium (5 minims of paregoric) was given, and that not until vomiting had ceased. The bowels moved spontaneously on the afternoon following the operation. A moderately severe secondary enteritis soon developed; this was treated with astringent intestinal antiseptics, and bowel irrigations. On the fourth day the temperature went up, and the child seemed to be in great pain. In looking for a cause for this, the examination revealed the fact that the button had passed down to the anus and was there lodged. The removal of the button was followed by an immediate improvement in the symptoms. The abdominal wound was dressed on the fifth day, and the lower end of the incision was found to be infected. This infection promptly cleared up, and the wound was entirely healed by the fourteenth day. The patient was discharged cured on the fifteenth day after operation.

To review the history of this case: A healthy, well-nourished infant suddenly became very ill, with paroxysmal, colicky pains, tenesmus, bloody stools vomiting, fever, and collapse. Examination of abdomen by bimanual rectal touch showed a "sausage shaped" tumor. It will be seen that this patien presented the classical symptoms and fulfilled in an ideal way the text-book requirements of acute intussusception. Operation confirmed the diagnosis. The ileum, appendix, and cecum were telescoped into the colon. On account of adhesions and beginning gangrene the invagination could not be completely and successfully reduced, so a resection was made with an end-to-end anastomosis between the ileum and ascending colon. After operation, the severe shock, high temperature, and vomiting, enteritis, toxemia, etc., gradually disappeared and recovery ultimately ensued. (An interesting feature of the case was the early passage of the Murphy button.)

Unless acute intussusception is recognized early and treated promptly, the result is almost always fatal. Spontaneous reduction has been known to take place. Cases have recovered after sloughing of the intussusceptum, firm adhesions forming at the neck of the intussuscipiens. Such results are, however, never to be awaited or expected. If a case is seen early, say not later than six or eight hours after a diagnosis is possible, an attempt should be made by means of posture, gentle manipulations, and enemata to reduce the intussusception. Air inflation is to be condemned. By such means it may be possible to reduce an invagination of the "colonic" variety. However, it seems improbable that such measures would succeed in the "ileocecal" or "enteric" types. The sooner we come to regard acute intussusception in the light that we look upon strangulated hernia and fulminating appendicitis, that is,—as a condition demanding immediate operative interference, the more lives will we save. Early laparotomy is the least dangerous, and by all odds the most successful method of treatment.



There are points about the operation itself that deserve attention. The work should be performed quickly, or rather with "speedy deliberation." As three-fourths of all cases are of the "ileocecal" variety, the incision should be made through or to the outer margin of the right rectus muscle. In relieving the invagination, it is best to commence at the apex of the intussusceptum, and carefully "back up" to the point where the trouble originated. If traction is made on the proximal end of the invagination, the gut is apt to be torn at the neck of the intussuscipiens. Removal of the appendix is positively indicated in nearly all cases of "ileocecal" invagination, and it is a good point to make appendectomy a step of the operation. In closing the wound, one should reinforce the catgut sutures with through-and-through silkworm gut sutures, as the abdominal wall is subjected to a considerable strain.

The post-operative treatment is of great importance. The immediate danger is death from shock, and free stimulation is indicated to overcome this condition. The next danger is due to the secondary enteritis and toxemia, which are present to a greater or less degree in all cases of intussusception. If opium is systematically employed, the enteritis is aggravated, and the toxemia accentuated. It is better to give a mild laxative, and to follow it with astringent intestinal antiseptics, and bowel irrigations. Under such management the condition will improve.

When this article was written, a careful search through the literature justified me in the belief that this was the first successful operation, in an infant, for the relief of intusssusception, in which resection of the gut was performed. Since that time, however, Dr. Jacob Frank of Chicago, in an article in the *Annals of Surgery* for February, 1905, has referred to a case of intussusception in a nine-months-old infant, in which an anastomosis was made and recovery followed.

63 West Fifty-second Street.

THE USE OF EXTRACT OF DICHONDRA AS A BACTERICIDE IN DIPHTHERIA.

By M. ARAMIAN, M. D.,
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It is a well-known fact that the treatment of diphtheria antitoxin acts only against the toxin and has no action whatever against the Klebs-Loeffler bacilli, that produce the toxin; so these microorganisms remain in the throat as long as they used to remain before serum therapy was discovered; therefore, it is necessary to keep children under quarantine for a long time, regardless of the fact that they have recovered from the disease. For long a search has been made for some means of shortening the period of confinement and isolation. Almost all of the known antiseptics and caustics have been tried for this purpose, with more or less success, but it has been found that all of them act only superficially, forming a layer of coagulation, under which the microbes still remain alive. In the extract of dichondra,* as I hope to demonstrate in this article, I believe a true remedy has been found, capable of destroying the specific bacilli. It destroys completely the bacilli of diphtheria, usually within two to five days, without the slightest irritation, for it is not a caustic, and, furthermore, can produce no harm if swallowed, even in large quantities, by the children under treatment, for it has no toxic properties.

It has been proven by various bacteriologists in France that its peculiar toxic action is directed solely against the Loeffler bacilli, and that it has no action on other microorganisms that breed in the throat during the diphtheria period and which disappear with diphtheria bacilli, for it is the latter that render the former virulent and active. This remedy has been tried since 1894 in the hospitals in Paris, and on my patients, by two methods: (1) alone, and (2) in conjunction with antitoxin. It has been perfectly successful in both ways. Success is always complete when it is possible to reach all the affected parts with the remedy, but when this cannot be done easily, then it is necessary to use antitoxin and with it to use dichondra, in order to destroy the bacilli as speedily as possible in the throat and the parts which may conveniently be reached with the remedy.

While antidiphtherin has no direct action against the diphtheria toxin, when used alone, it surely stops the further production of the poison by killing the specific bacilli that produce it, and if by that time some amount of the toxin has penetrated the general circulation, it will soon be eliminated by the natural process of the organism. A certain quantity of toxin is required to produce complications; if these complications have not yet taken place, when antidiphtherin is resorted to, they will not occur afterwards, for the bacilli will cease to produce toxin after the first application of the remedy.

It remains for the physician, therefore, to take advantage of its germicidal properties, using it according to the case, either alone or with antitoxin. In all circumstances it is certain to shorten the period of the illness, thus filling entirely the want which antitoxin leaves to be filled. In short, antidiphtherin, when used in conjunction with antitoxin, cures diphtheria, usually in two or three, sometimes five days, and never exceeding seven days, in very severe cases, while when antitoxin is used alone the duration of the disease is habitually from fifteen to fifty days, and even more (I have seen cases in which the bacilli were persisting six months and more), since the sufferers are not considered definitely cured while bacilli are present in the throat, as they are yet dangerous as contagion bearers. In some light cases, especially in cases of pure dipththeria, the bacilli may disappear in a few days without the use of antidiphtherin; but these cases are exceptional, while with the use of antidiphtherin, the bacilli are destroyed in a short time in all cases, whether light or severe, mixed or simple. Antidiphtherin is a solution of one part of the extract of *Dichondra brevifolia* (convolvulacea family) in three parts of glycerin. This extract is obtained from the seeds and stems of the plant. It is, therefore, a simple and harmless vegetable remedy, which owes its specific action to the plant above mentioned. It is a thick liquid of a dark brown color and slightly bitter taste. I have made inquiries of the director of the botanical gardens in Bronx Park, in this city, and have been informed that there are several species of dichondra growing in the United States, such as orgentia, carolinensis, villosa, parvifolia, etc., and Dr. H. Rusby, professor of botany in the College of Pharmacy of Columbia University, tells me also that he thinks all species of dichondra have more or less the same properties. But my researches so far have only been on *Dichondra brevifolia.* Children who are cured by means of antidiphtherin only are liable to get the disease a second time, if kept in contact with others having diphtheria; because antidiphtherin has not the immunizing power that antitoxin possesses. But we can positively overcome this inconvenience by applying antidiphtherin once a day, no matter how well the child may be while in dangerous surroundings.

When antitoxin is used with antidiphtherin, the former can without any inconvenience be used in smaller quantities than when exhibited alone; in this way it is not only perfectly safe, but it has the decided advantage of preventing complications (urticaria, erythema, arthralgia, nephritis, cardiac disturbances, etc.), resulting from an excessive use of the antitoxin, which, as we know, is unreliable in streptococcic diphtheria and contraindicated, in large doses, in albuminuria.

Extract of dichondra, used internally, has a slightly diuretic and laxative effect.

Bacteriological Investigations.—The extract of dichondra, when put, in quantities gradually increasing, in several tubes, each containing a pure culture of the Klebs-Loeffler bacilli, in saccharinated bouillon, diminishes their number and later totally destroys them. The tubes containing the bacilli were exposed to 35° C. for two days. The control tubes showed marked increase in the number of the bacilli while those containing more or less extract o dichondra showed decrease in their number, according to the quantity of the bactericide in each tube In the tubes which contained a small amount, few bacilli were found, and in order to ascertain i these bacilli retained their virulence, I inoculated two guinea pigs with four drops per 100 gramme of weight, one with the contents of the tubes containing the smallest quantity of the extract o dichondra, the other with the contents of a contro tube containing none of the extract. The anima inoculated with the contents of the tube containin pure culture died in twenty-four hours, while th other remained sick for only two days and recovered completely. These experiments have been repeatedly made and always with the same results. In t treatment of diphtheria antidiphtherin can be applied quite frequently without any inconvenienc but as a rule four to six applications a day are sufficient. Oftener used it will give better result especially in severe cases. In every severe case it i necessary to repeat the applications every tw hours, and in dangerous cases every hour, witho disturbing the child during sleep. Its mode of application is simple: Take a piece of absorbent cotto the size of a hazlenut, with a cotton holder, dip

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*The solution of one part of the extract of dichondra in three parts of glycerin has been named by me antidiphtherin in view of its specific action against diphtheria (see *Journal de Médecine de Paris*, 1903, page 260, and *La Revue Médicale*, 1903, page 273). In order to prevent confusion I will continue to call this solution antidiptherin, as this name explains better its usage, especially because the combination of one part of extract of dichondra with three parts of glycerin acts better, preserves it from deterioration and becomes the most convenient form of an antidiphtheritic medicine. It is expressly to be noted, however, that this is in no sense a proprietary name, being employed only as a matter of convenience to designate a mixture of the given strength.

into antidiphtherin and carry it to the throat of the patient, reaching as far into the fauces as possible, press the contents of the cotton upon the diseased parts uniformly, firmly, and quickly. The cotton must be well saturated with the medicine, so that the contents will spread around the throat freely.

After the application it is necessary that the child should not be given anything to eat or drink for at least half an hour, in order not to weaken the effect of the medicine. In nasal diphtheria, the applications must be made within the nose with a swab of cotton. In croup it must be applied in the same manner as in performing intubation, employing a small piece of cotton, according to the age of the patient. These applications to the larynx can be safely neglected if the patient has already been treated with antitoxin, and in these cases it is sufficient to make deep applications in the pharynx only. This should be done, even if false membranes are not present, for it has been shown that the Klebs-Loeffler bacilli are always attracted to the pharynx. The most essential point to be observed is that it should not be applied less than four times a day in light cases, nor less than six times in severe cases. Another point to observe is that the applications must be continued until all the redness on the diseased parts of the mucous membrane disappear, which is usually a sign that the bacilli are destroyed; but this affords no absolute assurance, and, therefore, the applications must not be stopped before bacteriological confirmation of the result is obtained.

Experimental Observations in Europe and America.—I began my experiments in Europe in 1894, and from that date I have had 109 cases in Europe; 53 in my private practice; 2 at the Hôpital des Enfants Malades, Paris, 1894; 27 at Hôpital Trousseaux, Paris, 1902; 12 at Hôpital Hérold, Paris, 1902-1903; 15 at Hôpital Trousseaux, Paris, 1903 (See *Journal de Médecine de Paris*, 1903, page 260, and *la Revue Médicale*, 1903, page 273).

Among my private patients I had two cases ending fatally. Both children died the day following my visit, the disease being too far advanced and complicated, in one case, with bronchopneumonia, in the other with myocarditis. The remaining patients were cured in from two to five days, according to the severity of the cases.

Of these 53 cases, 27 were cured by antidiphtherin alone, for at that date antitoxin was not yet discovered. Beside these twenty-seven cases, the two patients that were cured in the Hôpital des Enfants Malades were also treated without antitoxin. One of these was a girl, eleven years old, with slight and pure diphtheritic angina. She entered the hospital on June 11, 1894, and left cured on June 16, or in five days. The other case was that of a boy nine years old, suffering from infectious and mixed diphtheritic angina, complicated with croup and nasal diphtheria; he entered the hospital June 11, 1894, and left completely cured on June 18, or in seven days. It was after these two cases were cured that Dr. Roux first published his observations on antitoxin. After this date I began to administer antitoxin with antidiphtherin, which gave me better results. The following twelve cases, for example, treated in Hôpital Hérold, will help to convince the reader:

NAME.	Age.	Date.	Commencement of Treatment.	Disappearance of the False Membrane.	Disappearance of the Bacilli.
Amla, Christine....	8½ years	July 11, 1902	July 11	July 14	July 14
Henriette, Celestin.	4 "	" 10 "	" 11	" 14	" 15
Lescher, Lucie.....	3½ "	" 13 "	" 13	" 16	" 17
Pohrie, Ernestine...	8 "	" 18 "	" 18	" 20	" 20
Serré, Melaine.....	11 "	" 18 "	" 18	" 20	" 20
Chevalier, Celina...	4 "	" 19 "	" 18	" 20	" 20
Charpin, Ernest....	21 mos.	" 19 "	" 19	" 21	" 23
Motte, André......	4 years.	" 16 "	" 17	" 19	" 20
Janvier, Charles....	9 "	" 27 "	" 27	" 31	" 31
Normand, Louise..	4 "	" 30 "	" 30	Aug. 1	Aug. 1
Kremmer, Henri...	2½ "	Feb. 16, 1903	Feb. 16	Feb. 20	Feb. 24
Boulard, Henri....	5½ "	Mar. 9 "	Mar. 9	Mar. 11	Mar. 13

Of the above mentioned cases, only Louise Normand was treated without antitoxin.

The cases treated in the Hôpital Trousseaux, 27 in 1902 and 15 in 1903, 42 cases in all, gave exactly the same results as those cases treated in Hôpital Hérold; for this reason I do not think it necessary to give here detailed histories; these are printed at length in the journals above mentioned. Of these 42 cases treated with antidiphtherin, only three were treated without antitoxin. These three were light cases and the disease was localized in the pharynx; two of the patients were cured in two days and one in three days.

In New York I have endeavored to have the medicine tried in the hospitals, in order to show to my American colleagues its advantages, but I found this impossible, without having first tried it on private cases. It was with great difficulty that I was able to secure the assistance of a few confrères who were kind enough to try antidiphtherin in their private practice. The results are as follows.

CASE I.—Minnie G., treated by Dr. Avac Cutujian, 71 Lexington avenue; first culture examined by the Board of Health under No. 8777, shows the presence of Klebs-Loeffler bacilli. On this case Dr. Cutujian reported as follows: "Minnie G. was seen by me on May 16, 1904. Clinical diagnosis was diphtheria. I took the culture specimen on the above date, injected antitoxin (2,000 units) and made local application of antidiphtherin (case being diphtheritis laryngeal croup). On May 17, 18, and 19 one application of antidiphtherin was made each day. On May 20, 21, and 22 four applications of the antidiphtherin were made each day. On May 23 a secondary culture was taken and it did not show any Loeffler bacilli. In this case there occurred a total disappearance of the diphtheria bacilli in seven days; and as previously I never had a case in which diphtheria bacilli disappeared in such a short time, I am led to believe that the use of antidiphtherin shortens the duration of Loeffler bacilli life."

CASE II.—Bertha P., treated by Dr. Swift, 121 East 26th street. The patient suffered from infectious and severe diphtheritic angina, complicated with croup. First culture examined by the Board of Health, on May 16, 1904, and under No. 8,778, shows the presence of Klebs-Loeffler bacilli. On the above date the patient received 3,000 units antitoxin and applications of antidiphtherin were made only in the pharynx, every four hours. After eight days, on May 24, a secondary culture was taken and it did not show any Loeffler bacilli; the throat was clear before, but no culture was taken until the above date.

CASE III.—Annie C. had the usual diphtheritic angina; she was treated by Dr. H. P. Swift, 121 East 26th street. First culture examined by Board of Health on July 5, 1904, under No. 11,299, showed the presence of bacilli. Dr. Swift reported as follows: "This case was seen for the first time July 4. Antitoxin (3,000 units) was injected that evening. The applications of antidiphtherin were made on that date. The case was of moderate severity; the child was ill three days, membranes extended over both tonsils. Applications were made every four hours on July 5 and 6. The membranes were very slight on July 6 and had disappeared entirely on July 7. I left for my vacation on that date, and the second culture was not taken by the Health Department Inspector until July 16, which was clear."

CASE IV.—Meldrea H., treated by Dr. H. S. Abkarian, 167 Glenmore avenue, Brooklyn, had severe diphtheritic angina. First culture examined by Board of Health under No. 4,483, showed the presence of the bacilli. Regarding this case, Dr. Abkarian writes the following: "Many thanks for your antidiphtherin, which you sent to me on July 29. I made three applications a day on my patient, on July 28, 29, 30, and 31. A culture was taken on August 2, six days after I commenced the use of antidiphtherin, and the result you will find on the other side, and I can assure you it is very unusual."

CASE V.—Sadie F. was treated by Dr. Franklin Dunseith. On receiving the last report of the culture of his patient from the Board of Health, under No. 14,429, Dr. Dunseith writes the following: "I first saw this case on the evening of October 17, The patient was a girl of 13 years, sick four days, membranes on both tonsils, uvula, and soft palate; temp., 105°; pulse, 140; severe infection. The culture showed Klebs-Loeffler bacilli present. Antitoxin (5,000 units) was injected October 17, 1904, at 6 P.M. In four days the membranes had disappeared. A culture on October 24 showed no Klebs-Loeffler bacilli. The only medication to the throat consisted in applications of antidiphtherin."

CASE VI.—Martin M. was treated by Dr. Avac Cutujian, 71 Lexington avenue. First culture examined by the Board of Health under No. 15,374, showed the presence of diphtheria bacilli. Dr. Cutujian reported as follows: "The diphtheria case of this report was seen by me and culture taken on November 9, 1904. On November 10 I received the report, showing the presence of Klebs-Loeffler bacilli. After applying antidiphtherin for four days, four times daily, I took a secondary culture on November 16. This specimen did not show the presence of any diphtheria bacilli. In six days the patient was free from diphtheria, and the patient's room was ready for fumigation. I shall still use this preparation for further corroborative evidence, feeling that its systematic use in diphtheria cases is going to aid the physician in materially shortening the quarantine period."

CASE VII.—This case was treated by Dr. F. Dunseith, 354 West 42d street, who has written me the following: "In case of Edna B., on January 13, I found both tonsils covered with membranes; culture showed it to be a true case of diphtheria; temp., 103°; pulse, 95. I applied antidiphtherin on January 14 and 15. A culture taken January 16 showed no Klebs-Loeffler bacilli; no other application was made to the throat but antidiphtherin. Antitoxin (3,000 units) was injected on January 13. No other medication other than above stated was employed. The fever subsided January 15."

CASE VIII.—This case was also seen by Dr. F. Dunseith, who wrote as follows: "The last case of diphtheria in which I used antidiphtherin was the most remarkable case of M. D., six years old. Culture showed it to be a true case. On January 18, 1905, on the appearance of the membrane on both tonsils, soft palate, and uvula (temp., 105°; pulse, 160), 5,000 units of antitoxin was immediately injected. Antipyretics and heart stimulants, iron, chlorine, and mercury were given, with H_2O_2 to the throat, but all to no avail, the membrane increasing. On January 20 a second injection of 5,000 units of antitoxin was given. On January 23 I stopped all treatment and began with antidiphtherin applications every hour; the fever subsided in twelve hours and the membrane had disappeared on January 25, when culture showed no Klebs-Loeffler. On January 27 patient was quite strong and there was no return of membrane."

Conclusions.—1. It is necessary to treat diphtheria with both antitoxin and antidiphtherin. This is the best method.

2. Physicians who are opposed to the use of antitoxin will be better satisfied with antidiphtherin than with any other remedy.

3. Applications should be made not less than four times a day in any case, and should be continued until the results of bacteriological examinations show that the bacilli are completely destroyed.

Coughs and Colds.—William F. Waugh suggests giving strychnine arsenate and amorphous aconitine, 1-134 gr. of each, repeating every 15 minutes till the effects of one or the other are manifest in slowing pulse or increased arterial tension. If the patient is below par, digitalin, gr. 1-67, may be added to inforce the strychnine. If the pulse is full and fast, and the emunctories closed, veratrine is added, gr. 1-34, till slight nausea or gastric burning indicates that enough has been taken. By this time the "cold" will be a thing of the past. Some of the blood vessels are dilated and contain more blood than is normal while others are contracted, and have too little blood. Hence, the above treatment will reach this difficulty. The absolute stoppage of all food and drink—water, too—gives the best results when trying to abort a "cold." The greatest of remedies for a tight dry cough is found in ipecacuanha—not the crude drug, but emetine. This is also an eliminant and acts on the liver even better than calomel does. In rare cases when there is an idiosyncrasy against all forms of ipecac, apomorphine may be used. If the patient is robust and there is some fever, lobelin is perhaps safer. Codeine is a better sedative for irritative coughs than morphine. The writer, however, is averse to opiates in all forms. The accessories, hot mustard foot-baths, quiet, the application of rubefacient liniments to the chest, and so on, should not be neglected.—*The Canadian Journal of Medicine and Surgery.*

Have Ankylostomiasis Patients Any Peculiar Marking on Their Tongues?—T. M. Russell Leonard carefully examined 362 hospital patients, and found the ova of the ankylostoma in the feces of 112 of this number. Of these cases, eighty-nine, coolies and West Indian negroes, presented the pigmentation on their tongues. The remaining twenty-three cases were white Barbadians, and showed no pigmentation. The pigmentation varies in color from a faint blue to a blue-black, and is seen in minute points or in areas on the tip or sides of the tongue, and is found only in the West Indian negro and in the immigrant coolies and their children, and not in the cases of Europeans or Barbadians or pure whites. Ground itch, due to the penetration of the skin by the embryo ankylostoma, leaves in a large number of cases a peculiar mottling of the skin, and the points or areas of pigmentation seen on the tongue may be due to the injection taking place there, the embryo parasite being conveyed to the mouth on the hands or in the food of the patients. The cases exhibiting this pigmentation, did not in many instances show marked anemic symptoms, and the writer sees no connection between the pigmentation and the degree of anemia, but believes that the former indicates only that ankylostoma are present. For on the removal of the parasites, and subsequent treatment with iron and arsenic, and a generous diet, the pigmentation becomes fainter and often finally disappears. The cases examined were of all ages. The writer believes this sign the West Indies to be of great diagnostic value.—*T Journal of Tropical Medicine.*

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TREATMENT OF RHEUMATOID ARTHRITIS.

The condition known as chronic rheumatoid arthritis has as yet met with no very successful treatment. The methods are various but the results unsatisfactory, the explanation being that the cause of the disease is not well known, that it has a marked tendency to be progressive, and is characterized by occasional exacerbations of acute and more rapid extension. Dr. John Orr of Edinburgh writes in the *Practitioner* for February, 1905, on some methods of treating this affection.

Dr. G. W. Balfour in 1893 initiated a mode of treatment by which he claimed he could practically always arrest, and often cure the disease, and that failure was more often than not due to the patient's faulty carrying out of orders. The method may be considered under three heads, viz., treatment by (1) diet, (2) internal medication, and (3) counterirritation. These three ways of fighting the malady must be used in combination, and if steadily employed together, the effect is usually gratifying.

The object aimed at in the dietetic part of the treatment is to give food which is easily digested and assimilated, and all red meats, including mutton and beef, are abolished from the diet list. White meats and white fish only are allowed, and these must be cooked by boiling, roasting, grilling, or in the case of fish by broiling. Sugar, and beet-sugar in particular, is forbidden, its place being taken by saxin. Potatoes, turnips, head of cauliflower, peas, and beans are also as a rule contraindicated. Tea infused in boiling milk may be taken, as made in this manner it forms a bland, nonastringent, and innocuous combination. Well boiled porridge is good, while eggs lightly boiled, scrambled, or poached can be taken by some patients without injurious effect. Alcohol in moderate amount seems to have little influence on the course of the disease.

Internal medication consists in the exhibition of arsenic and iron in small doses for the period of three weeks out of every month; cod-liver oil is likewise decidedly advantageous in cases in which it is well borne.

Counterirritation is most usefully carried out by the employment of blisters. Each large joint has applied to it a blister once in every seven or ten days, the emplastrum cantharidis being the most certain and constant in its action. The size of blister employed for these large joints is one inch square. Small blisters may be applied to the smaller joints. The counterirritant is employed at different areas all round the affected joint. The urine should be carefully observed, and the occurrence of albuminuria will constitute a contraindication.

This treatment, says Dr. Orr, should be conscientiously pursued for two, three, or more years, and after a successful result has been attained, the diet should still be unaltered, and arsenic and iron ought occasionally to be taken. Although, however, Dr. Orr has the highest opinion of the treatment sketched above, and he judges from practical experience, he nevertheless readily concedes that other remedial agencies may be very valuable for the alleviation of intercurrent symptoms, but these, he thinks, are never curative. He is in favor of treatment by potassium iodide, sodium salicylate, guaiacum, ichthyol, external anodyne applications, and the employment of electricity, especially electric baths, and currents of high frequency. These confer temporary benefit. As to baths and mineral waters, the writer is of the opinion that, although they are of much service, it is quite possible to treat cases successfully without their aid. Dr. Orr states emphatically that by treating rheumatoid arthritis by the so-called Balfour method, a considerable amount of good can be done in the way of alleviating suffering, preventing deformity, restoring the use of limbs, and in some cases effecting a cure.

MOVABLE KIDNEY.

In the London *Practitioner* for January, Sir Frederick Treves discusses this condition, which is conspicuously one of modern times, the first sound description being Rayer's in 1839. Post mortem it vanishes, Ebstein finding it in only 5 of 3,658 autopsies, while clinically Glénard says it occurs in 22 per cent. of all women examined.

The kidneys lie deep in the gutter on either side of the spinal column, under the seventh to tenth rib cartilages, the upper end of the left being at, and that of the right nearly at, the level of the ensiform. They lie somewhat lower in women and children. Apart from the not inconsiderable support afforded by the configuration of the gutter-like depressions, the kidneys are supported in place by the perirenal (an extension of the subperitoneal) fascia, by the important general intraabdominal pressure of the surrounding viscera, and to a less extent by the renal vessels. The peritoneal covering exercises very little effect, it having but slight hold on the fascia and fat and being easily rendered movable. Much has been said about the mobility of the kidneys with respiration, Dentu even stating that it amounts to from 3 to 5 cm., a mobility that Treves has never seen in normal kidneys. His experience is that normally with the left kidney the respiratory movement is often inappreciable, that of the right being much less even than that of the liver.

The etiology of the condition is obscure and little is definitely known about the progressive tissue changes leading to it. It is usually first discovered between the ages of 25 and 50 years. In 148 cases Glénard found it only seventeen times in men. In 126 cases it occurred only three times on the left side alone; nineteen times on both sides. While in men the right kidney is now and then displaceable, the condition must be exceedingly rare on the left side; and though such a diagnosis has been made, the tumor has usually been found to be a fecal mass in the colon or a sarcoma of the omentum. It is more common in multiparæ, and quite a number of the patients have suddenly become thin (sometimes without known cause, sometimes following exhausting illnesses). There is considerable evidence that injury may cause it.

There is scarcely one abdominal or other symptom that has not been credited to movable kidney, from mere peevishness to agonizing renal pain. The classical picture would probably be dragging in the abdomen, indefinable discomfort, and a feeling of weakness, perhaps passing into actual pain, possibly radiating down the legs and across the back, occasionally also increased frequency of micturition, dyspepsia, flatulence, and constipation. The symptoms are increased by motion, especially jolting, leading to disinclination to stand or walk more than necessary. Yet all of these may occur without movable kidney. There is no definite relation between the degree of mobility and the clinical symptoms, and a wild kidney may give absolutely no symptoms. On the other hand the first symptom may be a torsion attack. In the symptomatology, these attacks stand alone. Usually sudden, with intense renal pain, vomiting, abdominal tenderness, and varying degrees of collapse, they may sometimes be less abrupt or even of gradual onset, and may cease abruptly or slowly.

The literature would rather encourage the idea that the only treatment is operative. Possibly the mortality of operation is not more than 1 per cent., Dentu having collected 374 cases with only four deaths properly chargeable to the operation. Keen has, however, collected 134 cases in which the mortality was 2.9 per cent. But operation is not justifiable merely on account of the smallness of its mortality, and Treves believes that the successes are not so frequent as they are generally supposed or asserted to be. In Keen's 116 cases traced for three months, only 57.8 per cent. were cured, and 12.9 per cent. improved; in 19.9 per cent. the operation failed. Moreover, apart from mere failure to secure replacement, the operation has been followed by neuralgia, sometimes renal, sometimes radiating down the outer side of the leg and into the foot. Up to 1895, in common with other surgeons, Treves regarded operation as the only treatment, but he now considers that it should be resorted to not as the first, but only as the last resort; and he reserves it for cases in which torsion symptoms have occurred (when the sooner operation is done, the better); when patients are to travel beyond the reach of surgical aid; when patients have to work for a living and cannot adjust the apparatus described below, and when all other modes of treatment have failed. It is surprising, Treves says, to see how small the last class will really be; so small indeed that he believes the operation of nephrorrhaphy will soon become one of the rarest in surgery.

When operation is not in question, Treves treats by a month's rest in bed, with careful feeding and attention to the digestive functions, and general massage. This will not fix the kidney, but it will rid the patient of the symptoms. For the rest, he depends upon a special truss which he describes and illustrates. The particular point is that an attempt is made to reproduce the pressure of the fingers by a metallic abdominal pad upon which pressure can be made at two points, by two springs, on the inner and lower borders, so as to press the kidney upward and outward. Since 1895, 300 such trusses have been used with success in 95 per cent. of the author's cases. The apparatus demands careful adjustment, this sometimes requiring several sittings. Usually after one and one-half to two years the apparatus can be dispensed with.

DR. OSLER'S JOKE.

In an address delivered at the commemoration exercises of the Johns Hopkins University on February 22, Dr. William Osler, since 1889 professor of medicine at that university, and for the next four years to be regius professor of medicine at Oxford, signalized his farewell to his colleagues and students by some jocose remarks which have been taken with unexpected seriousness by the press. He spoke first in defence of the rolling stone, of which he may be regarded as a conspicuous living example, having himself (to use his own simile) rolled from Montreal to Philadelphia, and thence to Baltimore, and being about to twirl finally across the sea, and then proceeded to elaborate his old-time witticism regarding the uselessness of men past the so-called prime of life. He had two fixed ideas, he said, the first of which was "the comparative uselessness of men over forty years of age. . . . Take the sum of human achievement in action, in science, in art, in literature—subtract the work of the men above forty, and while we shall miss great treasures, even priceless treasures, we would practically be where we are to-day." To make his point he mentioned a few of the great men of our profession. "In the science and art of medicine there has not been an advance of the first rank which has not been initiated by young, or comparatively young, men. Vesalius, Harvey, Hunter, Bichat, Laennec, Virchow, Lister, Koch—the green years were yet upon their heads when their epoch-making studies were made."

The subtle humor of this statement becomes apparent when we remember that Harvey was born in 1578, and published his work, "Exercitatio de Motu Cordis et sanguinis," in 1628, when he was fifty years old; that Lister was born in 1827, and was close on to fifty years of age when he began to convert the medical world to the principles of antiseptic surgery; and that, while Koch was born in 1843, and was within one year of forty when he discovered the tubercle bacillus, even the least appreciative of his admirers will admit that he has don some good work since 1882. George Washingto on whose birthday Dr. Osler promulgated his beli in infant prodigies, was over forty-three years ol when he was appointed commander of the Continental Army, and was fifty-seven when made fir president of the United States. Columbus was abo forty-six years old when he discovered Americ Bacon, Kepler, Shakespeare, Milton, Oliver Cro well, Robert Fulton, and Morse, all added to th sum of human achievement long after they ha passed the dead line of forty years. Osler publish his first medical book when he was forty years ol and Dr. George M. Gould, the accomplished edit of *American Medicine*, did not enter the medic ranks until he was full forty years of age.

Dr. Osler's second fixed idea was "the uselessness of men above sixty years of age, and the incalculable benefit it would be in commercial, in political, and in professional life if, as a matter of course, men stopped work at this age." He offered the following scheme of division of a professor's period of activity: "The teacher's life should have three periods—study until twenty-five, investigation until forty, profession until sixty, at which age I would have him retired on a double allowance."

But maybe this portion of the address was not meant for a joke after all. The last paragraph quoted certainly contains the suggestion of a hint to the Oxford House of Convocation that in four years from now (Osler was born fifty-six years ago) the retirement of the regius professor of medicine (on a double allowance) would be the correct thing.

THE SIZE OF THE ARTICULAR SURFACES OF THE LONG BONES AS CHARACTERISTIC OF SEX.

DESPITE assertions to the contrary, Professor Brinton had many arguments on his side, when he declared that apart from the pelvis, there is no guide to the sex among the bones. Dr. Thomas Dwight of Harvard Medical School, who has been making investigations into the matter, confesses that with our present methods (excepting the pelvis, and even this is not always conclusive), in the great majority of cases the expert must form his opinion of the sex of bones from their general appearance, and that comparatively rarely can he speak with any great certainty. He nevertheless thinks that Professor Brinton was somewhat too positive in his statement, and concludes, from a personal study of 400 humeri and femora of white adults, measured with the articular cartilage in place and still fresh, that the heads of the humerus and femur are relatively small in woman. Probably the same may be said of other joints. Dorsey's investigations show that this anthropological law applies also to savage races—or at least to some of them. The number of measurements of male joints smaller than the average female joint, and of female ones larger than the average male is insignificant. In the transverse diameter of the head of the humerus the combined number is only 1.25 per cent., and in the head of the femur only .05 per cent. By rejecting a few aberrant specimens, the overlapping in the curves of both diameters of the humerus is reduced to about 17 per cent., and is limited to joints measuring 45 and 46 mm. vertically and to those measuring 41 and 42 mm. transversely. The head of the femur is somewhat less characteristic, but still very valuable as a guide to sex. It would appear then, that, by careful measurement of the heads of the humerus and femur, with the articular cartilage in place and still fresh, the sex can be discerned in a large number of cases.

THE INSPECTION OF IMMIGRANTS.

DR. ALLAN MCLAUGHLIN of the U. S. Public Health and Marine Hospital Service, writes in the *Popular Science Monthly* for February, 1905, on the above subject. State quarantine authorities board ocean liners upon entering New York harbor, and the immigrants are inspected for quarantinable diseases, such as cholera, smallpox, typhus fever, yellow fever, and plague. The immigrant inspectors and a medical officer of the Public Health and Marine Hospital Service then come on board and examine the cabin passengers, and especially the second cabin passengers. The steerage passengers are then taken to the immigrant station, Ellis Island. The medical examination at Ellis Island is most carefully carried out. Two doctors work together in making the first inspection, one looking out for a certain class of defects and the other for a different class. Routine is followed in making this examination, scrutiny beginning at the passenger's feet, before he comes within fifteen feet of the examiner. The scrutiny commences at the feet and travels upwards, and the eyes are the last to be inspected. The examiners must be on the alert for all forms of deception, as every kind of method is practised in order to be passed as sound. When the last alien has passed the doctor, the suspected ones are thoroughly examined, idiots and those suffering with a loathsome or dangerous contagious disease are certified and sent to the board of special inquiry. Minor defects, such as anemia, loss of an eye, poor physique, low stature, etc., are recorded on the alien's card, and he is allowed to go to the registry clerk and immigrant inspector in charge of the manifest, who takes the defect into consideration as contributory evidence, and may or may not send him to the board. The board of special inquiry consists of "three members selected from such of the immigrant officials in the service as the commissioner general of immigration, with the approval of the secretary of commerce and labor, shall designate as qualified to serve on such boards." When the medical certificate states that aliens are suffering from loathsome or dangerous contagious disease, idiocy, epilepsy, or insanity, such certificate is equivalent to exclusion, the board simply applying the legal process necessary for deportation. Aliens certified by the medical officers as suffering from disability likely to make them public charges, are also held for examination before the board of special inquiry. Although in these cases, the board takes into consideration the medical certificate, it has full discretionary powers, and in a great majority of instances the alien is admitted.

SCIENTIFIC WORK OF UNITED STATES NAVAL MEDICAL OFFICERS.

THE opportunities for undertaking scientific work offered to the medical officers of our navy have been greatly widened of late. The accession of territory in tropical countries by our government has opened up new fields of research to medical officers of the navy and army alike. On the Isthmus of Panama, for instance, there is an immense field for research in tropical medicine. The Isthmus and vicinity literally teem with diseases incidental to the tropical zone, and for the next few years American scientific men will be afforded unique facilities for studying such affections. On the Isthmus advantage has already been taken of these opportunities, and Drs. Carpenter, Surgeon U. S. A., and Sutton, Assistant Surgeon U. S. N., have made some interesting investigations, the results of which have been published in the *Journal of the American Medical Association* for December 17 and January 21, and in the MEDICAL RECORD for January 14. The articles in the former journal dealt solely with dengue fever, an affection extremely common in Central America. Their investigations did not confirm the views held by Professor Harris Graham of Beyrouth, Syria, to the effect that mosquitos are the conveyors of dengue, in the same manner as the insects are the disseminators of malaria and yellow fever. An article by Professor Graham on the subject was published in the MEDICAL RECORD of February 8, 1902. The article by Assistant Surgeon Sutton in the MEDICAL RECORD of January 14, 1905, is a well considered treatise on the diseases of the Isthmian Canal Zone, which plainly shows that there is no lack of material in that region for protracted scientific investigation. Dr. Sutton's views as to the ultimate health conditions of the maligned Isthmus are optimistic, for he is of the opinion that American sanitary methods will render its dwellers no more subject to disease than are the residents of any extreme southern country. Drs. Carpenter and Sutton are deserving of high praise for the meritorious work done by them during the past summer. American naval and military medical officers are now in the position, at least during a portion of their career, of being enabled to study at first hand and under favorable auspices, the mysterious diseases of the tropics, and there is every reason to hope that they will seize the opportunity of adding lustre to their several services and to their country, by discovering the origin of some of these maladies.

News of the Week.

Dr. Emil Mayer, adjunct attending laryngologist to the Mount Sinai Hospital, has been appointed Chief of Clinic in the ear, nose, and throat department of the dispensary of that institution.

A Clinic on Cancer.—At the completion of Dr. L. Duncan Bulkley's special course of lectures on Diseases of the Skin, held at the New York Skin and Cancer Hospital, 19th Street and Second Avenue, New York, Dr. William Seaman Bainbridge, will give a clinical lecture on Cancer, March 29, at 4:15. A number of interesting cases will be shown.

President Harper Operated On.—February 22, Dr. Wm. R. Harper, President of the University of Chicago, was operated upon by Dr. Charles McBurney, of New York, and, according to a bulletin, issued shortly after the operation, and signed by Dr. Frank Billings, a condition of thickening of the posterior wall of the head of the colon and enlargement of the glands of the mesentery was found. The entire removal of the diseased tissue was deemed impossible by the surgeons, and the wound was closed. The bulletin states that "it was the opinion of Dr. McBurney and Dr. Bevan that the disease was carcinoma. It has been decided that President Harper shall be placed upon medical and *x*-ray treatment, with the reasonable hope that the disease may be checked. It is anticipated that President Harper will make a speedy convalescence."

Dr. Osler's Denial.—The absurd statement in the papers that Dr. Osler, in his now celebrated address, advocated the chloroforming of all men who reached the age of sixty, seems to have been taken seriously by some, naturally much to the discomfort of the putative author of the sentiment. He sends a communication to the MEDICAL RECORD requesting a contradiction of the statement that he advised chloroforming men when they had arrived at this age, asserting that there was no such recommendation in his address.

Compulsory Vaccination Is Not Unconstitutional.—The United States Supreme Court has recently decided that compulsory vaccination ordered by local boards of health on authority of State Legislatures is valid because it is for the public good. The constitutional guarantee of personal liberty, the court holds, is not infringed. The case was brought by a man of Cambridge, Mass., who declined to submit to vaccination in an outbreak of smallpox and was fined. He contended the law was contrary to the preamble to the Constitution, its spirit, and to the fourteenth amendment; that vaccination did not protect, and that it was dangerous, sometimes causing permanent injury to health and occasionally death. In delivering the opinion of the court Justice Harlan said the Constitution did not grant to one person or a minority residing in any county and enjoying the benefits of its local government the liberty thus to dominate the majority in such cases. The matter was primarily one of State regulation and did not ordinarily concern the National Government. The liberty secured by the Constitution to every person within its jurisdiction did not mean that each person should be at all times and in all circumstances wholly freed from restraint.

The Spitting Nuisance.—Recently 171 arrests were made of violators of the anti-spitting ordinance in Chicago. It is hoped that these arrests will serve as a deterrent to others from spitting in public halls and public conveyances. In New York twenty-eight spitters, among them an assistant chemist of the Board of Health, were fined in court one day last week. The magistrate of one court has established a schedule of fines—$2 for spitting on the platform of the elevated road, and $3 for defiling the subway. Those who have been locked up all night are discharged without fine.

A New Medical Monthly.—We have received the first number of a new monthly termed *The Georgia Practician*, which comes from Savannah under the editorship of Dr. Martin Cooley. Practical papers, timely editorials and ethical advertising are promised, and the first issue argues well for the future.

Degree of Chemical Engineer.—A course in chemical engineering leading to the degree of chemical engineer has been established by the trustees of Columbia University. The new course will go into operation at the beginning of the next academic year, and is planned to fit men both in chemistry and engineering to assume responsible positions in large industrial and manufacturing establishments.

A New Department at the Sorbonne.—M. Louis Liard, vice-rector of the University of Paris, recently accepted a proposition made by the Municipal Council of Paris which will be of valuable assistance to American students desirous of following special courses provided by the University. Under the directorship of Dr. David Blondel a department for the dissemination of practical and scientific information is to be established for the purpose of aiding strangers desirous of following special courses of study in Paris. In a room in the Sorbonne a permanent secretary will be on hand every day from 10 o'clock to 4 o'clock, provided with the authorizations and written formalities that a stranger frequently consumes a fortnight in obtaining but which are necessary to gain access to the various laboratories, hospitals, clinics, etc. The visitor will first be required to show credentials of identification and will then be supplied gratuitously with all the documents, addresses, directions for getting about, etc., that he may be in need of.

A Dettweiler Foundation.—To honor the memory of the late Dr. Dettweiler, the founder of the Falkenstein Sanatorium and the first people's sanatorium at Ruppertshain, it has been decided to establish an institution bearing his name which shall be a home for physicians who have served in sanatoria for consumptives, and who have become invalidated by disease, accident, or old age. For the collection of funds and the final arrangements a committee has been formed under the patronage of H. R. H. the Princess Friedrich Carl of Hesse. Of the medical men who have signed the appeal for funds we read such names as Besold, the successor to Dettweiler; Professor Kurschmann of Leipzig, Flügge of Breslau, B. Fränkel, von Leyden, and Pannwitz of Berlin, General Dr. von Leuthold, physician to the

Emperor, and Schmidt of Frankfort. Contributions are to be addressed to Grunelius & Co., Bankers, 16 Gr. Gallus Strasse, Frankfort on the Main.

Mortality Statistics of Philadelphia.—For the week ended February 25, there were reported to the Philadelphia Board of Health 579 deaths, as compared with 599 for the previous week, and 693 for the corresponding week of the preceding year. More than one-quarter of the whole number were due to diseases of the lungs: 74 to pneumonia, 18 to bronchopneumonia, 11 to congestion of the lungs, 51 to pulmonary tuberculosis, 1 to hemorrhage from the lungs. Besides, 15 deaths were attributed to diphtheria and membranous croup, 13 to influenza, 7 to chronic bronchitis, 3 to acute bronchitis, 3 to asthma, 1 to pulmonary emphysema. More than one-fifth of the deaths were due to diseases of the heart and blood-vessels: 55 to heart-disease, 27 to apoplexy, 9 to paralysis, 9 to old age, 5 to congenital malformation of the heart, 5 to diseases of arteries, 4 to endocarditis, 4 to angina pectoris, 3 to embolism and thrombosis.

The Ohio State Board of Health Laboratory announces in its last bulletin that in the future it will aid physicians in making the diagnosis of the infectious diseases. This offer is only open to those who are not eligible to the laboratories of the City Boards of Health.

Licking County (Ky.) Medical Society.—At a meeting held February 7, Dr. Garrison of Utica was elected President, and Dr. C. P. King of Newark, Secretary.

The University of Halle, Germany, has conferred upon Dr. Willy Merck, member of the house of E. Merck, Darmstadt, the honorary degree of Doctor of Medicine "in recognition of numerous meritorious contributions looking to the advancement of the therapeutic side of medicine."

Society of Medical Jurisprudence.—Professor Wilhelm Waldeyer of Berlin has been elected an honorary member of this Society.

The Logan County (Ill.) Medical Society.—At the annual meeting of this Society held February 16, at Lincoln, Ill., the following officers were elected: *President*, Maskel Lee of Atlanta; *First Vice-President*, Carl Rembe of Lincoln; *Second Vice-President*, J. H. Butler of Hartsburg; *Secretary*, H. S. Oyler of Lincoln; *Treasurer*, C. C. Montgomery of Lincoln.

Suit Against a Surgeon.—An ungrateful patient has brought suit against a well-known New Haven surgeon for $25,000 damages, alleging that a roll of gauze was left in the abdomen after an operation for appendictis.

Cuspidors for the Rapid Transit Stations.—At a special meeting of the advisory board of the Health Department held last week, the use of cuspidors in the subway and elevated roads was discussed. A suitable form was examined and approved, and it is likely that the roads will be requested to provide a sufficient number of this type. The cuspidors are made of tin, painted white and designed to be attached to the side of a building. That some such provision is urgently needed is shown by the fact that on one day recently thirty-five spitters were arrested and fined.

Hospital News.—*St. Joseph's Mercy Hospital.*—The rebuilding of the St. Joseph's Mercy Hospital of Dubuque, Iowa, has been completed and the new structure, which represents an outlay of $150,000, has been consecrated by Archbishop J. J. Keane.

Montclair Hospital Opened.—The new $30,000 building of the Mountainside Hospital has been formally opened.

New Eye and Ear Hospital.—At a meeting of the board of directors of the Manhattan Eye, Ear and Throat Hospital, held to consider the plans submitted by the building committee for the contemplated hospital on Sixty-first street, running through to Sixty-second street, between Second and Third avenues, it was found that a suitable hospital would cost nearly $200,000 more than had been appropriated for the building. A gift of $25,000 from a recently elected member of the board of directors induced the board to pass a resolution to incur the debt and begin at once with the construction.

Tuberculosis Ward for Brooklyn.—The Health Department's new building in Brooklyn is to have attached to it a tuberculosis ward of the most modern description. It is proposed to build a one story structure, tiled throughout, without a particle of wood or other material to harbor germs. The tuberculosis ward will be attached to the main building, which will be used for the business offices of the department and fitted for scientific experiments. The new building is to be erected in Flatbush avenue near Fulton street, at a cost of $200,000, and it is expected that it will be completed within eighteen months.

Cincinnati Hospital Annual Report.—Supt. Fahrenbatch has submitted his annual report to the Board of Public Service. He makes a plea for additional buildings at the branch hospital for tuberculosis. The present number of patients, 113, is 43 more than the normal capacity. The main hospital treated nearly 2,000 more patients than in 1903. The gross cost per patient per day during 1903 was $0.9427, and during 1904 it was $0.8877, "which is far below any first-class hospital in the United States or Canada." The daily average number of patients during the past year was 575; deaths during year, 809; total number treated, 9,234; total receipts, $216,603.96; expenses, $220,246.36; deficit carried to 1905, $3,642.40; number of applicants for position as nurse, 214; number of nurses, 77.

Appointment of Medical and Surgical Staff at Dunning, Illinois.—The following appointments were made by President Brundage at a recent meeting of the County Board, for the County Institutions at Dunning: Drs. John B. Murphy, Hugh T. Patrick, J. Rawson Pennington, Charles S. Williamson, Frank Billings, Wm. A. Evans, E. J. Farnum, Alice Hamilton, Arnold C. Klebs and M. McPherson Linnell.

The Manhattan Maternity Hospital and Dispensary, at 327 East Sixtieth street, was opened last week. The new institution will include a training school for nurses and eight student-physicians can be accommodated in the building. There will be a large outdoor department, connected with the dispensary. The building is square, of five stories and basement, and built of brick with a white enamel finish. On the main floor are the dispensary, the examining and admitting rooms, an office and superintendent's reception room, with the students' dormitory and dining room. On the floor above are the wards, accommodating eighteen patients, and the nurseries for both the ward and private patient babies. The ward patients' dining room is also on this floor. On the fourth floor at one side is the operating room and amphitheatre, with seats extending up into the top story. On the top floor are the superintendent's rooms and a private dining room, nurses' dining room, the house kitchen, and big supply room.

A New Cancer Hospital is to be established in this city. A hearing was given the organizers a few days ago by three of the Commissioners of the State Board of Charities. The Board offered no objection to approving a certificate of incorporation for such an institution, provided it was assured that there was enough money to run it for a year.

New Cincinnati Hospital.—Samuel Hannaford & Sons have been appointed architects for the new Cincinnati Hospital, and Dr. C. R. Holmes has been appointed consulting physician for the construction of the same by the Board of Public Service.

Annual Report of St. Francis' Hospital, Evanston, Illinois.—The annual report of this institution states, among other things, that during the year 1904 there were treated 212 cases of various affections, 23 of which were cases of appendicitis.

Obituary Notes..—Dr. JOHN HERBERT CLAIBORNE died at his home in Petersburg, Va., February 24, after a brief illness. He was a graduate of the Medical Department of the University of Virginia in the class of 1849. In June, 1864, when Gen. Lee's army occupied Petersburg, Dr. Claiborne was senior surgeon of the post and chief surgeon of all the military hospitals in Petersburg. He was ex-president of the Medical Society of Virginia, a fellow of the Southern Surgical and Gynecological Association, of the American Medical Association, of the American Health Association, and of the Boston Gynecological Association. He leaves a widow and several children, among whom is Dr. John Herbert Claiborne, Jr., of New York.

Dr. MORTIMER WRIGHT SHAW of this city died of pneumonia at Middletown, N. Y., on February 22, at the age of 37 years. He was a graduate of the Long Island College Hospital in the class of 1892.

Dr. JAMES E. CRISFIELD of Dansville, N. Y., died February 24, at Jacksonville, Fla. Dr. Crisfield was the oldest practicing physician in Livingston County. He was graduated from the College of Physicians and Surgeons in this city in the class of 1873.

Dr. FRANCIS NORTON PHELAN of Duluth, Minn., died on February 11, at the age of 43 years. He was born in Fond du Lac, Wis., and was graduated from the Medical Department of Wooster University, Cleveland, Ohio, in the class of 1884.

Dr. ALBERT BENJAMIN PRESCOTT, Director of Chemical Laboratories of the University of Michigan, Professor of Organic Chemistry, Dean of the School of Pharmacy, and the oldest professor in the university in point of years and service, died at Ann Arbor February 25, aged seventy-two. He formerly was President of the American Association for the Advancement of Science and the American Pharmaceutical Association.

CHARLES DENNIN, a well-known apothecary of Brooklyn, died of pneumonia on February 19, at the age of 65 years. During the civil war he served as apothecary on the ship Ocean Queen, presented to the Government by Commodore Vanderbilt. He was a member of the Sanitary Commission during the war and for some time chief apothecary of Bellevue Hospital. In 1865 he established his drug store in South Brooklyn. He was one of the founders, and for several years the treasurer, of the Brooklyn College of Pharmacy. He was also a charter member of the Kings County Pharmaceutical Society.

Dr. D. W. DUNDORE died at Womelsdorf, Pa., on February 23, at the age of 48 years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1879.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SCHOOL HYGIENE—INTRACRANIAL ABSCESS WITHOUT CEREBRAL SYMPTOMS—LOCALIZED FLUSHING AND SWEATING—PHYSICAL DEGENERATION—THE LATE LUTHER HOLDEN—COLLEGE OF SURGEONS, PROPOSED NEW SCHOOL.

LONDON, February 10, 1905.

In view of the International Congress on School Hygiene, to be held in London in 1907, the educationalists, taking time by the forelock, have been holding a conference here this week, which opened on Tuesday and is to conclude this evening. Delegates have attended from about 170 societies and educational authorities, including eleven universities and the Royal College of Physicians and Surgeons. Similar conferences are, it was stated, being held in the chief towns of various countries.

The meetings here have been held at the University of London, and its Principal, Sir A. W. Rücker, gave the presidential address, in which he argued that some science should be taught to all children in secondary schools and the principles of hygiene should be included under that head. The University, he said, sympathized with every effort to give a tincture of knowledge of hygiene to all children, whether in public schools or not, and he hoped the conference would succeed in its endeavor to secure the reasonable cultivation of the subject and would insist that all to whom the care of young lives were entrusted should have learned the main outlines of the science.

Sir Lauder Brunton presided on Wednesday morning, when the importance to children of physical development, fresh air, good light, wholesome food, sleep, and ten other subjects were discussed. In the afternoon Lord Reay presided and expressed a wish to see school and home teachers and parents brought into more or less intimate relations. Dr. Chalmers showed diagrams to illustrate the relations between dull children and overcrowded tenements, plus underfeeding and malnutrition. Dr. Kerr, medical officer of the County Council, declared school methods required to be rewritten and the final chapters must fall to the school doctor and the medical psychologist. Ill nutrition depended on want not merely of food, but of clothing, cleanliness, and air. Dr. Newsholme and others commented on school nurses, the propriety of changing boots for slippers on reaching school, and details as to care for the children's health.

Resolutions were adopted urging the Board of Education to appoint as inspectors (some women as well as men) those who are specialists in school hygiene. It was also agreed that no child should undergo instruction in classes under 6 years of age, and that there should be regular medical inspection of the children in all schools.

Yesterday the morning meeting was occupied with school buildings, apparatus, and equipment. In the afternoon there was a lengthy discussion on Sanitary Inspection of Schools, and eventually a resolution was carried that the control of schools from a sanitary point of view be referred to the Council of the Royal Sanitary Institute for consideration, with a view of such representations being made to the proper authorities as that Council may deem fit.

Some rather curious cases were exhibited at the Clinical Society's last meeting. One was of extensive syphilitic necrosis of the skull, causing intracranial abscess but with no cerebral symptoms. Four years after treatment for primary syphilis the man had rupia, joint pains, iritis, etc., and was again treated. He then remained free for 10 years, when (February, 1904) a lump formed on the vertex, followed by sloughing of scalp, and then by necrosis beneath until the cerebral pulsations appeared, but the man was able to go on with his work as a letter carrier and had no headache, giddiness, or other cerebral symptoms. Admitted to hospital, the dead bone was removed by trephining, and a large subcranial collection of pus found between the skull and the dura mater.

Mr. Hutchinson, Jr., who showed the case, said it appeared originally to be a periosteal gumma which had softened, and could be scooped out with the finger.

A very different exhibit was brought by Dr. P. Weber, viz., a case of localized flushing and sweating on eating, which, together with "striæ patellares," followed appendicitis ten years ago. The patient was shown in October, 1897, but the symptoms still persist. When he begins to chew solids a patch of redness appears on the *left* cheek and the skin sweats. When this is at its maximum a smaller, less marked patch may appear in front of the *right* ear. After ceasing to chew, the symptoms gradually subside. Movements of the jaw as in mastication call forth the phenomena to a less degree than chewing solids. So does holding vinegar and water in the mouth. Swallowing has not the effect. The striæ patellares are well marked, resembling the lineæ albicantes gravidarum and it was suggested were caused by the fixed position of the knees when suffering from appendicitis. Dr. Weber thought another factor was the rapidity of the patient's growth, and asked what effect long illness had on lineæ gravidarum. On this Sir D. Duckworth referred to a case he published in the *Transactions*, in which lineæ followed typhoid, but he added, such lines appeared in robust health and he saw no reason to call in any factor other than pressure. Mr. McGavin said if Dr. Weber's explanation held, the lines ought often to be seen over tuberculous ankylosed joints, but as to that Dr. Weber held that a febrile disease gravely affecting nutrition differed from a local joint disease.

Sir Wm. Church, President Royal College of Physicians, took the chair at a meeting to urge the advantages of military or naval training as a remedy or preventive of physical degeneration. Sir William spoke of the importance of the subject in view of the unsatisfactory condition of the mass of our population.

Col. Duke, in an interesting address, urged that the government should go back to first principles and require every boy while at school to be so trained and developed as to be able, if need be, at a later period to help in the defense of his country. Comparing the habits of the Jews and others, he declared that 98 per cent. of Jewish mothers nursed their children, but 96 per cent. of British mothers either would not or could not. This abandonment of Nature's law had a most evil effect on the population. Mothers should be taught that nature and true patriotism required that their children should be properly fed and properly trained to develop the quality of the race.

A venerable and venerated teacher has passed away in Luther Holden, who died on Monday, in his ninetieth year. He was apprenticed to Stanley of St. Bartholomew's Hospital in the old days when privileges attached to such apprenticeship. But it was long before he became a member of the hospital staff. In fact he was elected assistant surgeon in 1850, but five years later he became full surgeon through several retirements. But long years before these dates he had established himself as one of the most successful and popular of teachers of anatomy and its relations to surgery. In the early forties he was demonstrator at the hospital school and continued to hold that post until 1859, when he became join lecturer with Skey. His Manual of Dissection, first issued in 1851, was the popular textbook, but it was his beautiful work on "Human Osteology," the first edition of which appeared in 1855, that established his great reputation beyond his own school, where of course it was well known and appreciated. The fine illustrations were his own drawing, and on the bones the attachments of the muscles were all marked. This was a new departure in anatomical teaching and original with Holden. So striking a method was of course pronounced at first too easy by some teachers, especially by those who were enamored of the minutiæ of dissection. But the "pretty picture book" was speedily imitated and is now largely followed, though few if any of its successors have equaled Holden's colored plates. In 1876 appeared his "Medical and Surgical Landmarks," which, however, had previously been printed in instalments in the *St. Bartholomew's Hospital Reports*, 1866 and 1870.

Holden became consulting surgeon to the hospital in 1881 and retired the year in which he delivered the Hunterian oration, at the Royal College of Surgeons, of which he was president in 1879, having previously held all the minor offices. He was twice married and leaves a widow but no children. In old age he made voyages to the Cape and Australia; in 1898 he was entertained by the profession in the Transvaal. On his retirement he went to live in Suffolk, of which county he was a magistrate, but came to town at times to visit friends or the college where I last met him, and now retain a pleasant memory of that interview.

Yesterday at the Council meeting of the Royal College of Surgeons a vote of condolence was adopted with the widow of the late Mr. Luther Holden and of appreciation of the services of the late past-President.

The Council afterwards discussed the proposal to establish a teaching school, and appointed a committee to consider and report upon the practicability of the institution by the college of a school for teaching the early and intermediate subjects of the curriculum and of advanced pathology. In reply to an invitation from the President of the International Medical Congress, it was decided to send a representative.

Government Physicians.—One of the Swiss cantons, Zurich, is about to try, according to report, the experiment, decidedly more interesting than hopeful, of creating a medical service fund by taxing every citizen 86 cents a year, and with this money employing something like fifty physicians, who will respond to all calls without further remuneration. There is little likelihood that the experiment will be a success, however, for the practical difficulties in carrying out such a plan could hardly be overcome.—*The Times.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, Feb. 23, 1905.

Eye Strain.—Myles Standish points out the possible combination of ocular abnormalities which would make a heavy drain upon the nervous reserve force, so necessary to every one in times of stress and depression. Nearly every individual has some ocular defect, many being unaware of this fact, until beginning presbyopia emphasizes the infirmity. The effects of eye strain are legion. The man, and not the eyes, is responsible. In many cases of nervous dyspepsia, for example, the troublesome symptoms have disappeared after a correction of the error of refraction. In children and youth it is certain that epileptiform convulsions, indistinguishable from those of true epilepsy, have been absolutely cured by the correction of the error of refraction or the muscular imbalance.

Allen Greenwood speaks of the inattention of children and apparent backwardness, which is due to eye strain. This condition is not recognized as it should be for two reasons—the desire of parents to avoid the use of glasses by the child, and the fact that such children have a normal acuity of vision. He believes that teachers should be trained to observe the symptoms of eye strain, as well as to test the visual acuity. Many symptoms are mentioned, among which are the following: Backwardness in children otherwise bright and active, inattention during study hour, frequent rubbing of the eyes or pressing them shut with the hands to rest the tired ciliary muscles, scowling, blinking or pinching the lids together when studying, and twitching of the orbicularis muscles. The child's eyelids are often red and the edges covered with scales. The eyes are hot and painful. Often it complains of increasing headache. The oculist and family physician should work together. The correction of adenoids, nasal obstructions, anemias, and other abnormalities would often obviate the necessity of wearing glasses for a slight error of refraction.

Henry W. Kilburn has observed a number of cases which have convinced him that refractive error or vertical heterophoria may in certain cases be a predisposing cause of scoliosis. He believes that any refractive error or any condition of muscular imbalance which causes a growing child to lean too far forward over the desk, or which causes a tilting of the head to one side, may induce a lateral curvature. An oblique astigmatic axis may also be a cause of this deformity. Eye strain has undoubtedly played a rôle in a number of cases of torticollis.

Henry H. Haskell calls attention to certain reflex prenomena of nasal origin, most of which resemble the ordinary symptoms of eye strain. Pressure-contact in the nose may cause symptoms like those of eye strain. On close examination in these cases, however, certain anomalous features will be found, different from those due to faulty refraction alone. Moreover, it must be remembered that a faulty nose may also cause real symptoms of eye strain through its effect upon the refraction. Headache is the most constant symptom of nasal trouble. This is generally unilateral, and the pain becomes worse, if anything, when the patient lies down. Morning headache, present on waking, is almost invariably of nasal origin, due to congestion of the turbinate. In these cases the effect of an operation on the nose on the refraction, is very striking.

Edwin E. Jack mentions several conditions in which eye strain should be suspected. As to headache, when the pain comes on repeatedly, during or immediately after the near use of the eyes, the inference is direct. Headaches which are around or back of the eyes, frontal and occipital, are especially suggestive. Local suggestions of strain come from eyes which have been congested in use or that have a chronic conjunctivitis and inflammation of the lid margins with crust formation. Many people cannot go to the theater, ride in cars, or go shopping, without headache, vertigo, confusion or severe prostration following. Many of these cases are explained by faulty refractive or muscular conditions. It is the lesser degrees of error that cause the most trouble. Greater degrees of error cause poor vision, and poor vision maintained by no effort causes no strain.

Fred M. Spalding explains various difficulties encountered in the prescription of glasses. The time that it takes one to become accustomed to wearing glasses varies considerably, according to the age of the patient. It is always wise as a matter of routine to inform patients that in all probability their glasses will not feel comfortable at first. A common cause which tends to prolong the period of adaptation is a faulty balance of the external ocular muscles. Other patients who find it difficult to get accustomed to glasses are those who show a marked difference in the refractive error of the two eyes. Another condition which often gives rise to trouble is spasm of the accommodation. Glasses themselves often have the effect of producing changes in the appearance of objects. The prismatic effect of looking obliquely through glasses is also rather disturbing to the novice. A special lens called the toric lens has been designed to correct this difficulty.

New York Medical Journal, February 25, 1905.

Myocardial Degeneration.—A. E. Roussel includes under this heading the following varieties: (1) fibroid degeneration; (2) fatty degeneration; (3) brown atrophy, a common change in that portion of the heart muscle secondary to valvular affections. It is generally present also in the old and in those who have died from wasting diseases. Rarer forms are amyloid, hyaline (in prolonged fevers), and calcareous. These latter three possess no clinical interest. The symptomatology of the general condition is detailed. A parenchymatous form is also met with in the infectious diseases, especially when they are protracted and accompanied by high temperatures. Perfect recovery from this form is common enough, but the myocardial degeneration, even where not recognized, is the cause of many sudden deaths. As to treatment, rest in bed, easily digested food (largely nitrogenous), and attention to the bowels are of primary importance. Occasional purging with high rectal irrigation is also of service. The most valuable drugs are iron, strychnine, and arsenic. Digitalis is to be avoided. Oxygen is of service. In cases where there are evidences of increased arterial tension, the nitrites are of benefit. When the contrary is the case, small doses of atropine may be tried with good results. Aromatic stimulants are, as a rule, better suited for syncopal attacks than whiskey or brandy, but the use of light wines is often beneficial. The patient is sensitive even to proper clothing and warm water for bathing. For restlessness, small doses of heroine guarded by atropine are useful. In Cheyne-Stokes breathing, strychnine, hypodermically, and oxygen may be administered. In attacks of angina, nitrate of amyl and nitrogylcerin may be given hypodermically. As the patient improves, graduated exercise, either by the Oertel or Schott treatment, should be begun.

Intestinal Perforation.—H. M. Taylor reviews the statistics of this accident. There are probably 15,000 such cases annually in the United States. The best statistics show a recovery percentage of fifty. The crucial point is that of early diagnosis. Cases are typical and atypical. If the patient has done well up to a certain time, and while having an action of the bowels is taken with sharp continued pain, tenderness, and muscular rigidity; perhaps with chill, reduced temperature, increased pulse rate, and vomiting, symptoms of shock, we have a chain of evidence pointing to perforation, as closely linked as that upon which we commonly have to rely in most acute peritoneal infections. On the other hand, it is easy to see how such symptoms may be masked if the patient is delirious, if there is abdominal distension and gastroenteric disorder, and if there have been daily marked variations in pulse and temperature. The symptoms of intestinal bleeding may at first simulate those of perforation, and the two conditions may coexist. In view of present day surgical methods the author thinks that we ought to have from 50 to 60 per cent. of recoveries from operation.

Electricity in Otology.—J. J. Richardson believes that electricity in otological practice will stimulate weak muscles, relieve pain either by direct action of the current or by the cataphoretic application of anesthetics, stimulate absorption of inflammatory exudates, overcome stenosis or even complete strictures, and at times revive nervous activity. He describes the forms of apparatus he employs, and finds electricity of service in tinnitus aurum, and in dissolving strictures of the Eustachian tube. Not much can be expected in cases of deafness of either tympanic or labyrinthine origin. Hysterical deafness, like hysterical aphonia, is best treated by the faradaic current. Pruritus of the auricular canal, which is so distressing at times, is often benefited by this form of treatment. In neuralgic otalgia the interrupted current is very efficacious, when applied by means of an intraauricular electrode. Cocaine applied to the ear acts very incompletely, but its anesthetic effect may be aided by the action of the constant current. This cataphoric process is utilized in producing anesthesia of the tympanic membrane and external canal for slight operative procedures. The auricular canal is filled with a 10 per cent. solution of cocaine and a mild current allowed to pass for five to ten minutes when anesthesia ensues.

Medical News, February 25, 1905.

Observations Upon the Morphology and Classification of the Mycobacterium (Bacillus) Tuberculosis.—C. F. Craig has studied the morphology of the tubercle bacillus and discusses its variations in length, breadth, contour and staining power. Common departures from the classical type are: (1) The streptococcic form, so named because in stained specimens the appearance is that of chain cocci, due to interruption of the stain; (2) the clubbed form, in which one end of the bacillus is very large and takes the stain deeply; (3) the budding form, found in two-thirds of the specimens examined. This form consists of a rather long rod, at one or more portions of which there occurs a distinct enlargement or knob projecting laterally. It is undoubtedly the first stage of (4) the branching form found frequently in patients returning from the tropics. In this form the bud expands into a very short branch. The organisms showing branches are always longer than those surrounding them. Craig believes that the *B. tuberculosis* belongs to the actinomyces, and is not a true bacillus while it is pleomorphous. It answers in every way to this classification, as it presents true branching, the club formation and mycelial formation. The author does not discuss the clinical significance of these various forms, but promises a further contribution along these lines.

Sprains of the Knee and Ankle Joints.—If the case is seen early, J. T. Wilson advises wrapping the knee in flannel cloths saturated with water as hot as can be borne and covered with rubber tissue or similar substance. If there is a simple contusion, a stretching of the tissues without laceration, a gentle massage for ten or fifteen minutes, followed by the Cotterell dressing, *e.g.* strapping the joints with strips of adhesive plaster firmly applied longitudinally, beginning six or eight inches above and extending as far below the knee, overlapping each other and surrounded by a well-fitting roller bandage, is the most effective and satisfactory treatment. In more severe cases the point should be kept at absolute rest, the effusion being aspirated under strictly antiseptic precautions. As the condition improves the dressing may be removed, gentle massage practiced, and the dressing snugly reapplied. After ten to fourteen days, if there is no pain of motion, the patient should begin to walk about some each day. The same general principles apply to injuries of the ankle joint. The author gives in the course of his article very minute and accurate descriptions of the dressings and apparatus he employs, and full directions for their application.

American Medicine, February 25, 1905.

Relation of Pathology to Other Sciences.—J. Orth discusses this subject at length, showing the close relation which exists between pathology and the natural sciences. It is not only the receiver which makes practical use of scientific discoveries, but also the producer which by its own effort, and through independent performances, furthers science. The modern development of bacteriology, the determination and elaboration of exact methods of investigation, the morphology and biology of bacteria have been largely due to the efforts of physicians and pathologists. However, the greatest progress of pathology in the immediate future will be along the lines of chemistry. In all directions pathologists have united with chemists to further the study of the chemistry of proteids. Physicians and pathologists have furthered the knowledge of precipitins, agglutinins and lysins of various sorts, not only in their practical but also in their purely scientific relations, and have begun to study these substances along different lines. Orth asserts that although pathology must necessarily be in uninterrupted relation to medical art, still it remains first of all an independent physical science, which in its three branches, pathologic anatomy, physiology and chemistry, stands on an equal plane with normal anatomy and physiology and physiological chemistry; with them and etiology forming the scientific basis for practical medicine.

Purgation Before and After Operation.—I. S. Stone discusses this subject at length; he asserts excessive purgation should be restricted because it is enervating to the general system. It produces great irritation to the mucous lining of the bowel. It may add to the danger of ileus and paresis. Purgatives have very little effect in limiting the amount of extraperitoneal exudate and fluids. Instead of calomel and saline purgation, bland evacuants such as castor-oil should be used before abdominal section. The use of suitable bland non-fermentive foods is desirable until just before operation in weak patients. After operation limit peristalsis; give only small quantities of food and drink by mouth. Rarely give opium. Enemas should be administered to relieve distension and cause peristalsis in downward direction, after normal peristalsis laxatives should be given as required.

Cystoscopy.—H. D. Furniss speaks of the advantages of the use of the cystoscope in the definite and accurate diagnosis of diseases of the bladder, ureters, the kidneys, and their pelves. In hematuria and pyuria, cystoscopy, and ureter catheterization, will reveal the source of the trouble, and often the causative factor can be definitely determined through these means of examination alone. He enumerates the advantges of the different forms of cystoscopes—the Kelly-Pawlick, with its modification in the instrument carrying a small incandescent lamp at the bladder end—the one of Cullen carrying this light on a beak; the air-dilating cystoscopes, or those in which dilation of the bladder is produced by the forcible introduction of air into the bladder; and the different forms of water-dilating instruments, catheterizing and noncatheterizing, and of the direct view and the prism view instruments. He prefers the water-dilating instrument with the direct view, in which the telescope with the double catheter barrels are removable. In using this instrument with a cold lamp, on the removal of the telescope, a Cullen instrument is produced; a telescope with a prism set of lenses can be used, giving an instrument similar to the Nitze; or, a window can be introduced in the ocular end of the instrument, and air introduced under pressure, giving an air-dilating instrument. He advocates more general use of cystoscopy and ureter catheterization, but not indiscriminately.

Suspected Embolism of Superior Mesenteric Artery.—James A. Nydegger furnishes the clinical history and autopsy of a case with comments. The patient was convalescent from an operation for tuberculosis of the perineum when he was suddenly seized with pain in the hypochondrium, accompanied by vomiting and thirst. At first the condition simulated gallstone colic. Death occurred in eighteen hours from the onset. Autopsy showed the part of the small intestines and colon supplied by the superior mesenteric artery in the incipient stage of gangrene. No embolism was found. The chief symptoms were great thirst, rapid weak pulse and vomiting of dark coffee-colored fluid. Abdominal distension was noted toward the end. Particular stress is laid on the symptom of thirst, which is not mentioned in cases reported by Osler and Watson. Attention is also called to the short duration of illness before death.

The Journal of the American Medical Association, February 25, 1905.

Typhoid Fever.—William Royal Stokes has studied the etiology of several epidemics of typhoid. In the first two reported the infection was traced to springs, and in the second of these all other possibilities were fairly excluded. Another epidemic was clearly traced to the milk supply and has already been reported by Fulton. A rather striking fact in this connection was the infection of a number of female factory employes who were supplied a dairy lunch, while the men, not supplied, entirely escaped. A small outbreak which occurred in a suburban community is noteworthy on account of the long periods of incubation, 23 and 28 days in two cases. The last epidemic reported occurred among students in a college, and was traced to a student returning from Christmas vacation at home. The sewage was infected from this case and the seepage from the sewer infected the spring. Only those who drank this water took the disease, and the epidemic ceased as soon as its use was discontinued. In all these epidemics the water or the milk supply was thoroughly examined bacteriologically, and the findings corresponded with the result, the colon bacillus being present in all the infected fluids. The article shows the value of thorough sanitary surveys in typhoid epidemics.

Multiple Neuritis.—Wharton Sinkler, after discussing the various causes of multiple neuritis, such as alcohal—by far the most frequent—coal-gas poisoning, carbon disulphide, metallic poisons, white lead, copper, phosphorus, mercury, etc., calls attention to the use of patent medicines containing alcohol as a possibility. He reports a case due to the use of arsenic as a medicine in a child treated for chorea, and refers also to the epidemic traced to arsenic in the glucose used for making beer, which was reported in England in 1899. . He also refers to infectious diseases as a cause of this condition, and reports four cases from an apparently hitherto unrecorded cause, namely, puerperal septicemia. In conclusion he reports a case of unknown origin, one of a class that is rather difficult to diagnose from Landry's disease, except by the later involvement of the bulb in the latter affection.

Hemiplegia.—T. H. Weisenburg has studied 160 cases of hemiplegia in the Philadelphia General Hospital with special reference to heredity, pain, muscular atrophies, respiration, edema and the arthropathies, vasomotor disturbances and hemichorea. In 109 cases where the facts could be ascertained heredity was present in 14 and strongly manifested in 5 cases. In 17 there was prehemiplegic pain, which is accounted for as possibly due, in persistent cases, to cerebral congestion or actual small hemorrhage in the sensory pathway. Twenty-seven had post-hemiplegic pains. In 30 cases there was either total or partial anesthesia, and in the majority some pains. It appears that pain in hemiplegia is most likely to occur in cases with sensory changes. Weinsenburg confirms Hughling Jackson's observation of the greater expansion of the upper portion of the chest on the paralyzed side during quiet respiration, but he also found, and Dr. Spiller confirmed the observation, that at the end of ordinary or quiet respiration the chest retracted more than on the paralyzed side, thus showing greater power of expelling the air on the sound side and actual weakening of the lung of the affected side with diminished respiratory movements. He reports a case of intense edema on the paralyzed side; in two other cases there was edema of the paralyzed hand. Among vasomotor disturbances he notices the rare occurrence of anidrosis in one of his patients, Weisenburg considers Bonhoeffer's explanation of a lesion in the extension of the anterior cerebellar peduncle into the subcortical ganglia as the most probable theory concerning post-hemiplegic chorea. In every one of his 160 cases there was some muscular atrophy, more marked as the paralysis was marked, affecting the upper more than the lower limb, and, in the majority of cases, accompanied with sensory symptoms. In a large number considerable atrophy was also observed on the so-called sound side. Arthropathies as described by Marie occur in most cases of hemiplegia. They affect mostly the shoulder joint, but with marked contractures other joints also may be involved. Weisenburg thinks the cause is probably the forced immobility plus the pulling on the articulations and tendons by the weight of the paralyzed member. Lesions of cells of the anterior horns are not common in hemiplegia, and, in the cases examined, no pathological changes were found here. He notes, however, one or two peculiar cases, and in two or three of his patients there was painless arthritic conditions suggesting somewhat the arthropathies of chronic spinal disease.

Fat Embolism of the Lung after Fractures.—F. Gregory Connell remarks on the rarity of American literature on this subject. He reports two cases. In practically all fractures, he says, there is more or less fat embolism, according as there is comminution, rough handling, etc. It may also follow orthopedic operations, surgical procedures, inflammations, fatty liver, etc., and the most striking feature is the preliminary period of euphoria, while the most important clinical symptom is the presence of fat in the urine or sputum. Later respiratory and cerebral symptoms may appear at any time up to the fifteenth day. The condition is frequently overlooked or confused with shock, septicemia, pulmonary embolism, effects of anesthetics, etc. As we do not know its frequency its prognosis is uncertain. It probably occurs in a mild form after a large proportion of fractures, and is unrecognized. .The only treatment that is practically available is judicious heart stimulation.

Dangers from Indiscriminate Use of Cathartics in Acute Intestinal Conditions.—M. L. Harris states that physicians often fall into the error of prescribing cathartics in every case in which there is interference with normal bowel action without considering the cause of the condition. He calls attention to the danger of giving cathartics in cases in which there is mechanical closure of the lumen of the bowel, such as occurs in strangulated hernia, or in strangulation by reason of loop of bowel becoming caught in an omental or mesenteric opening. He states that if cathartics are given in these conditions, the contents of the intestine above the obstruction are turned back and forth, and not being able to pass the obstruction, are forced back into the stomach, thus giving rise to the foul, offensive vomiting so characteristic of the condition. In intussusception the chief effect of cathartics is to augment the congestion and swelling and thereby lead earlier to complete obstruction and sloughing. Dr. Harris reports a case of sigmoiditis in which a cathartic produced bloody stools. He operated, thinking that there might possibly be an intussusception, but found only a sigmoiditis. Dr. Harris protests against the indiscriminate administration of cathartics in acute conditions in the abdomen, and emphasizes the importance of physiological rest of the intestine. He advises early operation in all cases of mechanical obstruction.

A Case of Arthritis Deformans in Which Large Doses of Arsenic Were Taken.—Duncan L. Alexander reports the case of a farmer, aged 24, who was admitted .to the medical clinic of the University Hospital, complaining of dull, heavy pain with stiffness and deformity of many joints. The patient's family and previous history was negative; he denied venereal disease. The present disease began six years previously with a dull, heavy pain, swelling, and grating on movement of the left knee. The same condition manifested itself in the left hip, left elbow and wrist in rapid succession. Four years later the temporomaxillary joints became involved, and one year later the right hand, elbow, hip, knee and ankle became affected. There was pigmentation of the skin and at times a feeling of uncomfortable warmth of the upper part of the body, followed by perspiration or coldness. The patient was able to limp about with the aid of crutches, and when lying down was unable to raise the lower extremities. The treatment consisted of applications of oil of gaultheria to the joints, small doses of salol and phenacetin internally for the pain, and Fowler's solution in increasing doses. The patient improved under this treatment and was discharged from the hospital, but returned two years later, complaining of heavy pain in the joints, twitching of the muscles and general stiffness. While he was taking Fowler's solution the pigmentation of the skin increased, and this was especially noticeable as the dose of Fowler's solution was between 10 and 16 drops three times a day. Dosage above 16 drops caused swelling of the lids, suffusion of the conjunctiva, and a tendency to diarrhea. The patient developed a severe neuritis of the internal crural and inguinal nerves, but it is doubtful whether or not this is due to the arsenic, which he took for a period of nearly two years.

The Lancet, February 8, 1905.

Sabouraud's Method of Ringworm Treatment.—J. L. Bunch notes that antiseptics in this disease are variable in their result, and are especially unsatisfactory when once the fungus has invaded the hair of the scalp. No antiseptic can penetrate the hair follicle to a greater depth than one millimeter. The hair of a child, however, is implanted in the skin to a depth of four millimeters, and the parasite of ringworm involves the hair root down to the terminal enlargement of the bulb. The ideal agent to cure the disease would therefore be one capable of inhibiting for a time the function of the papilla from which the hair grows. Such an agent is found in radiotherapy. The method is painless, time required short, and the diseased hairs fall out at a definite interval, and are replaced after a certain time by a growth of healthy hair. Bunch describes the apparatus used in the clinic of Sabouraud, and finds that by means of the various instruments employed by the latter, the dose, so to speak, of radioactivity can be definitely estimated. A scalp thus treated shows no changes for a week, but then a slight erythema appears, and at the end of another week the hairs fall out and have a look as if they had been scorched. The growth of the new hairs is slow. The action of the rays is not fatal to the parasite, for cultures made from remnants of hairs in process of expulsion are still active. Reinfection of the scalp is consequently easy. As to the safety of the method, it may be said that there have been but six instances of *x*-ray dermatitis in two thousand applications. The average time of treatment is three months and a half, that is—a case is cured in that time. Results thus far attained are most encouraging.

Traumatic Lumbago.—The histories of six cases are given by F. Romer. By the term traumatic lumbago he means a condition of pain and stiffness in the lumbar region, caused by injury, long after the immediate and acute effect has passed away. Pain is generally referred to one definite spot, though the whole region may be tender. The lumbar muscles are generally somewhat wasted, while on the affected side they are generally rigid and contracted. Care must be taken to exclude spinal caries. Treatment aims to stretch the contracted muscles and to rupture the adhesions which are deemed to be present. General anesthesia is required to secure freedom from pain, insure complete muscular relaxation, and absolute freedom in manipulation. Romer describes in detail the various manipulations required. The after-treatment is directed towards the maintenance of movement, for which purpose it is advisable to have the lumbar and gluteal muscles skilfully shampooed within six hours of the operation. In the course of a few days exercises graduated by means of pulleys and weights should be commenced, in addition to rubbing. Later, swimming is a most healthful exercise.

Acute Hemorrhagic Pancreatitis; Operation; Recovery.—The case is described by T. C. L. Jones, whose patient was a woman of twenty-eight years with signs of intestinal obstruction. Her symptoms calling for abdominal exploration, this was done, and three pints of bright blood mixed with serum were found in the peritoneal cavity. Search through the viscera showed the pancreas about three times its normal size, discolored, edematous, and in places hemorrhagic. There was no bleeding from the organ at the time of operation. The organ was packed around with gauze and then incised longitudinally. The impression was given to the entering finger of a dilated space, which was also packed. Bleeding was at all stages of the operation easily controlled, and the patient did well afterwards. Packing was removed in thirty-six hours, when a discharge of clear fluid began and continued. This was pancreatic juice, and it soon caused trouble at the upper part of the incision, the lower two-thirds of the wound healing by first intention. Apart from an abscess which formed in the abdominal wall, owing, perhaps, to the tube being taken out a little too soon, the patient made an uninterrupted recovery, leaving operation fat-containing food was withheld as much as the hospital quite well, with the wound firmly healed, ten weeks after operation. For the first three weeks after the possible. Her urine was most carefully examined on two separate occasions, and nothing in the nature of the crystals described by Cammidge could be obtained. A motion which was passed naturally on the day following the operation was apparently normal, and no history of any previous alteration in the appearance of her evacuations could be elicited.

British Medical Journal, February 11 and 18, 1905.

Pathology and Treatment of Leprosy.—E. R. Rost, discovering that the bar to the cultivation of the bacillus lepræ is salt, has devised a plan by which he has obtained a medium free from this substance. By dialyzing nutrient agar in frequently changed warm distilled agar, a nutrient agar was obtained entirely free from sodium chloride, and on the surface of this medium the acid-fast group of bacteria grow very easily. The writer calls the toxin of the cultivation of the bacillus lepræ—leprolin. It is prepared on similar lines to the preparation of tuberculin. The writer, however, does not sterilize the cultures at all. He filters them through sterile Pasteur candles several times; he next reduces the fluid to one-tenth of the original bulk, and then refilters the fluid through resterilized Pasteur filters, the filters being previously tested. A leprolin prepared in this way will produce a powerful reaction in a case of leprosy which may last for three days or more. The dose is now 10 c. cm., injected into the muscles of the arms or buttock. The most striking effect of leprolin on lepers is the suddenness with which the sensation returns in the anesthetic patches. In almost every case injected with this material there has at least been some obvious return of sensation in some anesthetic area. The next noticeable effect is the alleviation of the shooting pains in the limbs and joints which follows the injection. The heavy sensation in limbs also disappears. The skin becomes normal in color and smooth, and the nodules in the subcutaneous tissues subside. The ulcers heal. Even gangrenous parts slough off, and leave healthy granulating tissue. The same effects are not always produced by the same preparation. Generally speaking, the severity of the reaction may be taken as an index of the benefit that will occur. The writer has practised over four hundred injections, and in no case has there been any bad symptom, and in every case the disease has ceased to advance. Of the total number of cases now treated by this method, four have been cured. At least no sign of the original disease remains. The writer believes that the theory that the disease is caused by the consumption of badly-cured fish, is erroneous.

Cutaneous Anthrax Successfully Treated by Sclavo's Serum Without Excision.—Anthony Bowlby and F. W. Andrews record a case of this kind. The patient was a horsehair dresser, thirty years of age. He presented himself with a characteristic anthrax lesion on the forehead. He had fallen some days before, striking his forehead against the fender. The skin, however, was not broken. Four days later watery fluid exuded from the bruise, and a black slough developed in the center of the bruise. The neck became a little stiff, and on the next day an enlarged gland was felt at the angle of the jaw. The general health was hardly affected, and there was little pain. The fluid from the vesicles showed numerous characteristic anthrax bacilli, and cultures yielded a profuse growth of the bacillus practically pure. The bacillus was virulent when tested on a mouse. The only treatment was the injection beneath the skin of the abdomen of 40 c. cm. of Sclavo's serum. The slough was kept covered by a piece of lint, coated with boracic ointment. The temperature fell to normal. There were no constitutional symptoms. The gland at the angle of the jaw diminished in size, but there was some edema. This was never extensive enough to close the eye, however, and it disappeared within a few days. The patient's convalescence was uninterrupted, and the slough separated fourteen days after the administration of the serum. Only nineteen hours after the administration of the serum, not a single colony of anthrax could be obtained from the fluid taken from the vesicles. This case seems to indicate that at least in moderately early cases of cutaneous anthrax, excision may be safely dispensed with, where an initial dose of 40 c. cm. of the serum is employed.

Recurrent Vomiting in Children.—H. Batty Shaw, R. H. Tribe, and Fredk. Langmead report cases of this affection. Recurrent vomiting of children begins generally after the first year of life, though it may occur at the second month, and may persist to the eleventh year. In some cases the symptoms pass off altogether; in others, they develop into migrainous attacks, while death has resulted in certain instances. Sometimes a prodromal stage is noticed. Constipation is common and may resist all treatment. Thirst is very common and very intense, due to the loss of fluid. The appetite is gone. The attack of vomiting may cease as suddenly as it began, and the child resume its former condition. In the earlier cases the breath is described as foul; more recently, the characteristic sweet, musty odor has been ascribed to the presence of acetone. The condition of some of the worst of these cases is similar to that of a fatal case of diabetes. Acetone, diacetic acid, and oxy-B-butyric acid are present in the urine. Indican has been found in a few cases, and so have albumin and casts. The abdomen may be distended or retracted. The prognosis is as a rule, favorable. Convalescence is abrupt. As to the etiology, the influence of an hereditary neurotic tendency is generally admitted. Beyond this there is much uncertainty. When the first attacks occur, the diagnosis may be very difficult. As to treatment, the recognition of the acid-poisoning element has provided an argument for the administration of large doses of bicarbonate of soda. The general rule before the attack is to administer mild aperients, to give easily digested food, and to administer bromides and febrifuges. In attacks, it is wise to exclude all food except barley water and broths. Infusion of normal saline solution per rectum or subcutaneously, is useful. Sodium bicarbonate seems to be at least of some use.

A Case of Long-Standing Constipation.—Harry Grey describes this interesting case. The patient was 13½ years old, and for eleven years his bowels had as a rule moved only at intervals of from three to six weeks. On one occasion, two months elapsed between the acts. Castor oil had no effect. Occasional colic, and vomiting, faintness and headaches were the main symptoms. Lately he had complained of pain in the front of his thighs. His physical and mental development, however, had been much retarded. In the first week of treatment, the writer removed 26¼ pounds of nearly solid fecal matter, one day's record being 7¾ pounds in four movements. An infantile condition of the descending colon was present. At one time the mother had given the boy a glassful of whiskey, which was followed by a copious evacuation. This was probably due to its sedative and analgesic action upon the sphincter muscle. The writer found the sphincter firmly contracted, and administered ¼ grain of cocaine by suppository. After this he was able to pass a finger into the rectum. The boy was then put on morphine in the form of 1-6 grain suppository given three or four times daily, and the feces were then removed by enemata of hot olive oil, 30 ounces twice a day. These were continued for nine days until the color of the fecal matter had begun to change from slaty blue to more normal brown, by which time 29¾ pounds had been voided. A suitable dietary, with an emulsion, a pill of aloes and iron, four times a day, massage to the whole body especially the abdominal muscles, and gymnastic exercises were ordered. The pills were gradually reduced, till now for two months no medicine has been taken. The boy has had an evacuation every day to the minute. He has lost the peculiar facial appearance and protuberance of the abdomen. He eats well and sleeps well, and is making great progress in his studies, in which he was very backward.

Ergot and Arsenic in Chorea.—Clive Riviere has tried the effects of the administration of ergot and arsenic in combination in the case of choreic patients with excellent results. He believes that its good effects embrace three kinds of cases: Those that are benefited by ergot; those that are susceptible to arsenic; and those, perhaps few in number, in which the one drug seems to supplement the other. In the majority of cases, improvement begins at once. The unbenefited cases consist mainly of those violent choreas for which so little besides isolation can be done. The writer begins with a mixture containing 1 drachm of extract of ergot and 3 minims of liquor arsenicalis, these doses being increased as seems desirable.

Berliner klinische Wochenschrift, February 6, 1905.

The Nature of Typhoid Immunity.—Jürgens describes the case of a man of fifty who recovered from a severe attack of typhoid fever, during which the Widal reaction was positive and the bacilli were recovered from both blood and stools. The patient returned home, and for two months was in good health so that he was able to go back to work. At the expiration of this time he was again taken sick with typical typhoid symptoms and went through the usual course of the disease. In considering this case, which may be regarded either as a very late relapse or as a reinfection, the author arrives at the conclusion that the process of immunization does not depend on the infective microorganism alone, but is in addition modified by various individual factors. The results of experimental typhoid infections in animals cannot be directly applied to the study of the disease in man, and the determinations of the agglutinating and the bactericidal properties of the serum in the present instance indicate that immunity may not be caused, even if the formation of agglutinating and bactericidal bodies is normal. The fact that in localities where typhoid is endemic the disease in the course of time assumes a milder character, goes far to confirm the view that some still unknown elements are concerned in the production of immunity.

The Significance of the Recent Attempts to Infect Animals with Syphilis.—Hoffmann reviews the results obtained by various syphilaographers in their attempts to transmit syphilis to the higher monkeys and other animals. Experiments with the lower animals have all failed, and though Piorkowski, on the strength of a single observation, claims to have produced syphilitic lesions in a horse by the injection of human infected blood, and even begins to speak of serum therapy, but little importance can be attached to this isolated observation. Roux and Metschnikoff have reported several successful inoculations on chimpanzees, and have been able to transfer the disease from one animal to another. These authors have attempted to approach the subject of protective inoculation by attempts to reduce the virulence of the contagium by passage through a less susceptible type of monkey. Material obtained from the comparatively slight lesions of the macac appeared to confer a high degree of resisting power to the chimpanzee, but here again the experiments are still too few to permit of generalization. Although decided progress has been made, and it is to be hoped that Neisser's projected visit to the Sunday Islands for the purpose of carrying out extensive series of experiments in a region where the monkeys are readily obtainable, will prove of great value, at present mercury and iodine are still the only remedies for the disease at our command, and it is dangerous to resort to untried measures in the treatment of a malady so prone to late recurrences as is syphilis.

Münchener medizinische Wochenschrift, February 7, 1905.

The Effect of High Altitudes on the Blood.—Bürker undertook to ascertain the nature of the blood changes occurring in high altitudes, which have been made the subject of contradictory reports by different observers. The first question was to ascertain whether Gottstein's allegation that the counting chamber underwent appreciable changes sufficient to account for the high red cell counts obtained in elevated regions, were so or not. It was found that the chamber itself was slightly altered in its physical characters, but that this change was too slight to introduce any great error into the results obtained. On the other hand, differences of temperature have a marked effect in disturbing the even distribution of the cells on the bottom of the chamber, and this feature may perhaps explain some of the discrepancies reported. Tests of the coagulation time showed a slight increase in rapidity in high altitudes. Analysis of the liver and blood of animals at sea level and in the mountains showed that there was first a rise followed by a marked diminution of the iron content of the liver soon after reaching the high altitude, while the blood became richer in the same substance. The author's observations indicate that the change from low to high altitudes produces specific alterations in the composition of the blood, which are actual and not relative, though their cause is still undetermined.

The Diagnostic Significance of Eosinophilia in Ankylostomiasis.—Bruns, Liefmann and Mäckel consider this question from the standpoint of the sanitary control of the inhabitants in mining districts. English authors are inclined to consider the systematic examination of the feces for eggs impracticable, and prefer to draw conclusions from differential leucocyte counts. The German investigators do not altogether agree with this view, for while their investigations of 500 cases showed that in general the presence of ova in the feces was attended by an eosinophilia of over 8 per cent., while 92 per cent. of the patients had over 5 per cent. of eosinophiles, they do not believe that the blood examination alone would justify subjection of the individual to anthelmintic treatment, so that the feces would require examination in any case. They also maintain that a large number of fecal examinations can be made with less expenditure of time and trouble than a corresponding number of differential counts, and they have never encountered the objections on the part of the miners to submitting authenticated stools that the English authorities mention. While blood examinations of a large number of miners will give a fair idea of the prevalence of infection in a certain district, fecal examination of those not exhibiting eosinophilia should not be omitted, as otherwise infected persons might easily be overlooked. In individual cases, however, the presence of eosinophilia, even with negative stools, is always of value as indicating the probable existence of intestinal parasites.

The Dangers of Schultze's Method of Artificial Respiration.—Burckhard says that although Schultze's method of reviving asphyxiated infants is undoubtedly most effective, it is not altogether without danger. The energetic swinging of the body involved can easily lead to the various hemorrhagic lesions described by several authors, and he himself in autopsies on infants that had been subjected to this means of artificial respiration has discovered cerebral and spinal hemorrhages. The occurrence of spastic palsies or Little's disease in infants asphyxiated at birth is referred to the presence of meningeal hemorrhages, and these may easily follow the Schultze maneuver. Still the number of such cases is not large, and Hengge's recommendation to use Schultze's method only rarely and to rely on other measures, is hardly justified. Great care is needed, however, especially with premature infants, and the technique of the procedure must be thoroughly mastered in order to avoid injury to the child.

French and Italian Journals.

Epididymitis Due to the Bacillus of Eberth.—Manson reports the case of a man aged 35 years who was convalescent after an attack of typhoid fever. He was amusing himself in his garden one day, uprooting a little tree, when he felt a pain in the right testicle, which he attributed to a strain. On the next day his temperature rose, and a very painful swelling of the head of the epididymis developed. For seven or eight days the swelling increased, with slight reddening of the edematous mass. An indurated tumor was clearly palpable. It was painful on pressure, of the size of a large nut, and located at the head of the epididymis. The diagnosis of suppurating epididimytis with a possibility of tuberculosis, was made. The ureter, prostate, and vas deferens were not involved An incision was made, followed an outflow of thick pus, resembling that of a cold abscess. The cavity was curetted and tamponned. The patient recovered in eight days. Examination of the pus revealed the presence of Eberth's bacillus. The affection was a complication of typhoid fever, having developed, as is common, from the twenty-fifth to the thirtieth day.—*Le Bulletin Médical,* January 28, 1905.

Cyst of the Cerebellum.—Ménétrier and Gauckler observed the following case. The patient was a man 28 years old, who was brought to the hospital after an atttempt at suicide. For a long time he had suffered from violent headaches. This pain had driven him to attempt to take his own life. For some time also, the patient had been addicted to the use of alcohol. He had to retire from the army on account of his illness. For five years pain in the head persisted. He was also troubled with vomiting, which occurred without effort, and his gait became affected. The vomitus was clear, bilious, and abundant. It had all of the characteristics of cerebral vomiting. The patient constantly lost his equilibrium. He fell sometimes to the right, sometimes to the left. Walking and standing became impossible with the eyes closed. A lesion of the cerebellum was diagnosed. He denied all venereal disease. Antisyphilitic treatment had no effect. The bromides, chloral, and aconitin, each tried in turn, met with negative results. Lumbar puncture was practised, with the result that a jet of liquid spurted out as if it had been held under high tension. There was no deposit after it had been centrifugalized. The patient gradually sank into a stupor from which he aroused only to complain of his pain. Death came suddenly. Autopsy revealed a cyst of the cerebellum. It was as large as a mandarin, and occupied the entire median part of this organ, replacing its tissue, save in a small area behind. The aqueduct of Sylvius was greatly dilated. The cyst contained a clear, abundant liquid under increased tension. It was not albuminous. The cyst was not neoplastic.—*Revue Française de Médecine et de Chirurgie,* January 16, 1905.

Epithelial Embryonic Tumor of the Inguinal Region.—Reverdin operated upon a man of thirty-one years for an inguinal tumor. The patient was not very intelligent, was myopic, and showed an arrested development of the genital organs. A slender cord was terminated by a small prepuce. In the scrotum there was no trace of testicles. The external orifice of the left inguinal canal was effaced. On the right, the canal was filled up by a tumor mass, flabby on the anterior surface, but hard at the abdominal end. The urinary functions were normal, the genital sense nil. At operation a mass was found filling up the inguinal canal, and composed of a lower flabby part, and of an upper part composed of omentum and an intestinal coil. These tissues were freed, the intestine reduced, and the omentum and tumor mass resected. The wound healed by first intention. Careful study of the cellular elements suggested that the growth was an epithelial embryonic tumor. —*Le Bulletin Médical,* January 28, 1905.

Treatment of Varicose Veins by Walking.—Marchais believes that massage and activity influence varicose veins by modifying the circulation, by reviewing the compression of the deep veins, and by causing the periphlebitis to subside. Patients who suffer with varicose veins have poor muscles. Walking rejuvenates the muscles and physiological compression advantageously replaces elastic stockings. Massage acts on the periphlebitis and walking is really physiological massage.—*La Tribune Médicale,* February 4, 1905.

Enterocolitis in the Tropics.—A. Thiroux declares that this affection is very common in the tropics, and is characterized by constipation and buccal aphthæ. Manson has designated it as sprue with constipation. The writer has often observed this disease in Europeans who were living in the Antilles, and in Africa. Its frequency has been noted in China, also. It is often thought to be malaria. The first symptom which manifests itself is generally a congestion of the intestinal canal including the neighboring glands—the liver especially, with very often continuous fever. The alternations of diarrhea and constipation or absolute constipation, the voiding of diphtheroid membranes, the buccal aphthæ, and the nervous and psychical symptoms generally suffice for making a diagnosis. Emaciation is not constant. The complexion becomes more or less ashy. The patients generally complain of a feeling of lassitude, and of marked loss of memory. They become irritable and aggressive. Nervous asthenia often develops. The prognosis is not immediately grave, for the illness is of long duration. But if the patient is not subjected to a severe regime, his condition becomes worse and worse and he is likely to succumb to some intercurrent affection, which he is not strong enough to resist. As to treatment, daily intestinal douches are most valuable. Diet is very important. The writer does not advocate the use of milk in this affection, but believes that a mixed diet, with some restrictions, will give the best results. Fats ought to be banished. Shell-fish and fish are forbidden. Fruits and vegetables, except cabbage, may be allowed. Alcoholic drinks and smoking are prohibited. Change of climate is necessary sooner or later. A sojourn at a resort where alkaline waters are to be found is advantageous. But under all conditions the illness is always a long one.—*Gazette des Hôpitaux Civils et Militaires,* February 4, 1905.

Maxillary Sinusitis with Exophthalmos and Optic Neuritis; Recovery.—Marcille and Galezowski state that purulent maxillary sinusitis or maxillary empyema is often accompanied by oculoorbital phenomena. This is explained by the delicacy of the orbital plate. These complications are not infrequently very severe. The patient whose case is here reported was a young man of 25 years. He presented himself in October with considerable exophthalmos of the left eye. The exophthalmos was not pulsatile, and the right eye was normal. There was no movement of the left eyeball. The eye seemed actually congealed. Eight days before, the patient had experienced sharp pains in the left eye and in the head. The eye soon became red and inflamed. The first large upper molar was found to be carious and was extracted, but in spite of this the condition became worse. There was a discharge of pus from the left nostril. The three symptoms: unilateral exophthalmos, a carious tooth, and a purulent discharge from the nostril, were the grounds for the diagnosis of maxillary sinusitis. However, there was no painful point. A careful ophthalmoscopic examination was made, and the presence of optic neuritis was noted. Another examination of the mouth discovered one root of the affected tooth still left. This was extracted, but the exophthalmos only increased. Operation was decided upon. On entering the orbit no pus was found, but the bony tissue was completely altered. A sound was passed into the sinus with no resistance. The sinus was opened on its anterior surface, and bloody, fetid pus escaped. Fungoid growths in great quantities were removed, and after the cavity was cleaned out as thoroughly as possible, the internal wall was perforated to establish a communication between the sinus and the nasal fossæ. A drain was then passed from the nostril into the sinus. Another drain was placed at the lower external part of the orbit, and the wound was closed. Improvement began. The result of the operation was excellent. Suppuration was quickly arrested, and the optic nerve became entirely normal again.—*La Tribune Médicale,* February 11, 1905.

Dangers of Interstitial Injections of Camphorated Naphthol.—M. A. Broca, after making a study of the various topical injections which are the most often employed in cases of cold abscess and tuberculous ganglia, quickly came back to the use of iodoform ether. He was influenced only by the fact of its efficacy, and not because he considered it less harmful. He declares that he is more than skeptical as to the efficacy of camphorated naphthol. From 1890 to 1892 he used it for ulcerations, and for injections in cold abscesses, and in unsoftened ganglia. He abandoned its use because it seemed to him less active than iodoform ether. Recently a number of deaths have been reported from the use of camphorated naphthol. Besides this clinical evidence, it has been discovered experimentally that camphorated naphthol is very toxic for the rabbit and guinea pig, far more so than is either camphor or naphthol by itself. It has been noted in man that without any fault of technique, 5 c.c. injected into a ganglion may cause death.—*Revue Française de Médecine et de Chirurgie,* February 13, 1905.

Action of the X-rays on the Blood.—Aubertin and Beaujard have studied the effect of the *x*-rays on the hematopoietic organs, for here the effects are more marked than on the other tissues. An animal subjected to the entire action of the rays immediately shows the presence of leucocytosis, and a manifest leucocytic histolysis becomes evident. Irradiation on one spot produces a temporary leucocytosis. Repeated sittings, the treatment being directed to one segment, cause a progressive increase in leucocytes. The red corpuscles diminish in number and become altered, and nucleated reds become abundant. The white corpuscles then diminish. There is then a leukemia with myelemia. In the healthy animal as in the leukemic patient, there is leucocytic emigration and destruction in the beginning, and at the end degeneration of the tissue that has been subjected to the *x*-rays.—*Le Progrès Médical,* February 11, 1905.

Immediate Trephining in Compound Fractures of the Skull.—Aldo Cernezzi advocated immediate operation in all compound fractures of the cranial bones of the vault, even if there are not signs of compression. He believes that the dangers of sepsis from opening the skull cavity are counterbalanced by the advantages of removing all detached fragments of bone, cleaning out clots, and rendering the field of the wound perfectly aseptic. This he considers as good surgery in the skull as in the compound fractures of the long bones. He cites a case in which there were no signs of compression except localized paresis in the upper and lower extremities of one side, which was operated on as soon after the accident as seen, in which there was complete recovery of motion in five weeks from the accident.—*La Riforma Medica,* January 21, 1905.

Effect of Work in Tobacco Factories on Reproductive Functions in Women.—Guido Pieraccini has examined the clinical records of the obstetric clinic in Florence, with a view to ascertaining whether the female workers on tobacco have more frequent interruptions of pregnancy than other women. The records examined include the years from 1894-1903; there were eighty-four cases from tobacco workers, who came to the hospital for treatment for pregnancy; of these forty-nine were delivered at term, sixteen prematurely, fifteen aborted, and four cases were threatened with abortion, of which three were afterward terminated prematurely; thus we have 36.90 per cent. of interrupted pregnancies. During the same period, of patients not tobacco workers, 386 in number, only 21.50 per cent. had premature deliveries. Hence, the author concludes that tobacco work had a bad influence on the continuance of pregnancy. This is brought about either by an intoxication conveyed through the placenta, killing the fetus, or by nicotine directly stimulating the uterus to contraction. Nicotine, however, does not seem to prevent conception.—*Gazetta Medica Lombarda,* January 23, 1905.

Cancer-Cirrhosis of the Liver.—Elmaro Rollino discusses the coexistence of cirrhosis and cancer in the same liver, and the questions which of the lesions was the primary one, and whether the same exciting cause was at the basis of both lesions. He brings forward one case of his own, and two others collected from literature, in which the two lesions undoubtedly existed together, as shown by autopsy, and analyzes the previous history, concluding that the cause of the condition was a long-continued gastroduodenal catarrh, with retardation of the flow of bile in the capillaries of the liver; this resulted in cirrhosis, which acted as the predisposing cause of cancerous formation in the liver.—*La Riforma Medica,* January 28, 1905.

Good Effects of Radiotherapy in a Case of Lymphatic Leukemia.—M. E. Gerber has been treating a man of 58 years by this method. The patient came for relief, suffering from leukemia, with multiple adenopathy, splenomegaly, and very accentuated lymphemia (20,800 leucocytes, of which 16,000 were lymphocytes, 4,350,000 erythrocytes, the hemoglobin ranging from 80 to 90 per cent. The patient was treated by the *x*-rays for some days, the rays being focused on the ganglionic masses, on the spleen, and on the flat bones of the thorax. The results of the treatment were very encouraging, although Gerber does not consider the cure as assured. The ganglia and the spleen decreased in size, and there was a diminution in the number of leucocytes. Holzknecht has already treated twelve cases of leukemia by means of radiotherapy. In all of these cases he has noted a decrease in the number of leucocytes, a diminution in the size of the spleen and the ganglia, and a considerable increase in the number of erythrocytes. Although there seemed to be an improvement in the different ailments of the patients, the general condition remained grave. Both of these workers hold that radiotherapy does not result in recovery in cases of leukemia, but brings about improvement more or less durable. This result alone, however, would justify the employment of this method.—*La Presse Médicale,* January 21, 1905.

Chronic Ileocecal Invagination.—Annibale Passaggi records a rather rare case of ileocecal invagination that had occurred so many times during a period of two months that it might be called chronic. Every few days the patient would suffer from a more or less prolonged crisis of intestinal obstruction, accompanied by violent colicky pain, vomiting, and the appearance of a tumor in the epigastric region, which after a time disappeared, with a disappearance of the symptoms of obstruction. This occurrence was twice observed in the hospital before the operation. The tumor was placed like the transverse colon and transmitted the aortic pulsations. Palpation gave a sensation of resistance, and a fixed tumor could be felt. At the time of operation the tissues were found not much swollen or changed, and of good vitality, while the portion above the invagination was much dilated. There were enlarged glands in the mesentery, indicating a permanent inflammatory condition of the mucosa of the intestine. The author considers it rather unusual that no adhesions had formed between the diseased portions of the intestines.—*Il Policlinico,* January, 1905.

Transposition of the Heart Toward the Right in Increased Left Endopleural Pressure.—Attilio Gervine, from observations of two patients and experiments on the cadaver, concludes that in transposition of the heart in such conditions as pyopneumothorax, the change of position involves the whole heart; the heart does not move as a pendulum, as some authors have stated, this movement being anatomically impossible, and in the cadaver being found not to take place. He finds that the portion of the heart that gives the impulse on the chest wall is not the apex, but the right auricle, much dilated, which, during systole, is pressed against the chest walls. The author injected the chest after death and found this position of the heart to be caused by increased intrathoracic pressure.—*Il Policlinico,* January, 1905.

The Diagnosis of Rabies.—Lina Luzzani publishes the findings in 177 cases of suspected rabies sent for examination to the Antirabic Institute of the University of Pavia. Examination was made as to the presence of the parasite of Negri, especially as found in the cornu ammonis and cerebellum, which are the most frequent location of the microorganisms. Positive diagnosis of rabies was made in every case in which the bodies of Negri were found; control inoculations were made in rabbits. The suspected animals consisted of 163 dogs, 12 cats, an ox, and a horse. Of the 177 animals, 106 were found to have rabies, and in 101 cases the diagnosis could be made from the examination of the cornu ammonis alone. The author sums up 455 cases examined by various authors, in which 296 were found to have rabies; Negri's method has enabled a positive diagnosis to be made in 287 cases; the author regards the presence of the parasite of Negri as a certain criterion for diagnosis in rabies.—*Archivio per le Scienze Mediche,* Vol. XXVIII, No. 4, 1904.

Deaths Among Medical Men.—Recently published statistics show that in Austria heart disease is accountable for by far the largest proportion of deaths among medical practitioners, amounting to 44 per cent. of the whole number. Disease of the nervous system is responsible for 20 per cent., and an almost equal proportion is attributed to morphinomania. Tuberculosis claims only 7 per cent., a fact that seems to show that medical practitioners practise their own precepts as to the prevention of diseases in this particular field of pathology more strictly than in some others. —*Medical Age.*

The Largest University.—The year book of the German universities, just published, makes it clear that Berlin University is the most numerously attended seat of learning in the world. It contains 7,774 matriculated and 1,330 nonmatriculated students. The philosophical faculty, embracing philology and natural sciences, numbers 3,572 students —medicine, 1,111; law, 2,756, and theology, despite the eminence of its professors, only 335. America sends 123 students, Africa 8, Australia 3, and Asia 37.—*London Standard.*

Tattooing as a Means of Infection.—According to the annual report of the director-general of the medical department of the British navy, the practice of tattooing may be the means of transmission of disease. A naval surgeon reports the case of stoker who came under observation, complaining of a generalized skin eruption. On inquiry, it was ascertained that the man had been tattooed at Wei-hai-wei, and that in the midst of the region operated on a sore appeared. Considering the opportunities for infection afforded by the practice, it is surprising that such cases are not reported oftener.

Six Children in One Year.—The Munich *Neueste Nachrichten* announces that Frau Hilgen of Trostberg, in Bavaria, has borne no less than six children in one year. She was delivered of triplets last January, and bore triplets again this December.

Surgical Suggestions.

Foreign Bodies in the Eye.—Sydney Stephenson concludes an article on this subject with the following advice: After removing a foreign body from the cornea, never omit to render the parts as aseptic as may be and to keep the eye tied up until such time as the corneal epithelium is regenerated. Moreover, bear in mind that a polypus of the conjunctiva almost invariably denotes a foreign body, and that out-of-the-way corneal changes are not infrequently due to the same cause.—*British Journal of Children's Diseases.*

Infected Wounds.—Wiedow believes that incised wounds, especially where there has been considerable hemorrhage, are not very dangerous under ordinary conditions, and it is a mistake to apply strong antiseptics to all of these, as the wound never does so well afterward. In applying a strong antiseptic a thin layer of tissue in each lip is weakened or destroyed and affords soil for the growth of germs. If it is necessary to wash a wound of the above description out at all, sterile water or a sterile boric acid solution is preferable. If, however, there is reason to believe a wound to be infected, it should thoroughly be cleansed with a strong antiseptic. In many of these 95 per cent. carbolic acid followed with alcohol may be used with satisfactory results. Deep punctured wounds should be incised freely and treated as above. When the infection has already reached the lymphatics, careful search must be made for foci of pus, which should be incised and drained. Dr. Ochsner's solution containing one part each of 95 per cent. alcohol and 5 per cent. carbolic acid, and six parts of saturated boric acid solution is very valuable. It is poured into the dressing at intervals of from one to six hours—*Iowa Medical Journal.*

Prostatectomy.—Belfield says that the prostate should be removed only when the obstacle to urination is real hypertrophy of the prostate; when the urinary function cannot be restored by the retained catheter, etc.; and when the patient's condition warrants a serious operation.—*Colorado Medical Journal.*

Chancroids.—Carle recommends cauterization either with the actual cautery or with chemicals (1) for chancroids which come under observation in the first forty-eight hours, no matter what their situation or number; (2) for older lesions so placed as to make excision difficult or likely to be followed by undesirable cicatrization; (3) for multiple chancroids. For chancroids of the skin, frenulum, prepuce, etc., the following method of excision is advisable: The entire region is carefully cleansed, the chancroid frozen with ethyl chloride and excised either with curved scissors or with a razor. The wound is then closed by suture or is touched with nitrate of silver, dusted with iodoform, and covered with zinc plaster.—*Deutsche Medizinal-Zeitung.*

Cocaine Anesthesia.—Means says that Reclus, who reports 7,000 operations under cocaine anesthesia without a death, insists on the observance of the following rules: (1) Never use a stronger solution than 5 per cent. externally or 1 per cent. hypodermically. (2) Always have the patient recline during the administration of the anesthetic and not get up for half an hour after. (3) Always have the patient eat and drink something before rising.—*Columbus Medical Journal.*

Conversation at Operations.—Mendes de Leon says that in experiments carried on at operations it was found that the minute droplets of saliva expelled during conversation contain on an average 4,375 bacteria each. These are mainly streptococci, as well as diplo- and staphylococci, and in many instances are virulent. In order to remove this source of infection he has devised a little apparatus which does not interfere with articulation and catches the droplets of sputum in a layer of absorbent cotton.—*Archiv für klinische Chirurgie.*

Treatment of Scrofula by Injections of Sea Water.—G. Pagano has treated nineteen cases of enlarged glands in the neck. In various degrees of severity, by subcutaneous injections of sterilized sea water, with excellent results. He bases his treatment on his belief that the real value of sea baths is due to the absorption of the chemical contents of the water through the skin, and that the sea water contains several substances that are necessary to the chemical functions of the body. He injects at first 5 cubic centimeters into the subcutaneous tissue of the flank, afterwards increasing the amount to 20 cubic centimeters. He finds at first a slight febrile reaction, which soon passes off, and is followed by an excellent appetite, a general improvement, and a reduction in the size of the glands, or a healing of fistulous openings.—*Rivista Critica di Clinica Medica.*

Feeding with the Essential Fat of the Tubercle Bacillus.—D. MacDonald claims to have discovered that hydrous cholesterin-fat (wool-fat) gives the essential tests of the tubercle bacillus. When patients are fed with it, there is a marked increase in weight, and a favorable influence on the progress of various chronic wasting diseases. Attention is called to the facts that sheep and goats enjoy a comparative immunity to tuberculosis; this disease makes great havoc where sheep are not indigenous, as in Japan; and where sheep are prevalent, on a corresponding latitude, as in Iceland, there is a striking immunity to the disease. The writer briefly mentions many experiments in which the chromophilic potentialities of the tubercle and allied bacilli can be watched under the microscope in the tests for cholesterins, which are present in tuberculous and allied lesions. About half of the tubercle bacillus consists of fat, which explains the historical therapeutic value of the latter. Animals with a high percentage of butter fat in their milk enjoy a comparative immunity to tuberculosis. This disease selects the fatty tissues, and where there is no fatty basis, as in the lungs, it is rare. A fatty degeneration of the epithelium is requisite to fallow the soil. In a great measure, infancy is free from scrofula and tuberculous meningitis, and excepting the tuberculous sequalæ of some of the infectious diseases, it is a comparative antituberculous period of life. In infancy there is an enormous increase in flesh. To destroy the tubercle bacillus with its own weapon, it is necessary to produce a fatty degeneration in it. Cholesterin-fat contributes admirably. The solid fats of the bacillus becoming liquid, emulsify and become rancid. This increases the soluble fatty acids, diminishes the glycerol produced on saponification, increases slightly the volatile acids, decreases the insoluble acids, and greatly increases the free acids. When the bacilli lose their acid-fast properties, the way is being paved for their solution and absorption. The essential fat of the tuberculous plant can be administered in various ways—by enema, by hypodermic injection, by friction into the armpits, back, abdomen, and by ingestion. It can be given in food before or after it is cooked, or taken alone. It can be taken in health or disease. The weight increases several pounds a week. It is solid at ordinary temperatures, thus it may be administered in various vehicles which will accelerate its administration and action. The dose may be from half a drachm upward in various other oleaginous vehicles.—*Medicine.*

Treatment of Alopecia Areata with Currents of High Frequency.—Luigi Vardiani records the treatment of a case of alopecia areata of a year's standing, which had been rebellious to all forms of treatment. The disease involved three-fifths of the entire scalp, as well as a large portion of the beard. The patient was 48 years of age, in the best of health and in good circumstances. He had had rheumatism and multiple osseous lesions, probably tubercular, as a child, and was of a nervous habit. The disease reached its full severity in fifteen days from its beginning, leaving many circular bare spots in scalp and beard, over which the skin looked normal, with no vesication or desquamation. High frequency current was used at first only on the scalp; duration of the application two to eight minutes, for 24 sittings. Hyperemia of the skin was produced to varying degrees over different locations, where it was greatest being the spots that were most quickly covered by hair. The hairs were at first fine and white, then became thicker and for the most part black, a few being white, corresponding with the hair over the normal scalp. The cure began from the periphery of the patches, extending in toward the center. The beard was not at all improved until direct applications were made to its bare areas. The recovery of the case was complete. The author believes that this case tends to show that this is a disease caused by a discrasia rather than by a parasite, as shown by the centripetal effect of the current.—*Rivista Internazionale di Terapia Fisica,* December 1, 1904.

Book Reviews.

Diet in Health and Disease. By Julius Friedenwald, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore, and John Ruhräh, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. "These few rules of diet he that keeps, shall surely find great ease and speedy remedy by it"—Burton. Philadelphia, New York, London: W. B. Saunders & Company, 1905.

This very comprehensive book of 689 pages has been written especially for the use of the general practitioner, medical student, hospital interne, and trained nurse. The whole tone of the work is practical. The various kinds of foodstuffs, their uses and chemical composition are discussed. The chemistry and physiology of digestion, including such subjects as American and European dietaries and dietary standards, the influence of various factors upon the digestion, and the relation of food to various inherent conditions, are considered. Although the principles of diet both in health and disease are given, special attention is paid to the subject of diet in disease. In all the diseases in which food plays a part, dietetic management is carefully considered. The doctor is told how to feed his patient, numerous diet lists and explicit directions for administration being given. Beverages and stimulants are treated in an interesting manner. The literature—much of which is inaccessible to the general practitioner—has been thoroughly searched and the most useful parts of it have been incorporated here. Various factors in their bearing on diet, such as concentration of food, preservation of food, artificial foods, food poisoning, food adulteration, and diet as a means of diagnosis, make an interesting section. The diet of infants and children, of patients before and after anesthesia and surgical operations, and the latest methods for feeding after gastrointestinal operations, are treated with the most careful detail. In the section on rectal enemata, recipes and full instructions as to technique are given. Special cures are discussed, also army and navy rations and dietaries in public institutions. Many diet lists and recipes are given which are of great value. The authors are to be congratulated on the presentation of a book which is worthy of their reputation.

Practical Dietetics. By A. L. Benedict, A.M., M.D., Councilor American Gastroenterological Association; Fellow American Academy of Medicine; Consultant in Digestive Diseases City Hospital for Women, and Riverside Hospital, Buffalo. Chicago: G. P. Engelhard & Company, 1904.

The writer in his preface states that dietetics must rest, even more firmly than medicinal therapeutics, upon the principles of physiology. His aim in this volume has been to present mainly the principles and facts upon which the proper nourishment of the body depends, whether in health or disease. He considers first the chemical basis of dietetics, following this with chapters on proximate principles (proteids, albuminoid foods, carbohydrate foods, fats and oils and so on), and inorganic proximate principles (salts, iron, phosphorous compounds). Dietetic needs in health and food requirements in terms of natural foodstuffs next claim attention. Perhaps the most interesting and practical part of the book is that treating of specific foods and dietetics of the period of growth. The latter half of the text is given up to the consideration of food in various diseased conditions—diabetes, obesity and leanness, fevers, stomach, hepatic, renal, intestinal, respiratory, cardiac and nervous diseases and so on. This valuable book is supplied with an excellent index.

Handbook on Sanitation. A Manual of Theoretical and Practical Sanitation for Students and Physicians; for Health, Sanitary, Tenement-House, Plumbing, Factory, Food and other Inspectors, as well as for Candidates for all Municipal Sanitary Positions. By George M. Price, M.D., Medical Sanitary Inspector, Department of Health, New York City; Inspector New York Sanitary Aid Society of the Tenth Ward, 1885; Manager Model Tenement-houses of the New York Tenement-house Building Company, 1888. Inspector New York State Tenement-house Commission, 1895. Second Edition, Revised and Partly Rewritten. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1905.

In the present edition the editor's aim has been to increase the usefulness of this book for sanitary inspectors in Health Departments as well as for others interested in this subject. With this object in view, he has brought the text completely up to date, omitting all material of merely local application. The text of the first part of the book has undergone considerable revision, while the fourth part dealing with sanitary law, has been entirely eliminated. The section on Sanitary Inspection has been expanded. The section on Sanitary Practice, including "Habitation," "Occupation and Trades," "Food," and "Disinfection," has been entirely rewritten, and will prove of great value to all workers in these lines.

The Summer Diarrheas of Infants. Their Etiology, Pathology and Treatment. By H. Illoway, M.D., Formerly Professor of Diseases of Children, Cincinnati College of Medicine and Surgery, formerly Visiting Physician Jewish Hospital, Cincinnati; one of the collaborators on the American Text Book of Diseases of Children; Fellow of the New York Academy of Medicine, etc. New York: E. R. Pelton, 1904.

In this little book the author considers heat stroke in infants (thermic fever), summer complaint, and cholera infantum, giving at the end a summary of the results of his studies and observations. The histories of several cases are cited. A short bibliography is appended, but there is no index.

Medical Electricity; a Practical Handbook for Students and Practitioners, by H. Lewis Jones, M.A., M.D. Fellow of the Royal College of Physicians; Medical Officer in charge of the Electrical Department in St. Bartholomew's Hospital, London; President of the British Electrotherapeutic Society; Honorary Fellow of the American Electrotherapeutic Association; Member of the Société Française d'Electrothérapie et de Radiologie. Fourth edition, with illustrations. Philadelphia: P. Blakiston's Sons & Co., 1904.

This well-known book is now in a fourth edition, and, having thus amply justified its existence, it is only necessary for us to note wherein the present issue differs from former editions. The subject matter throughout has been revised, and chapters have been added on high frequency electricity and on the utilization of current from street mains for medical and surgical purposes; the chapter on the Röntgen rays has been enlarged. There is an appendix containing a list of places having a public electric light supply, with some details of the character of the current furnished. This is very useful for those living in England; but for American readers this list might well have been omitted, and a similar one of American towns inserted. The book is written by a well-known expert, and it is a particularly reliable and lucid presentment of an important subject.

Æquanimitas, with Other Addresses to Medical Students, Nurses, and Practitioners of Medicine. By William Osler, M.D., F.R.S., Professor of Medicine, Johns Hopkins University. Philadelphia: P. Blakiston's Son & Co., 1904.

This is a collection of eighteen addresses delivered on various occasions between 1889 and 1903. The diversity of subjects is wide—"Doctor and Nurse," "Physic and Physician as Depicted in Plato," "The Army Surgeon," "Teaching and Thinking," "Chauvinism in Medicine," "The Hospital as a College" being some of the titles—but they are all handled in the charming style which has made the author facile princeps among medical writers in the English tongue. If we had to pick out the best of all these addresses our choice would be the last, entitled "The Master-Word in Medicine"—a panegyric of work, the perusal of which would shame the laziest of men to action.

An Introduction to Pharmacognosy. By Smith Ely Jelliffe, M.D., Ph.D., Professor of Pharmacognosy and Instructor in Materia Medica and Therapeutics in Columbia University (College of Physicians and Surgeons), New York. Fully Illustrated. Philadelphia, New York, and London: W. B. Saunders & Company, 1904.

The study of pharmacognosy has had its due share in the increase of scope which has been given to nearly all branches of instruction in the undergraduate courses of our medical schools, and the present volume is of a nature to form a most desirable addition to the works on the subject available for the student's use. Of the ordinary type of textbooks on materia medica, there are many good examples, but there is no other work of small size in which the histological characteristics of the various drugs are so fully described and so clearly pictured. The pharmacognosy of each drug, including the gross appearance, chemistry and adulterations, is given in readable but concentrated form, and in instances in which the detection of adulteration in powders is possible by the use of the microscope the structural elements which should be found in pure specimens are depicted in clear-cut line drawings. The sophistication of powdered drugs is notoriously prevalent, and the intelligent use of the microscope affords one of the readiest modes of detecting frauds, so that the value of a satisfactory guide to such examinations is most apparent. Though ostensibly prepared for the use of students and of pharmacists, the authoritative and unique character of this book renders it of the greatest importance and value to the practitioner as well. The press work, paper, and binding are very pleasing, and reference has already been made to the unusual interest of the figures.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held February 9, 1905.

Dr. L. E. La Fétra in the Chair.

A Case of Enlarged Spleen, with Report of Blood Changes.—Dr. Eli Long, Jr., presented a negress, aged 11 years, who had come under observation one year ago, and the appearance of the blood, especially at that time and since, justified him in presenting the child to the Section. The family history was negative. She had one older sister and two younger brothers, and all were healthy, except for the manifestation of rickets. The patient was a perfectly healthy baby up to the age of one year, when she began to have attacks of bronchitis, and from then on she was more or less delicate. At the age of three she had pneumonia, and during convalescence began to have attacks of epistaxis, which had appeared off and on ever since. One year ago she had an attack of measles without any complications. Five years ago she had an indefinite chill, or rather, a chilly sensation, which came on every other day for one week. Her last chill occurred four weeks ago, and previous to that, last spring. This was a very indefinite malarial history. The present illness practically began one year ago, when the child complained of pain in the "stomach." This was especially severe after eating. The child one year ago presented practically the same condition as at present. The treatment employed had been of no consequence. One year ago the child was practically healthy, except for her color, which seemed to be lighter than normal, so far as could be noted in a colored child. An examination revealed nothing wrong, except an enlarged spleen. The anterior border reached to the umbilicus and was sharply notched. The inferior border was two fingers breadth below the umbilicus. The organ was hard and almost nodular. The liver was also moderately enlarged. The doctor said the most interesting part of the case was in the diagnosis; he made one last year, but he was compelled to change it.

Dr. L. B. Goldhorn said that from a clinical point of view the case presented no departure from the ordinary; but from a hematologist's point of view it did decidedly. During the past year they had made a number of blood examinations. Last year there were 2,500,000 red cells; hemoglobin, 42 per cent., with a color index of .8; the white count was 18,400. The differential count showed a peculiar picture of the blood; there were a moderate number of eosinophiles; the red cells showed a poikilocytosis, or much deformity, and there were a large number of nucleated red cells present. It was first suggested by Dr. Janeway that the blood appearances pointed to a pseudoleukemic condition of infants (anæmia infantum pseudoleukæmica of von Jaksch). The examination of the blood now, *i.e.* one year later, showed red cells, 3,100,000; hemoglobin, 43 per cent., with a color index of .7; leucocytes, about 16,000. In testing the coagulability with the newly-devised instrument he found that fibrin formation started after two and a half minutes at 72 degrees; when compared with the coagulability of the normal blood it showed an increase. He then sketched the appearance of the blood and called attention to one very peculiar cell, which was sausage shaped. To-day there were no myelocytes, and the eosinophiles were practically absent. There was a 72 per cent. polymorphonuclear count, 26 per cent. lymphocytes, 2 per cent. mononuclears and transitional forms of Ehrlich. The picture to-day, he thought, somewhat resembled a myelogenous leukemia. A true leukemia could be excluded. He called attention to the high color index in pernicious anemia; in the case presented there was a low-color index. None of the characteristic features of malaria had been found in the blood.

Dr. Henry Heiman thought that the condition of the blood indicated a splenomyelogenous leukemia. In chronic leukemias the blood presented all kinds of changes.

Dr. Goldhorn said that it could not possibly be a case of splenomyelogenous leukemia. The percentage of myelocytes was not more than two, three, or four.

A Case of Syphilitic Pseudoparalysis.—Dr. Jacob Sobel presented this paper. He said that the osseous changes common to hereditary syphilis were most commonly manifested in the form of a diaphysoepiphyseal lesion; that is, an osteochondritis of the femur, humerus, tibia, radius, or ulna. This manifestation, when associated with other signs of congenital lues admitted as a rule of ready diagnosis, but when present as an initial symptom, so to say, it rendered a diagnosis not only very difficult, but at times impossible for a certain period. The following was a case in point: Helen Z——, age three weeks, bottle fed since birth, who had been brought to his dispensary service at Lebanon Hospital on December 1, 1904, with the history that for the past four days the child did not seem able to move its left arm. The child was apparently well until four days ago, when some friends who were visiting played with her and pulled the arm, as the guardian thought. The patient was the first born and the labor was normal, and, so far as the guardian knew, the parents were healthy. At the first visit the speaker and his associate paid particular attention to the examination of the left upper extremity, examining carefully the clavicle, shoulder, elbow, wrist, and hand; no subluxation was found, no fracture, no dislocation, and no swelling of any kind. There was, however, a drop wrist, with its characteristic deformity and disability. Tickling of the palm caused slight movement of the fingers. No callus pressing on the musculospiral nerve could be detected, nor was there pain on pressure over any of the joints. In addition to the wrist drop, there was a slight inward rotation of the arm, suggesting the upper arm type of birth paralysis, but the fact that the condition had appeared during the third week of life, and that there was no atrophy, ruled out Erb's paralysis. A physical examination of the patient at this time was absolutely negative, not even a palpable liver or spleen. A tentative diagnosis of traumatic neuritis was then made, and gentle massage with cocoa butter and rest were ordered. The guardian returned on two subsequent occasions, two and three days apart, to report some improvement at both times. Examination of the extremity, and especially of the wrist joint, revealed nothing except some slight pain on passive movement. All other joints were free and painless, and the gums were normal. There were no evidences of rickets. On December 10 there was detected a distinct crepitation at the lower end of the radius and ulna, at the junction of the epiphysis and diaphysis, an epiphyseal separation. The case was then transferred to the surgical service. One week later the face was covered partially with a papulopustular eruption, with adherent crusts here and there, especially around the mouth; the crusts resembled those of impetigo contagiosa, but were easily differentiated by their situation upon a copper colored base; the body showed a maculopapular ham colored eruption, and the skin of the soles and palms was desquamating and thickening; there were decided coryza, snuffles, mouth breathing, fissured lips; in a word, the clinical picture of congenital lues. The spleen and liver at this time were distinctly palpable. Then the diagnosis of the original condition became clear, of course, and the cause for the pseudoparalysis became evident. Subsequently distinct anal condylomata made their appearance. The forearm was immobilized with lateral splints, and the lues was treated in the dermatological service of the hospital by the administration of calomel, 1-20 to 1-10 grain doses three times daily, and by the twice daily application to the umbilical region of a pea-sized piece of white precipitate ointment, covered with a flannel abdominal band. In three and a half weeks no false point of motion or crepitation was detected, and in four and a half weeks the surgical aspect of the case was closed. Under the specific treatment rapid improvement was made. It seemed that the sequence of events in this case—pseudoparalysis (epiphysitis), epiphyseal separation, and, lastly, the cutaneous outbreak—was interesting and instructive, and warned us to be on our guard in diagnosticating monoarticular involvements in young children. He said that, when brought face to face with a similar case in the future, after excluding trauma, fracture, sepsis, perhaps infantile scurvy, it might be well to turn one's thoughts to the possibility of osteochondritis epiphysaria luetica neonatorum.

Dr. Herman said that the child showed no symptoms of syphilis, not even snuffles. Pseudoparalysis might result from traumatism, and there was a history of traumatism in this case. The pseudoparalysis usually affected the upper extremities, because the tendons of muscles were attached near the epiphyses in the upper extremity, which was not the case in the lower extremity.

Dr. L. E. La Fétra had seen two cases of pseudoparalysis during the past year, in one of which an epiphyseal separation had been allowed to go on until the bones had assumed a very faulty position, both wrists being at right angles to the forearm; in the second case the lower extremity was involved, as well as the upper.

A Case of Visceral Syphilis in a Boy, with Heredosyphilis Lata.—Dr. Sara Welt-Kakels presented a boy, nine and a half years old, who was the youngest of five children. The four elder children were all healthy. The father was said to have contracted lues two years prior to the birth of the patient. The child was born not quite at full term, was very small, and had to be wrapped in cotton for the first two weeks of his life. He also lost much blood through the slipping of a ligature around the cord. Soon he began to suffer from snuffles. When six months old there appeared swelling of the bones around the right elbow joint, which was supposed to be due to rachitis. There were also an umbilical and two inguinal hernias. When he was one year old he had a luxation of the right shoulder. When two years old he had an attack of measles, with complicating pneumonia and croup. In his fourth year he suffered from paronychia on the right great toe, which required a few months to cure. When six years old he began to suffer from an interstitial keratitis in both eyes, for which he was treated for more than a year. He was brought to Dr. Welt-Kakels for treatment for enlarged lymphatic glands of the neck two years ago. The patient suffered last summer from bronchitis, and never had eruptions on the skin. Five weeks ago he complained of abdominal pain, had no appetite, was constipated, and tired easily. The boy was found to be badly nourished, weighed thirty-six pounds, rather undersized for his age, skin pale and sallow, no icterus, upper median incisors notched, slight enlargement of the cervical, inguinal, and epitrochlear glands. There was a slight systolic murmur, most likely anemic in origin. The abdomen was considerably enlarged, the abdominal veins, particularly on the right, much dilated, with slight dullness in the lateral portions of the lower half of the abdomen, and a wave of fluctuation could be obtained. The liver was very large, mainly the left lobe, and was not sensitive on pressure, rather hard and resistant on touch, the upper border being in the right mammary line at the fifth rib, the lower margin of the right lobe ending about two inches below the free border of the ribs, while the lower edge of the left lobe was distinctly palpable some distance below the umbilicus. The extent of liver dullness over the left lobe was five and a half inches. The spleen was much enlarged, and its dullness joined the hepatic dullness; it extended about three inches below the free border of the ribs, was not sensitive, and gave a feeling of resistance; its surface was smooth. The urine was normal. The erythrocytic count was 4,480,000, and leucocytes 11,000, hemoglobin only 30 per cent. Nothing abnormal was found in the differential white count.

The Digestions of Caseins, and Its Relation to Certain Problems in Infant Feeding.—Dr. Thomas S. Southworth read this paper. (See page 321.)

Dr. Henry Dwight Chapin said that it was generally recognized that percentage feeding was an important advance in the feeding of infants, inasmuch as it gave us the nutritive values of foods. He started in studying milk from a biological standpoint, studying the digestion of milk in different species of animals. He considered the work of the Department of Agriculture in the study of cows' milk to be very valuable. He thought that we should know more about the proteids of milk, where best digested, and how to prepare them for digestion, and the varying conditions which aided their digestion in different places. He thought that the proteids of milk had other functions than those of mere nutrition; that they were developmental as well. They aided in developing the digestive tract and preparing it for future foods. The addition of alkali to cows' milk simply changed its place of digestion from the stomach to the intestine.

Dr. Walter Lester Carr said that it was generally accepted that cows' milk was the best artificial food for infants. He compared the diamond and coal, both of which had the same composition, and yet were entirely different; the same comparison could be applied to cows' milk and mothers' milk. It was interesting to note what slight modifications occurred in milk from certain diseases, as influenza, for instance. More attention should be paid to the digestive strength of the child; a modification made upon a chemical basis could not be considered as important as this. The question was not so much whether the percentage conformed to the average percentage to be given the child of a certain age, as whether the percentage was one which brought the infant up to best point of development.

Dr. Floyd M. Crandall said that he thought that the general practitioner was inclined to feed too large percentages, especially of proteids, while the specialist was apt to make this percentage too weak. What had been said regarding the saturation of the curd by acid tended to explain some of the difficulties encountered; children seemed to do better upon stronger than upon weaker mixtures. Often a child fed on a diluted mixture would pass a very tough curd; sometimes this was corrected by increasing the time taken in feeding, and also by care lest the orifice of the nipple be too large.

Dr. Charles G. Kerley said that more attention should be paid to where the milk landed, its receptacle, and the condition of the child. He thought that it was better to get at the baby first, and to find out what was wrong with it. In cases of malnutrition he had found that daily washing of the infant's stomach was of great value. This aided in producing a good proteid digestive capacity. It was surprising how much mucus, fermented material, and bacteria could be washed out of this organ, which would not be expelled by vomiting. The general management of the child was very important. Plenty of fresh air, salt baths, general massage, and inunctions of oil were important aids. His advice was to treat the child rather than the milk.

Dr. G. R. Pisek thought that the use of alkalies would result in neutralizing the acid present in the milk, if we started out with the presumption that the milk was wholesome. The curd was not usually broken up by this means, but expelled into the intestines. If 2½ grains of bicarbonate of sodium were added to the ounce of milk, one would be giving two and one-half times as much as would be necessary to neutralize the milk if it was absolutely sour.

Dr. Edward F. Brush of Mount Vernon thought that, although much honest work had been done along the lines of infant feeding, if good results were to be obtained, we were on the wrong track. In speaking of the chemistry of milk, most men spoke as they would of 90 per cent. of alcohol, as though it was always the same. This was not true of milk. When the lactometer was used, its object could be defeated by adding burnt sugar to the milk, which raised the specific gravity. If the percentage of fat was too low, they added water; if germs were present, it was found that the centrifugal machine, used slowly, could dispose of them. The work of the New York Board of Health in visiting the dairies was of the greatest value. A visit to some of these farms would account for the many failures to modify milk satisfactorily. If the farmer was compelled to keep his places clean and to keep preservatives from the milk, so many attempts at modification would not be necessary.

Dr. Elias H. Bartley of Brooklyn said that if the calcium salts were removed from the milk, it would pass through the stomach without curdling, provided there were no calcium salts in the stomach. Most substances added to prevent curdling were injurious to the child.

Dr. Thomas S. Southworth summed up the matter by saying that it was better to understand the physical changes occurring in the milk than the chemical. A child to have good digestion must have good physical condition. Dr. Kerley's success in infant feeding was possibly due to the fact that he gave the weaker mixtures first, and then he was able to give the stronger.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held February 20, 1905.

The President, Dr. Francis J. Quinlan, in the Chair.

A Memorial to Dr. M. L. Maduro.—Dr. Emil Mayer presented this memorial to the Association.

Alcohol in Health.—Professor Russell H. Chittenden of Yale University read this paper. He said the question was often raised, Does alcohol in moderate quantities serve as a food? There was no question but that alcohol could be oxidized in the body and energy made available for the requirements of the system, but it was not always to be recommended for food. When introduced in large quantities alcohol was excreted through the lungs, the skin, and the kidneys, which showed that the body could not handle large quantities; at the same time aldehydes and acetic acid products were formed, which indicated an incomplete breaking up of foodstuffs. He asked what a moderate quantity of alcohol was, and then quoted largely from the results of Goddert's experiments on dogs, published in *The Lancet.* An animal weighing 160 pounds could oxidize 84 grams of absolute alcohol. The strongest whiskey contained about 50 per cent. alcohol, and, therefore, this would represent about 168 grams of pure whiskey. In the experiments absolute alcohol was given, diluted in equal parts of water. In other words, it was shown that a healthy man, weighing 160 pounds, was capable of oxidizing 168 grams of pure whiskey. Such an amount of whiskey taken at one time would produce very uncomfortable results, but it showed that this amount of alcohol could be oxidized in the body and serve as a food. But it should be borne in mind that the animals used in these experiments were dogs, and in a fasting condition, or in a semi-hungry state. Still, it went to show that animals were capable of using a fairly large amount of alcoholic drinks. A man weighing 160 pounds could completely oxidize the alcohol contained in a quart of port wine. The general conclusions were in accord with the experiments of Prof. Atwater, who showed that 72 grams of absolute alcohol were oxidized in a day completely. Dr. Atwater found that 98 per cent. of that was burned or oxidized, proving that it had been utilized as a food. Foods had been found to serve the purpose of assisting in building up and repairing the tissues of the body and yielding energy. For the building up of muscles proteids were necessary, but the oxidizing of the carbohydrates was the chief reliance of the body for sources of energy. Alcohol had long been recognized as being capable of stimulating metabolism. Prof. Chittenden then dealt with certain facts regarding alcohol in metabolism, which tended to differentiate alcohol as a food still more sharply. Eighteen years ago experiments were carried on to show the influence of alcohol upon proteid metabolism in dogs, and a study of its influence as a foodstuff. It was then observed that there was no output of uric acid in these animals; the total output of nitrogen was diminished. Dr. Beebe's experiments upon man gave results which had a very important bearing upon the question. He took five young men who were in particularly good health, and none of whom was accustomed to the use of alcohol, and his results showed that alcohol, even in moderate amounts, caused a noticeable increase in the amount of uric acid and purin bodies in the urine. The increase of uric acid in the urine was not of endogenous origin, but was associated with a change in oxidizing power, exogenous possibly, or associated with some change in connection with the production of uric acid from some of its precursors in the food. He concluded that alcohol, being absorbed, reached the liver and influenced metabolism, by which some cleavage product was made, bringing down some nuclein compounds. The observations of Beebe showed that certain alcoholic drinks, as port wine, exerted a greater influence upon the uric acid than a corresponding amount of alcohol would, and this suggested that the moderate drinking of alcohol might be attended by metabolic disturbances in the body, more than people believed. The deleterious influence of alcohol, or alcoholic drinks, was observable only in cases accompanied by an exogenous output of uric acid. In disease, however, alcohol ingested was not followed by an increase in the output of uric acid. Alcohol, therefore, he said, could not be looked upon as a true food.

Alcohol in Disease.—Dr. George L. Peabody said that very little of the recent work by scientists related to alcohol except as a food, and he would speak of its use as a therapeutic agent in disease. He spoke of its use in angiomata, in carcinomata, and as a disinfectant of the skin, because of its powers of permeation. Alcohol had been applied to the abdomen on compresses soaked in it in cases of peritonitis. Dr. Peabody had found it very efficacious in peripheral neuritis and phlebitis, as well as in abscesses, such as furuncles and allied conditions, but to be effective it should be applied early. It was also of value in phlegmonous inflammations. Its power of relief was best explained by its powers of dilating the blood-vessels and relieving conditions of pressure. The alcohol was used by soaking cheesecloth compresses, applying them to the parts, and covering with gutta-percha paper and cotton wool. The compresses should be saturated. This should be used cautiously in cases in which the epidermis was very thin. Neither should it be applied to the scrotum or in children unless well diluted. Its antidotal powers in cases of carbolic acid poisoning were referred to. During recent years, he said, the tendency was to recede from a very great use of alcohol as a therapeutic agent, and many physicians refused to use it in any cases. It was a fact already proven that large doses of alcohol rendered animals less resistant to pathological conditions. Dr. Peabody believed that in alcohol we possessed the best means of stimulating the heart. Necessity for its use might arise from some primary weakness and enfeeblement due to febrile diseases. Often this agent was prescribed when not justified. The use of alcohol should not be abandoned because of the fact that it was much abused. The symptoms of intoxication, he said, were due to its paretic effect upon the cerebral cortex. When all was said against alcohol, it still remained that it had a place in its general applicability. In cases of high, persistent temperature, with delirium, nervous prostration, with a pulse rapid and easily compressible and dicrotic or irregular, this condition always called for the administration of alcohol. Its dose should be half an ounce of whiskey every three, four, or five hours to begin with, but its continuation should stop as soon as it no longer was productive of good. When the patient approached the condition of health, he cautioned against its habitual use. When the tongue became less dry, and the skin moist, when the wakefulness and delirium became less marked, and when the powers of assimilation improved, then the further giving of alcohol should cease.

He subscribed to Meltzer's saying, that "Alcohol in health was often a curse; alcohol in disease was mostly a blessing."

Wood Alcohol.—Mr. J. P. Atchinson, Chemist to the New York Board of Health, read this paper, which considered the methods of manufacturing wood alcohol, and the various ways by which it could be detected when used as an adulterant.

Legislative Aspects of Alcohol.—Hon. Maynard Y. Clements, New York State Deputy Commissioner of Excise, read this paper, and said that since the Whiskey Insurrection, or Rebellion, in 1794, there had been no peace between the Excise Law and the Excise Commissioners. Students of criminology and statesmen of large experience all recognized the fact that the liquor traffic was not only dangerous, but that it caused from 75 per cent. to 90 per cent. of all crimes committed. This overwhelming mass of evidence could be sustained by looking over the prison dockets of city and State. In dealing with the liquor problem, he said, they were dealing with the friend of crime, and not with the personal liberty of citizens. In 1896 radical changes were made in excise laws of the State and city. Theodore Roosevelt, as Police Commissioner of the City of New York, in spite of the fact that the new law was drawn up by Tammany legislatures, saw that the law was enforced. "The power to tax is the power to destroy," and taxing the liquor business he said was only taxing that which gave rise to so much that was evil. The Raines law tried to deal fairly with the liquor interests and with the taxpayers. With the old law less than three millions was raised by taxation; the Raines law raised eighteen millions, one-half of which went to the State for the reduction of taxes, for State purposes, etc. Up to September 30, 1904, the Raines law had produced since 1896, $121,736,687.71; of this amount $54,000,000 was collected in the old county of New York. The excise tax was against the liquor dealers, and not against the city of New York. On April 30, 1904, the excise tax received was $7,727,000; this was $2,673,000 more than had ever been received when the old law was in force. Not only were the results gratifying as revenue, but it was a fact that there had been a large number of saloons put out of business. There had also been noted a large decrease in the number of commitments because of intoxication, a reduction of 39.5 per cent. He referred to the "frenzied" law of 1892 with its ten-room provision; the proper enforcement of the building code of this city he said would close every ten-room Raines law hotel in the city. No relief could be expected from amendments but from the good character and conduct of public servants who had been tried and had not been found wanting. To-day it was a question *not* of the measure, but of the man. Only in honest public service rather than any public measure lay the solution. The law itself was merely the instrument or the tool and everything depended upon the workman who employed it. If a workman was dishonest, a change of tool would not help. He did not believe that any Sunday opening of saloons would be much of an expedient except that it gave greatest liberty to the worst trade. He asked if it was intended to correct a bad condition by a bad remedy? It would seem far better that the police service, which under home rule was a hopeless failure, should be made more perfect by a State constabulary.

Substitutes for Alcohol.—Dr. Charles B. Fitzpatrick read this paper in which he called attention to the medical, the natural, and the artificial substitutes for alcohol in disease as well as in health. Defective means of determining its right use was accountable for the abuse of it. Non-alcoholic substitutes should be advised and then he believed people would lead much happier and more useful lives. The substitute for alcohol should be in the form of drinks which would not interfere with the assimilation of fats and hydrocarbons. A good active digestion was very much needed, and alcohol interfered with this, especially cell digestion. Alcohol rendered the blood more susceptible to the toxic influences of infections. The best substitute for alcohol he believed to be good, fresh, clean drinking water, which should be taken in sufficient quantities to satisfy the thirst. He believed it would be a wise thing to have different water supplies, one for drinking purposes. Bacterial toxins should be diluted as much as possible without injury to the patient and, in such cases, water was of the greatest value. The substitutes for alcohol in various diseases were mentioned.

Dr. Graham Lusk spoke of Dr. Mandel's experiments with a patient in the laboratory, covering a period of two weeks. This man took 900 c.c. of whiskey to cover the daily needs of the body; he preferred to take clear whiskey and no other food. With difficulty he was persuaded to starve and give up the whiskey also. The results of the experiments showed that the amount of uric acid eliminated in the urine was about the same whether the man was taking 900 c.c. of whiskey or not. This showed that the endogenous production of uric acid was not affected. If alcohol was fed with the food, it was shown that uric acid would be increased; that included exogenous as well as endogenous production. Under these circumstances, if alcohol be ingested, and particularly port wine, the amount of uric acid might rise from 0.5 gram as high as 0.8 gram; that represented an increased output of 40 per cent. under the influence of port wine, but Dr. Lusk said it was even higher than that. He differed with Dr. Chittenden when he stated that the oxidizing power of the liver was reduced; its oxidizing power as well as that of the tissues was usually quite the same as long as life persisted. It might be that the alcohol damaged the ferments which came from exogenous sources. In diabetes, for instance, there was some damage to the ferment which caused the trouble, and the same might be said of alcohol in this connection.

Dr. Thomas D. Crothers of Hartford, Conn., said that the study of the alcoholic problem dated back thousands of years, but in 1870 the first society was formed for the study of inebriety; to-day the number of medical men who were devoting time to the study of this subject was less than 200. This was in striking contrast to the reform movements, more than one million in associations, societies, and clubs being engaged in curing the evils from this source. Their work was based on the theory that alcohol was a moral evil. He wished to emphasize the fact that alcoholism was in truth a neurosis and amenable to treatment. There were two forms to be considered clinically; first, that marked by delusions of strength to control and the extreme confidence in the capacity to drink or to abstain; secondly, that form with convulsions of epileptoid character which occurred periodically—veritable drink storms. But a few years ago there were hundreds of institutions in this country for the care of these patients, and they gained much by working upon the credulity of these individuals who seemed ever ready to accept all sorts of theories. The great practical question now was why should this evil be studied almost entirely by laymen? Exact scientific means should be adopted in the treatment of inebriates to-day. The alcoholic problem, he said, should be taken up and studied in the same way that one did typhoid fever or tuberculosis, and the public should be taught the exact means of prevention and cure.

Hon. De Lancey Nicoll said he had intended to speak on the Raines law but after the admirable defense of it by Mr. Clement he had changed his mind. He said that ever since man existed he had been engaged in making some kind of alcohol out of some kind of material, trying to find the fluid that cheers and sometimes inebriates. During this time there had been several epochs in which abstinence held the sway and others in which alcohol. One hundred years ago alcohol came into complete possession of the field. Years ago in the United Kingdom a man who did not drink alcohol was viewed with suspicion; he could not serve on the jury unless he drank alcohol; he could not act as executor or trustee unless he occasionally took a drink. Even life insurance companies would not insure a man who was a total abstainer. Seventy-five years ago he said the total abstainers were obliged to form a life insurance company of their own in order to convince those who drank no alcohol that their chances of life were just as great as those who drank. To-day they had reached the time when it was held that total abstainers had as good a chance. Mr. Nicoll said he had supposed the consumption of liquor in the United States was growing less, but he found that it was growing greater every year. Last year there were one thousand million gallons consumed, exceeding the amount consumed the year previous by about one hundred millions. In New York City, though, not much more was taken than was consumed twenty-five years ago. He said that in clubs to-day one seldom saw an intoxicated man, but this was not the case twenty-five or fifty years ago. He believed that temperance was growing and would continue to grow. He cautioned against the teaching that alcohol was a food because some might prefer to live on it. Few men knew how to use alcohol in moderation. He said he knew of no solution of the problem except teaching men the pleasures and benefits of temperance and convincing them that the chances of their living prosperous and happy lives were very few if they continued the over-indulgence in alcohol.

Dr. **Mason** asked what a moderate dose of alcohol was. He did not believe there was any arbitrary rule to be offered because every man was a law unto himself; constitutional idiosyncrasy should be taken into account. Dr. Mason had made a special study of alcohol since 1866, and during that time had treated between four and five thousand inebriates and he believed that alcohol was the greatest disease producer the world ever saw and was one of the greatest factors in filling the insane asylums. He asked what the status of the inebriate was, whether he was a criminal or a degenerate. The law now regarded him as an irresponsible individual; if so laws should be made for his control.

Coroner's Bill.—Dr. **Thomas J. Harris** moved that the New York County Medical Association endorse the Coroner's bill, which had for its purpose the object of abolishing the coroners in the city of New York. This was unanimously carried.

College of Physicians of Philadelphia.

At a stated meeting of the Section on General Medicine held February 13, Dr. **A. O. J. Kelly** exhibited "A Patient Recovered from Pyopneumothorax after Spontaneous Evacuation through a Bronchus ." The case occurred in a hardy man who had been sick for a week before coming under observation, when he presented physical signs indicative of a moderate pleural effusion. His condition gradually grew worse, but considerable relief followed the discharge from the mouth of a large amount of pus. Puncture now disclosed the presence of pus in the pleural cavity, and accordingly a portion of a rib was excised, the purulent accumulation evacuated and drainage provided for. Recovery eventually took place, in spite of the desperate condition of the patient. Dr. **Augustus A. Eshner** presented "A Patient with Aortic Obstruction and Insufficiency and a Loud Diastolic Musical Murmur." The case occurred in a colored man, 32 years old, who complained of palpitation of the heart and dyspnea on exertion. He gave a history of rheumatism, but denied venereal infection. The physical signs referable to the heart were extraordinary. The apex-beat was greatly increased in extent and displaced to the left. The area of cardiac dulness was augmented. Pulsation was visible in the epigastrium, and in the vessels above and in the subclavian below the clavicle. A distinct thrill was palpable over the precordia and in the neck, and it presented both systolic and diastolic elements. On auscultation a loud, rough systolic murmur was audible, followed by an even more loud musical diastolic murmur. These could be heard over all parts of the chest and they were transmitted into the peripheral vessels down to the radial and the abdominal aorta to the bifurcation. They were not audible in the femoral or dorsalis pedis, although a distinct shock was appreciable in these vessels on both auscultation and palpation. The diastolic murmur could be heard at a distance of six inches from the chest. At the apex there was also a presystolic murmur followed by a systolic shock. The pulse was quick, and sharp, but unsustained and receding. Sphygmographic tracings exhibited a high and vertical upstroke and a sharp and rapid descent, with a marked recoil elevation and a slight but elongated elasticity elevation. Capillary pulsation was also visible. Dr. Eshner also reported "A Case of Universal Congenital Atrichia." The patient was a man, 64 years old, who had not a trace of hair on any part of his body, and, according to his own statement, never had had any. The nails of the fingers and toes were imperfectly developed and rugous. The teeth had gradually fallen out. Perspiration was moderate. There was no family history of similar disorder. The rare anomaly of retinitis albicans also was present. The term atrichia was preferred to describe the condition, on the belief that there had been a defect in the development of the hairs, while alopecia or baldness would imply the loss of hair that had once been present. Brief references to cases of similar character were found in the literature, but none had been described in length. The disorder is to be looked upon as a dystrophy, and is to be referred to failure on the part of the permanent hair to replace the lanugo when this falls out in intrauterine existence. It may bear some relation to the antithetic disorder of hypertrichia, observed in so-called hairy men, in which the lanugo fails to fall out, but grows to an inordinate length. Histologic studies in some cases disclosed a condition of deficiency or absence of hair-follicles. Changes in the nails, teeth, skin, and perspiration, as well as other dystrophic conditions, are often found associated. Drs. **Sailer**, **Geisler**, and **Welty** read a paper entitled "Polycythemia with Cyanosis, with a Report of Three Cases." One of the patients was a child of eight years, and in another the spleen was not enlarged. Death occurred in the former and the heart was found normal on post-mortem examination except for a slight degree of endocarditis involving the mitral valve. Only a small number of cases of the kind have been placed on record. The extremities and peripheral portions of the body are cyanotic. The number of red blood cells is greatly increased, as is also the percentage of hemaglobin. As a rule the spleen is enlarged. The condition appears to bear certain analogies to splenic anemia. Dr. J. **Norman Henry** read a paper entitled "Paratyphoid Fever, with a Report of Six Cases." He described the bacteriology of this disorder and discussed its symptomatology and the differential diagnosis, with respect especially to typhoid fever. Dr. **Thomas L. Coley** read a paper entitled "Diet in Typhoid Fever."

The Pathological Society of Philadelphia.

At a stated meeting held February 9, Dr. W. M. L. **Coplin** presented "Specimens from Three Cases of Hemorrhagic Pancreatitis." One came from an infant with syphilitic heredity, and the lesions were rather sclerosing in character, with only a moderate extravasation of blood. The other exhibited two stages of hemorrhage, an early and a late. In the third symptoms of intestinal obstruction were present during life, but a diagnosis of hemorrhagic pancreatitis had been made. Death occurred, however, before surgical intervention could be undertaken. In each instance fat necrosis was present in omentum and mesentery. Dr. A. O. J. Kelly exhibited "Specimens from a Case of Hemorrhagic Pancreatitis." The patient presented symptoms of intestinal obstruction, for the relief of which operation was undertaken. Dr. J. H. **Musser** presented a "Specimen of Carcinoma of the Pancreas." The primary lesion had evidently been at the ileocecal valve. Dr. Musser presented also a "Specimen of Duodenal Ulcer and Cirrhosis of the Liver." The ulceration of the duodenum had been recognized during life, and operation was undertaken for the relief of the hemorrhage. The condition of the liver was now discovered, and the bleeding was furious. Death resulted a day later. Dr. Musser exhibited further a "Specimen of Ulcerstive Endocarditis.” The condition was grafted upon a chronic mitral valvulitis, and during life there had been recurrent pyrexial periods. Dr. Musser exhibited finally a “Specimen of Carcinoma of the Stomach and Peritonitis.” The peritonitis had developed apparently without perforation. Drs. J. FUNKE and S. SOLIS COHEN presented a communication entitled “Syphilis of the Liver—Sclerogummatous Type.” Dr. H. R. M. LANDIS presented a communication entitled “Tuberculosis of the Liver,” and he exhibited illustrative specimens. He contended that the condition must be more common than it appears to be, the tubercles being demonstrable microscopically often when not evident macroscopically. Dr. D. J. McCARTHY exhibited “Two specimens of Internal Hydrocephalus.” One came from a patient with a neoplasm of the cerebellum, exerting pressure on the aqueduct of Sylvius, and in this way interfering with the circulation of the cerebrospinal fluid and its retention within the ventricles. The second specimen was somewhat similar in character, although relief to the symptoms had on several occasions been afforded by opening the skull and excising a portion of the cerebellum. The patient was a tuberculous child, and it was accordingly thought a tuberculoma of the cerebellum was present. The symptoms in cases like that in question were principally headache, disturbances of gait, abolition of the knee-jerks, vomiting, and optic neuritis—essentially those of cerebellar tumor, but without localizing indications. D. J. FUNKE exhibited a “Specimen of Vegetative Endocarditis,” involving the mitral leaflets in marked degree, but even more conspicuously the lining of the left auricle.

New Instruments.

SPECIAL INSTRUMENTS FOR FACIOHYPOGLOSSAL NERVE ANASTOMOSIS.

BY ALFRED S. TAYLOR, M. D.

NEW YORK.

In the three cases of anastomosis reported a year ago by A. S. Taylor and L. P. Clark (MEDICAL RECORD, Feb. 4, 1904), a number of difficulties were encountered during the operative procedure: (1) The downward projection of the auditory process of the temporal bone diminished the length of facial nerve obtainable by means of a straight knife. When this nerve stump is too short, it's approximation to the hypoglossal is difficult, and there will be undesirable tension on the sutures; (2) ordinary scalpels are so clumsy as to do unnecessary damage in making the lateral slit in the hypoglossal nerve; (3) to pass the sutures through the sides of the slit in the hypoglossal with an ordinary needle and holder was not only exceedingly difficult, but resulted in such pulling about and traumatism to the nerve as to cause a well-marked paralysis of its muscles, lasting for weeks. At first the difficulty in speaking and swallowing was most annoying, but slowly disappeared with the recovery of the nerve.

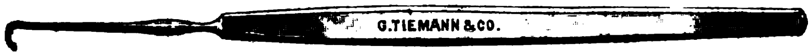

Fig. 1.

With the hope of rendering the operation easier technically, and more precise anatomically, and of avoiding the distressing sequelæ above mentioned, the instruments set forth in this paper were designed. I have to thank Geo. Tiemann & Co. for their skill in making them as well as their many courtesies during the experimental stage of the work.

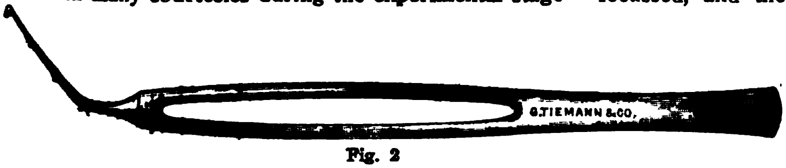

Fig. 2

The hook (Fig. 1) is designed to hold the facial nerve tense while it is being divided at the stylomastoid foramen, as well as to support the hypoglossal while the lateral slit is being made and the sutures passed. With an instrument of this sort the nerves can be controlled and manipulated with the minimum of traumatism.

With the angular knife (Fig. 2) it is a simple matter to reach up along the trunk of the facial nerve, and divide it at or just within the stylomastoid foramen. The angle is such as to favor the easy insertion of the shank of the knife beneath the auditory process of the temporal bone.

By means of this knife one may obtain from ⅜ to ½ inch more of nerve than can be gotten with any straight instrument.

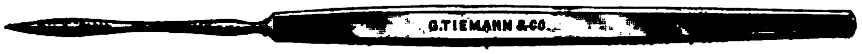

Fig. 3.

The double-edged narrow bladed eye-knife (Fig. 3) is admirably adapted to making the lateral slit in the hypoglossal while it is supported on the hook (Fig. 1). The needles (Fig. 4) are right and left for convenience. The curve of the needle and the angle of its attachment to the shank adapt it nicely to the passage of sutures in the hypoglossal without disturbing it as it lies at the bottom of the deep, narrow wound.

The eye is sufficiently large to carry No. 2 silk though that size is threaded with some difficulty. No. 00 is sufficiently strong for this anastomosis, as there is no tension placed upon the suture. The needles are spear-pointed to permit sufficient eyehole, but the point is thin, and as it should pierce only the nerve sheath of the twelfth cannot do material damage. These needles may be used for nerve suture in other regions when No. 2 is sufficiently strong.

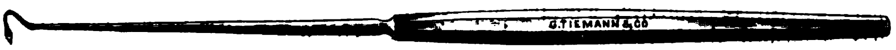

Fig. 4.

In Case IV, operated upon January 7, 1905, these instruments were used, approximation of the nerves was easy, and the traumatism to the hypoglosssal was so slight that there was no subsequent paralysis of its function.

Case VI of the series was most difficult because of a very large prominent transverse process of the atlas, which placed the dissection of the hyperglossal nerve in a very narrow, deep hole. Had it not been for these instruments, especially the angular needles, the operation could not have been completed without transverse section of the hypoglossal, followed by end to end suture with the facial or resort to the spinal accessory nerve, neither of which procedures is so desirable, in my opinion, as the operation previously referred to.

In this case, although considerable manipulation of the hypoglossal was necessary, the resulting loss of function was slight. On the second day the tongue could be protruded and moved in every direction.

152 WEST FIFTY-SEVENTH STREET.

Experimental Tuberculosis of the Heart and of the Aorta.—Léon Bernard and Salomon conclude that: (1) Extreme infection of the blood of the left ventricle, by Koch's bacillus can cause tuberculosis of the endocardium, and sometimes of the lining of the aorta, without previous lesions of the valves. (2) These primary tuberculous infections of the heart and of the aorta consist of granulations whose histological structure is identical with that of the common inflammatory lesions of these membranes. The reaction is fibrinous and not follicular, although bacillary. (3) This specialization in the endocardium is made clear when it is remembered that the same bacillus produces typical nodules in the other tissues of the heart—the myocardium—the subendocardial and subpericardial strata.—*Revue de Médecine*, January 10, 1905.

Photography of the Fundus Oculi.—Satisfactory photographs of the fundus oculi have, it is said, been taken by Dr. Walther Thorner. The subject looks into an instrument somewhat resembling the old-fashioned box stereoscope, and the eye being illuminated by a kerosene lamp, the image is cast on a ground glass screen. It is carefully focussed, and the screen replaced by a sensitized plate. Simultaneously with the pressure of the shutter, an electric spark ignites some flashlight powder. In an article in the *Scientific American* for December 17, illustrations of the apparatus and its modus operandi are given, and also five pictures of the fundus showing normal optic nerves, the yellow spot, the optic nerve of a myope, and an eye affected with choroiditis. Dr. Thorner has devoted many years of patient labor to the accomplishment of this end, and while his method is not absolutely perfect, it has attained to a good working stage.—*St. Louis Medical Review*.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 25, 1905:

	Cases.	Deaths.
Measles	292	5
Diphtheria and Croup	258	45
Scarlet Fever	261	14
Smallpox	5	1
Chickenpox	121	...
Tuberculosis	318	164
Typhoid Fever	28	10
Cerebrospinal Meningitis	...	49
Typhus Fever	...	...
Yellow Fever	...	...
Cholera	...	...
Totals	1,283	288

American Surgery Through French Eyes.—The following account of the impressions of a French visitor to this country is taken from *The Medical Press and Circular*. Dr. Faure, the well-known Paris surgeon, has recently paid a visit to America, and on his return to France has published the result of his observations. He was particularly astonished at the magnificence of some of the operating rooms in the New World, and he mentions the Mount Sinai Hospital, New York, as the handsomest he has seen. Both walls and ceiling are formed of single sheets of white marble. The number of assistants and nurses present at an operation—three or four of each—is in contrast to what obtains in Franse, where the surgeon aims at performing his work with the aid of only one assistant. What claimed M. Faure's admiration more than anything else was the excellent and intelligent nursing across the Atlantic. The American nurse is usually a young woman of good education and social standing, quite different from the French *infirmière,* and tasks are entrusted to her which in Paris are the duty of the *internes.* American surgical instruments appeared clumsy and coarse to one used to the neatness of the hand-made articles in use in France. While M. Faure, like another observer, thinks that there are some matters they order better in France, yet he is, on the whole, an appreciative critic of American surgery.

A Surgical Dueling Sword.—A French surgeon of international reputation, whose assistance is always sought for at big duels, has invented a dueling sword, designed in conformity with anatomical principles. The handle is of remarkable design and is shaped to correspond with the impression of the fingers obtained by grasping a suitable cylinder of modeling clay. There is a special place for the thumb, preventing shock against the guard. It is asserted that the new sword prevents cramp.—*New York Herald.*

Canadian Vaccination Results.—A Canadian correspondent in the *Times* draws attention to a notable testimony in favor of vaccination. He states that twenty years ago smallpox was introduced into Montreal, where the French-Canadian population were for the most part unvaccinated. This visitation carried off upwards of 3,000 victims. Since then the French inhabitants in Montreal have accepted vaccination, and, although the population has grown largely, only 38 deaths are recorded from smallpox since the disastrous outbreak of 1885.—*The Hospital.*

Pseudonyms of Syphilis.—Some interesting information is brought together by Dr. Knott, in the current number of the Dublin *Journal of Medical Science,* with regard to the early history of the disease and the word "syphilis." He tells us that the word was first used in 1530 as the title of a poem by Hieronimo Fracastorio, a native of Verona. This astonishing poem, which describes what was then thought to be a new disease, fills a quarto book of thirty-six leaves, and is highly praised by many critics from Scaliger to Dr. Knott himself. The latter is not a believer in the doctrine that syphilis was first introduced to Europe by the sailors of Columbus, and he brings much evidence to show that it existed long before, though there is no doubt of course, that its great prevalence in modern society dates from the Siege of Naples in 1494. From its devastation of the French army at that time it obtained the well-known name *"morbus gallicus,"* though the French themselves called it *"morbus neopolitanus."* Indeed, there were many national names given to it in different countries, as, for instance, "Spanish itch," "German," "Polish," "Turkish" disease, while the Turks responded with the name "Christian disease." From its similarity to the physical affliction of Job, it has been known as *"morbus sancti Jobi,"* and certain saints—St. Mevius, St. Roch, and St. Lementius—have also had the discredit of giving it a name.—*Medical Press.*

A Tuberculosis Museum.—Karlsruhe has followed the example of Charlottenburg in establishing a tuberculosis museum. Arrangements are being made by which parties of working people will be enabled to visit the museum from all parts of the country.—*Science.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the period from February 18 to February 2 1905.

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Florida, Jacksonville	Feb. 11–18	4	
Illinois, Chicago	Feb. 11–18	15	4
Galesburg	Feb. 13–20	1	..
Louisiana, New Orleans	Feb. 11–18	6, 2 imp'd.	
Massachusetts, Boston	Feb. 11–18	1	
Lawrence	Feb. 5–18	5	..
	Feb. 11–18	1	..
Michigan, Detroit	Feb. 11–18	5	..
At 66 localities	Jan. 28–Feb. 4	(Present)	..
Missouri, St. Louis	Feb. 11–18	28	6
Nebraska, Omaha	Feb. 11–18	13	..
New York, New York	Feb. 11–18	1	1
Ohio, Toledo	Feb. 4–18	12	..
Pennsylvania, Steelton	Feb. 11–18	1	..
South Carolina, Camden	Feb. 11–18	1	..
Charleston	Feb. 11–18	2	..
Greenville	Feb. 4–11	5	[illegible]
Tennessee, Nashville	Feb. 11–18	7	..
Wisconsin, Milwaukee	Jan. 21–Feb. 11	24	..

YELLOW FEVER.

Brazil, Rio de Janeiro	Jan. 8–29	16	3
Mexico, Merida	Feb. 5–11	1	..
Panama, Panama	Jan. 1–Feb. 11	19	6
		6	[illegible]

(From U.S.S. *Boston*

SMALLPOX—FOREIGN.

Brazil, Bahia	Dec. 31–Jan. 21	..	[illegible]
Para	Jan. 1–31	..	[illegible]
Pernambuco	Jan. 1–15	..	[illegible]
Rio de Janeiro	Jan. 8–29	123	[illegible]
France, Paris	Jan. 28–Feb. 4	12	..
Great Britain, Bradford	Dec. 26–Jan. 9	12	..
Leeds	Jan. 21–28	7	..
London	Jan. 28–Feb. 4	1	..
Manchester	Jan. 28–Feb. 4	2	..
Newcastle-on-tyne	Jan. 28–Feb. 4	5	[illegible]
South Shields	Jan. 28–Feb. 4	2	[illegible]
India, Bombay	Jan. 17–24	..	[illegible]
Calcutta	Jan. 14–21	..	[illegible]
Karachi	Jan. 15–22	1	..
Madras	Jan. 14–20	2	..
Italy, Lecce Province	Jan. 26–Feb. 2	24	..
Mexico, City of Mexico	Jan. 14–28	3	[illegible]
Norway, Christiania	Jan. 14–21	1	[illegible]
Russia, Moscow	Dec. 31–Jan. 28	26	[illegible]
Odessa	Jan. 14–Feb. 4	4	[illegible]
St. Petersburg	Jan. 14–28	4	[illegible]
Warsaw	Dec. 10–17	..	[illegible]
Spain, Barcelona	Jan. 1–28	..	[illegible]
Turkey, Constantinople	Jan. 22–29	..	[illegible]
West Indies, Grenada	Jan. 11–28	7	..

CHOLERA.

India, Calcutta	Jan. 14–21	..	[illegible]
Russia, Astrachan	Dec. 27–Jan. 8	1	[illegible]
Government of Baku	Dec. 21–Jan. 1	..	[illegible]
Government of Erivan	Dec. 21–Jan. 1	38	[illegible]
Government of Saratow	Dec. 27–Jan. 3	15	[illegible]
Trans Caspian province	Dec. 27–31	7	[illegible]
Turkey in Asia, Van	Jan. 1–7	77	[illegible]

PLAGUE.

Africa, East London	Dec. 24–Jan. 7	8	
Port Elizabeth	Dec. 24–Jan. 7	1	
Arabia, Aden	Jan. 14–21	110	
Australia, Brisbane	Jan. 2	..	
Ulmarra	Jan. 10	1	
Brazil, Bahia	Dec. 31–Jan. 7	..	
Para	Feb. 1	(Present.)	
Rio de Janeiro	Jan. 8–29	41	
Egypt, Suez	Jan. 14–21	4	
Tukh	Jan. 14–21	1	
India, General	Dec. 31–Jan. 7	27,889	[illegible]
	Jan. 7–14	30,487	[illegible]
Bombay	Jan. 19–24	..	
Calcutta	Jan. 14–21	..	
Karachi	Jan. 15–22	46	
Madras, vicinity of	Jan. 6	(Outb'k	
Japan, Hiogo	Dec. 14	..	
Russia, Ural territory	Jan. 3–9	8	
Siam, Bangkok	Dec. 15–22	..	
Straits Settlements, Singapore	Dec. 30	3	

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Original Articles.

THE TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS BY DIPHTHERIA ANTITOXIN.

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Of all the diseases we are called upon to treat, there is none with greater mortality or with more unfortunate and unhappy sequelæ than cerebrospinal meningitis. I have often thought that death was a much more satisfactory termination than the frequently occurring blindness, deafness, idiocy, paralysis, etc., which we see so often as a result of the disease. The mortality averaging seventy per cent. at the beginning of an epidemic, and never less than thirty per cent. in sporadic cases, is surely very discouraging, and it is probable that were statistics made from adult cases alone, these figures would be very much higher.

During the epidemic of 1873, I had the opportunity of seeing seventeen adult patients, all of whom died. The present epidemic, which began about the end of February, 1904 (just a year ago), has resulted in 1,010 deaths in this city. There were admitted during the year 1904, to Gouverneur Hospital, 113 cases, of which there were deaths 75, unimproved 5, improved 5, and cured 28. The cases at the beginning of the epidemic were usually of the fulminating type, requiring lumbar puncture for the relief of the pressure symptoms, and the fluid obtained from the series reported in this paper, with two exceptions showed the presence of *Diplococcus meningitidis intracellularis*. In one case (No. 10), the symptoms were not characteristic on admission, and lumbar puncture was resorted to because of the mental and occular symptoms and the suggestion of the Kernig's sign (that is, the inability to extend the leg when the thigh is flexed on the abdomen).

The virulence of the present epidemic seemed to abate somewhat during the summer and fall of the year 1904, so that when I came on service at Gouverneur Hospital, on November 1, 1904, the meningitis ward had in it only a number of old cases, presenting a picture so terrible that one would have thought that death would be a blessing to them. The duration of stay in the hospital was very long—in one case 183 days. So disheartening was the sight of this suffering that it might well be written over the entrance to the ward: "Who enters here leaves hope behind."

Early in January of this year, my attention having been called to the fact that Dr. ARTHUR J. WOLFF, bacteriologist of the Board of Health of the City of Hartford, Conn., had stated that he had found an antagonism existing between the Klebs-Lœffler bacillus and the diplococcus meningitidis, I requested my house physician to communicate with Dr. Wolff and ask for particulars, stating that I was ready and eager to try any plan of treatment which promised better results than we had been obtaining. The result was the following letter:

"Hartford, Conn., January 17, 1905.
"To Edwin A. Colton, M.D.,
"House Physician,
"Gouverneur Hospital, N. Y. City.
"Dear Doctor:—

"There is but little to say about the serum treatment of epidemic cerebrospinal meningitis, except that the few cases in which it has been tried here and in the surrounding towns, have recovered, and to remind you of the fact that I fully recognize that 'one swallow does not make a summer.' During the past ten months we have been investigating the diplococcus intracellularis meningitidis, carrying out cultures from the lumbar puncture fluids (almost all the cases we had here were diagnosed by means of the lumbar puncture). We early found that there is a pronounced antagonism between the Klebs-Lœffler bacillus and the meningococcus, and during the course of study on this portion of the investigation, I found that pure cultures of the meningococcus were killed by the antidiphtheritic serum, and not only precipitated when mixed with the latter, but active bouillon cultures, when mixed in bulk with the antitoxin, are precipitated in the same manner. The ubiquitous newspaper man got hold of the whole matter, ere we have had time to finish either our work or our paper, and the happy result has been the treatment of four cases of meningitis with the serum. All of these cases have recovered, one of them is not wholly well at the present writing, but is well on the road to perfect recovery, and you must draw your own conclusions as to the effectiveness of the treatment.

"I was called yesterday to see a little girl, 10 years old, who was seized with convulsions last Thursday. The attending physician told me that she had complained of headache, and suffered with several nose-bleeds during the past two weeks, and that she had complained of feeling very tired. Her convulsions began at 6.30 P. M. last Thursday, and continued until 10 P. M., and at the time he saw her the temperature was 109°; there was complete opisthotonos. This was all the history I could obtain, except that the temperature and pulse was reduced by cold sponging.

"When I saw her (five days later), she was completely unconscious, and impossible to rouse; there was left-sided hemiplegia; ptosis of the left lid; stiffness of the neck, well marked, the right pupil responded well to the light, while the left pupil was irresponsive. Respiration 32, pulse 102 and regular.

"Kernig's sign was present, well shown in both limbs. The abdomen retracted (perfect boat-shape). I drew about 30 c. c., of a very clear fluid, at the lumbar puncture, and the centrifugated deposit showed about an equal number of mononuclear and polymorphonuclear leucocytes; in the latter as well as in the free fluid the characteristic diplococci were found, which I am now studying in the different media. I gave this little girl 6,000 units under the scapulæ immediately after taking the fluid from the spinal canal.

"The doctor reports to me to-day that she is better, that she has roused and called for water; that her temperature and pulse are decidedly better, and that the picture to him is not nearly as desperate as it was yesterday.

"If this case comes along, I shall begin to think that we have in antitoxin a very powerful remedy for the treatment of the disease, but from what I have observed, both in the laboratory and from actual trial of the serum, I feel that we ought to give it an extensive and fair trial.

"You may ask me how it acts. I can only answer that we must make the theories fit the facts in this case, and not the facts the theories.

"If you see fit to try the antitoxin, use it as early as possible, and use a large dose, not less than 6,000 to 10,000 units. I have not the time at the present to go into all the particulars of our investigations, for we have a great deal of information, which will be given in our paper, but one very important fact will be interesting to you. As the disease advances, the fluid taken from the punctures becomes more and more acid in reaction, and one can almost follow the course of the disease from this testing of the reaction.

"Hoping what I have given you may be of some use to you, and that you will give this method of treatment a fair trial, should you have the opportunity, I am,

"Yours very sincerely,
"Arthur J. Wolff."

I need not say that I was impressed with so scientific, logical and withal so practical a statement, and I felt that it needed but clinical confirmation to demonstrate a serviceable discovery in medicine. Our treatment heretofore had been mainly symptomatic, the only departures from that being the injection into the spinal canal of some antiseptic or germicidal fluid or the hypodermic injection of bichloride of mercury along the spinal column. These, like all others, proved to be ineffectual.

A few days after the receipt of this letter, we received at Gouverneur Hospital the first patient of the recurrence of the epidemic, viz.:

Case I.—J. B., aged 8 years was admitted January 20, 1905, with a history of two days' previous illness; headache, vomiting, and partial loss of consciousness; on admission, head slightly retracted; pupils dilated, but react sluggishly to light, the pupils contracting to light momentarily, with subsequent dilatation; cervical rigidity marked; respiration greatly increased; abdomen retracted; Kernig's sign well marked; patient semi-conscious and restless; temperature 103°. A spinal puncture was made and two ounces of clear fluid withdrawn, which showed the presence of *Diplococcus meningitidis intracellularis.*

Following the lumbar puncture, the child improved mentally, but was very restless; pulse was irregular in force and rhythm and of small volume. Two days after admission the patient received his first antitoxin injection of 6,000 units (January 23). After twenty-four hours, consciousness returned. On January 24 the child was much brighter; pupils react to light, contract, and then dilate; Kernig's sign well marked. Slight rigidity of post-cervical muscles.

The child continued to improve with practically a normal temperature, pulse, and respiration, but as a precaution, I administered another similar dose of antitoxin on January 29, following which the child improved to uninterrupted recovery, and was discharged free from motor and sensory symptoms on February 17.

Case II.—L. P., aged 15 years, admitted on January 25, 1905. Two days prior to her admission patient complained of headache malaise, and anorexia. On admission patient was delirious, with marked hyperesthesia, marked photophobia; pupils contracted, moderate cervical rigidity. Kernig's sign well marked. Temperature on admission, 102°. A spinal puncture was made and three drachms of opaque fluid obtained, which showed the presence of the diplococcus intracellularis. Seven days after admission her temperature was 106°. She received an antitoxin injection of 8,000 units. This was followed by a general improvement in her condition, so that on the following day (January 26) the patient was quieter and practically conscious. Her condition continued to improve, and on January 31 she received a second injection of antitoxin of 8,000 units. This was followed by a complete cessation of all symptoms. Her convalescence was uninterrupted, and she was discharged from the hospital entirely well on February 16, 1905.

The following three cases—brothers—were admitted to the hospital at the same time. A fourth brother, who was taken ill with cerebrospinal meningitis, at about the same time they had become ill, had died at home, after an illness of less than 48 hours.

Case III.—I. C., aged 10 years, admitted on January 30. Fulminating history. Two days before admission the child had severe headaches, pain in the neck, vomiting, etc. On admission the child was conscious, pupils equal and dilated, contract sluggishly to light; photophobia; marked cervical rigidity, slight retraction of the neck, Kernig's sign. A spinal puncture was made and eight drachms of turbid fluid which was under slight pressure was removed; this showed the presence of diplococcus intracellularis. Diphtheria antitoxin (8,000 units) was injected. A second antitoxin injection was made on the following day; again after three days; again after three days; again after two days; again after two days. In all, six hypodermic injections of diphtheria antitoxin of 8,000 units each were given in this case, and the patient went on to an uninterrupted recovery, being discharged from the hospital on February 20, 1905.

Case IV.—P. C., aged 11 years, admitted on January 30. History before admission as in preceding case. On admission, stupid; pupils slightly dilated, react sluggishly, moderate photophobia; slight cervical retraction, well marked cervical rigidity; conjunctivæ injected; abdomen slightly retracted, Kernig's sign well marked, pulse irregular and barely perceptible; temperature 104°. Spinal puncture was made and four drachms of clear fluid obtained, which failed to show the presence of the diplococcus. On the following day, an antitoxin injection was given of 8,000 units. On February 1, two days after admission, the boy became brighter; pupils responded better to light; headache cleared up. An antitoxin injection of 8,000 units was given on February 2. This was repeated on the 3rd and 6th, after which the patient went on to uninterrupted recovery, being discharged from the hospital on February 20.

Case V.—L. C., aged 7 years. Twelve hours before admission the child had chill, slight headache, and malaise. On admission there was slight retraction of the head, with marked cervical rigidity; pupils dilated, contract sluggishly, subsequently dilating, photophobia; abdomen retracted; well marked characteristic eruption; Kernig's sign well marked. A spinal puncture was made; eleven drachms of slightly turbid fluid was withdrawn. This failed to show the specific bacillus. On the following day an antitoxin injection was given of 8,000 units. This was followed by but slight improvement and was repeated at intervals of 48 hours on ten different occasions.

On February 21 (the 23rd day in hospital) an antitoxin injection was given and the following note made: "The child's general condition improved; almost conscious; pulse of better volume; fairly quiet; temperature normal; no motor or sensory symptoms present." This child gives every promise of recovery as complete as his brothers, except that convalescence may be more protracted, but the result apparently is positive.

February 28.—Pulse, temperature, and respirations normal; all symptoms have disappeared, the patient is practically well and only remains in hospital to convalesce.

Case VI.—H. W., aged 14 years, admitted on February 8. Twenty-four hours before admission complained of headache, thirst, stiff neck. On admission the patient was in profound stupor; pupils moderately dilated but sluggish; no rigidity of the neck, but pain on pressure over the ligamentum nuchæ. Temperature 105°. A lumbar puncture was made, but no fluid was obtained. Pressure symptoms being so urgent, a second lumbar puncture was made on the following day. The fluid withdrawn showed the presence of the diplococcus intracellularis. No antitoxin being available, the patient did not receive his injection until February 14. This was followed by an injection on the 15th, 17th, 20th, 21st, 23rd, and 24th. A gradual improvement took place in the mental and physical condition of the patient, although his temperature has not been markedly affected by the treatment.

February 28.—A general improvement has taken place in all symptoms, except there remains a persistent high temperature. Prognosis is still uncertain.

Case VII.—S. F., aged 19, a well-developed young woman. Ill three days prior to admission with headache, vomiting, restlessness, delirium, tenderness over the nucha. Condition progressing into coma. On admission patient was in profound coma, collapsed, pulseless, extremely cyanosed, pupils dilated, did not respond to light, abdomen retracted, Kernig's sign fairly well marked. This patient presented such profound evidence of toxemia that it seemed as though she would die before she reached the ward. A spinal puncture was made and 4 drachms of moderately turbid fluid withdrawn. This showed the presence of the diplococcus intracellularis. The spinal puncture was followed by moderate relief of symptoms, and an antitoxin injection of 10,000 units was given. This patient remained in an exceedingly serious condition for 72 hours, when a second antitoxin injection was given of 10,000 units. This was followed by an improvement in her mental condition; the pulse was of better volume, the rigidity of her neck was less marked, and a general though slight amelioration was noted in all her symptoms. This patient received antitoxin injections (10,000 units) on February 14, 15, 17, 18, 20 and 22. On the 17th, seven days after her admission, symptoms of pressure became so urgent that a lumbar puncture was made, but only 12 minims of fluid were obtained. This, however, gave some relief.

February 28.—Conscious; all symptoms have disappeared, but a slight rigidity of the neck; prognosis fairly good; recovery is looked for in this case.

Case VIII.—I. S., aged 3 years, admitted February 16. About 36 hours before admission the child was seized with vomiting. Cried out as though in severe pain. Extremely restless. On admission patient cyanosed; unconscious; there is slight retraction of the head, with well-marked cervical rigidity, pain on pressure over nucha; marked hyperesthesia; abdomen retracted; Kernig's sign marked; feet and hands cyanotic and cold. Lumbar puncture yielded 12 drachms of turbid fluid, which was positive for the diplococcus meningitidis. Diphtheria antitoxin (8,000 units) administered the same day. On February 17, the child's condition was practically unchanged; on the morning of the 18th, the child was conscious; general condition much improved, marked diminution in the irritability and restlessness; took nourishment freely.

February 21.—Antitoxin (4,000 units) administered. The child's mental condition was slightly worse; cervical retraction had become extreme. Antitoxin (4,000 units) administered on the 23rd and 24th.

February 28.—Conscious; lumbar puncture gives a fluid negative for diplococcus intracellularis. Child playful, all symptoms absent, but high temperature.

In this case, as in a number of others, I have remarked during the past 4 or 5 days an afternoon rise to 103° or 104°, followed by a morning remission to normal temperature. As this has only taken place in the last few days, and is a characteristic "pus temperature," I am inclined to think it may be due to abscess following the injection of antitoxin, although the strictest asepsis was observed in all procedures.

Case IX.—R. G., aged 12 years, admitted February 18. Twenty-four hours before admission, vomiting, there was pain in the back of neck, with headache. On admission the patient was wildly delirious; she kept up an incessant screaming for 36 hours (although she was given within 24 hours two-thirds of a grain of morphine, together with 20 grains of chloral, and 40 grains sodium bromide). Pupils contracted, nonresponsive to light; photophobia; rigidity and tenderness of the back of the neck; Kernig's sign well marked; abdomen moderately retracted; no rash. Lumbar puncture; 9 drachms of turbid fluid was withdrawn, which showed the diplococcus intracellularis; the fluid was neutral in reaction. Antitoxin (8,000 units) was administered on the 18th, 20th, and 21st, A speedy recovery of consciousness resulted, with a fall of temperature and a gradual improvement of all symptoms.

February 28.—Conscious, less rigidity at the back of the neck. Kernig's sign less marked, all symptoms improved. "Pus temperature." Prognosis very good.

Case X.—H. S., aged 22, admitted February 15. This case is exceptional in this series, inasmuch as the onset was very insidious. Five days before admission, patient complained of headache, chill, and vomiting. These symptoms subsided, except the headache, for the relief of which he came to the hospital. On admission, pupils equal and responsive; facial expression dull, a suspicion of rigidity about the back of the neck; Kernig's sign only suggestive. On both shoulders a few irregular, but not characteristic hemorrhagic spots were noted. The following day, the apathy increased and the pupils were more sluggish to light. The Kernig's sign, while not positive, was more pronounced than the day before. In the absence of any organic lesion, a lumbar puncture was made, and 9 drachms of slightly turbid fluid withdrawn, which showed the presence of the diplococcus intracellularis. Antitoxin (8,000 units) was given on February 18. On the 20th, 21st, and 23rd, 10,000 units were administered; these latter doses were followed by a most profuse general rash, erythematous in character, which disappeared after 48 hours. The patient showed a marked improvement in all the symptoms noted.

February 24.—The patient again became dull and apathetic, pulse very slow, 58 to 60 per minute, pupils contracted. These symptoms all increased in severity, during the next 24 hours, and the patient died in profound coma on the following day, 10 days after admission to hospital. Autopsy refused.

Case XI.—A. W., aged 7, admitted February 18. The patient is a younger brother of Case VI, who has been in the hospital two weeks suffering from epidemic cerebrospinal meningitis. This patient gives a history of 24 hours of headache, vomiting, and malaise. On admission patient is conscious, has slight retraction of the head, moderate cervical rigidity, pupils dilated, contract momentarily to light, then dilate; abdomen retracted, Kernig's sign present, no rash. Lumbar puncture was made, and 4 drachms of turbid fluid was withdrawn, which showed the presence of diplococcus intracellularis. This case was mild from the onset.

Antitoxin (8,000 units) was given on February

18, 20, 21. February 23, bed-side note: all symptoms have improved.

February 28.—This patient continued to improve, and was discharged from the hospital on this date, entirely well.

CASE XII.—Y. C., aged 19, admitted February 17. Four days before admission, patient had headache, projectile vomiting, partial loss of consciousness, and pain at the back of the neck. These symptoms steadily increased. On admission, was extremely cyanotic, apparently moribund; profoundly unconscious, pulseless; pupils wildly dilated, no reaction to light; cervical rigidity marked, slight retraction of the head; abdomen retracted; Kernig's sign present; hemorrhagic eruption. On lumbar puncture, 4 drachms of a slightly turbid fluid were withdrawn, showing the presence of diplococcus intracellularis.

Antitoxin (10,000 units) was administered at once, and repeated on the 18th and the 20th. This patient showed great improvement as the result of the lumbar puncture and the cardiac stimulants administered. Following the antitoxin injection consciousness returned, and while the general picture was unfavorable, a decided improvement was shown after two days of treatment. This improvement continued for four days. On the night of February 20, she was seen by Dr. Colton at 12:30. At that time she was in about the same condition as she had been for the preceding 24 hours. At 3 P.M. she took some milk and had slight difficulty in swallowing, after which she apparently fell asleep. At 4:30 A.M., the nurse, in making her rounds, found the patient had died. Autopsy was refused.

CASE XIII.—M. F., aged 4, admitted January 17. This patient presented the clinical picture of epidemic cerebrospinal meningitis, and, although lumbar punctures were made on January 17 and 18, with negative results, this diagnosis was made. On January 22 a lumbar puncture was made, and one drachm of very turbid fluid withdrawn, which showed the diplococcus intracellularis. Although antitoxin injections of 8,000 units were made on January 23, 30, February 3, 6, 8, 10, 12, 14, 15, 17, 21, the patient showed no response to this mode of treatment. It may be of interest to note in this case that pus from an abscess showed the presence of the meningococcus.

On February 28, the following note was made: During the past week condition unchanged; patient apparently dying from asthenia.

CASE XIV.—J. V., aged 9, admitted February 18. This patient arrived in New York City from Pittsburg, February 13. The following day she had headache, vomiting, and severe diarrhea; after a short time this was followed by bloody stools. On admission, conscious, pupils equal and dilated, react to light, but dilate after contraction; no cervical retraction or rigidity, but pain on pressure over nucha; Kernig's sign only suggestive.

A lumbar puncture was made, and 7 drachms clear fluid withdrawn, which failed to show the presence of the diplococcus intracellularis. Antitoxin injection of 8,000 units was given on February 20, 21, 23, 24, and 25.

February 28.—General condition good, all symptoms absent, except high temperature (pus). Prognosis good; recovery fairly certain.

CASE XV.—B. H., aged 9, was seen in consultation with Dr. J. B. Kopf at Bay Ridge, on February 17. History of four days of delirium, vomiting, high temperature, pain and rigidity in back of neck. At the time of my visit he was slightly delirious, rigidity of neck marked, abdomen retracted, pupils slightly dilated and nonresponsive to light, Kernig's sign well marked; no rash. Lumbar puncture was made, and ten or twelve drops of turbid fluid withdrawn. Diphtheria antitoxin (6,000 units) was injected; this was followed by a sharp rise of temperature and convulsions; injection repeated on the 19th, and 9,000 units were given daily until the 24th, when Dr. Kopf wrote to me that the patient was conscious, neck only slightly rigid, temperature normal, "the clinical picture is much less serious and he seems to me to be getting well." The antitoxin was discontinued because of the occurrence of a profuse rash.

CASE XVI.—G. E., aged 9, admitted February 24, with a history of four days of headache, vomiting, semi-coma, and pain at the back of the neck. On admission, pupils dilated, nonresponsive to light, opisthotonos slightly marked, neck very rigid, Kernig's sign well marked, slightly delirious. On lumbar puncture, 6 drachms of turbid fluid withdrawn, showing presence of diplococcus intracellularis. Antitoxin injections (8,000 units) on February 24, 25, and 27. The day following admission, patient was conscious, general picture more satisfactory.

February 28.—Patient conscious, neck less rigid, pupils respond to light. This patient has been under observation so short a time as to make a prognosis practically impossible, although her condition to-day is much more satisfactory than it was at the time of her admission to the hospital.

CASE XVII.—L. K., aged 4, admitted February 26, with a history of two days' illness; vomiting, headache, macular rash, rapidly disappearing. One brother died of this disease after one day's illness, another brother died a few hours after being admitted to the hospital. On admission, rigidity of back of the neck, but no pain on pressure over nucha; patient is dull and apathetic; Kernig's sign is absent. On lumbar puncture, one drachm of purulent fluid was withdrawn, which shows the presence of diplococcus intracellularis.

Antitoxin was administered (7,000 units) on the 26th and 27th.

February 28.—On account of increased cerebrospinal pressure symptoms, a second lumbar puncture was made last night, and 6 drachms of semipurulent fluid was withdrawn. After a few hours, profound coma developed, and the child died. Duration of illness, three days.

I have detailed in brief the history of 17 cases. Of these, 5 patients recovered completely; 3 died, and 9 are still under observation. Of the latter, 5 give every promise of a speedy recovery; the other 4 are still in a serious condition, and I would not venture to make a prognosis.

The case to which I should like to call special attention is No. 13. This little girl was in the hospital 7 days before I began the administration of diphtheria antitoxin in this disease. Her history has been detailed, and it seems reasonable to suppose that her present condition, that of mental and physical torpor (the condition which was so frequently noted in cases before this series, and which is but the result of the action of the specific poison on the brain producing encephalitis), might have been warded off had the antitoxin been administered before the lapse of nine days from the beginning of her illness.

While the number of cases reported is small, the time of my observation was also limited, my term of duty at the hospital ending on March 1. The greater number of cases were severe in their onset and the evidence of profound constitutional infection well marked. In five cases, I am satisfied that nothing but the lumbar puncture and cardiac stimulation (the former being in my judgment of most value), together with the early administration of antitoxin, would have maintained the life of the patient for half a day.

It was in just this kind of cases we observed the best results; within two days delirium or coma abated or disappeared; the pulse and temperature became more nearly normal, the tongue more moist, and, in a word, a general improvement in all the symptoms was manifested. In no case was consciousness absent after three days. The dose given was 6,000 units to children less than 5 years of age; 8,000 units to those between 5 and 12, and 10,000 units to adults. This amount was injected under the scapula on alternate days. During the past week it has been given daily in severe cases, and in improving cases in smaller doses at less frequent intervals. In a few cases an antitoxin rash developed, but never was of much moment. The greater number of injections were followed by a fall of temperature, but occasionally a rise of from two to four degrees was noted. In all cases having albuminuria, the albumin was also found on admission, and therefore could not be charged to the antitoxin, but was probably dependent on the high temperature or toxemia. In fact, not a single bad symptom developed as the result of the administration of the antitoxin.

A peculiar feature of this series of cases was the absence of marked opisthotonos. Although cervical rigidity and pain on pressure over the ligamentum nuchæ was present in every patient, only two of them showed the marked retraction which is always mentioned as a characteristic symptom of the disease.

From the study of these cases, I am of the opinion that the temperature indication is of less consequence than any of the other prominent symptoms, and that its permanent fall takes place after the other symptoms have shown abatement. In making an estimate of the progress of the disease, I have relied most on the mental condition, as it seemed that more normal mental activity takes place before the abatement of the temperature and high pulse rate.

This series of observations was made, not at the termination of an epidemic, when one would naturally expect a series of mild cases with fairly frequent recovery, but at the recrudescence of an epidemic, when the symptoms are fulminating and the mortality high. Of course, many cases of this disease have been reported in which so rapid a recession of symptoms have occurred as to make one think they belonged to the so-called class of aborted cases. This, however, is unusual in the early history of an epidemic, and never in so large a proportion as in this series.

I shall not attempt to enter into a discussion as to the action of the antitoxin in this disease, leaving this part of the subject to Dr. Wolff, who informs me he is about to present his views in the matter to the profession.

As to the mode of administration: From a study of these cases, I am led to believe that a larger dose of antitoxin is necessary than is usually given in diphtheria, and that it should be repeated daily until urgent symptoms abate (not to the exclusion of lumbar puncture, which should be made for symptoms indicating cerebrospinal pressure). With the subsidence of delirium or coma, a lessening of the rigidity of the neck, of headache and photophobia, it is advisable that the amount of antitoxin be diminished, but its use should be continued at longer intervals until all central nervous symptoms have subsided.

My observations have been entirely clinical, and I think have been sufficiently encouraging to warrant a continuance of the treatment. There can be no doubt but that a diminution of mortality has taken place, and so far as has been observed, an absence of sequelæ.

In this connection it may be interesting to note the frequent coincidence of an outbreak of epizootic in horses (pink-eye), with the epidemic of spotted fever; and to the fact that the microorganism in both conditions is the same, diplococcus intracellularis. An investigation into this matter would be interesting.

To summarize: During the past five weeks there have been seventeen cases under observation, of which 5 have recovered completely; 3 have died, of whom 2 were adults; 9 cases are still under treatment. Of these, 5 show such marked improvement as to indicate probable recovery (4 being convalescent). Of the remaining 4 cases, all are in a serious condition, and prognosis is impossible at the present time.

One case (No. 13), in which antitoxin treatment was commenced on the 9th day of the disease, will probably die from asthenia.

Should the result of these cases be but an earnest of the future treatment of this disease, I believe to Dr. Wolff belongs the credit of having discovered the remedy for one of the most fatal diseases, and of having placed at our disposal a plan of treatment not second in its results to the antitoxin treatment of diphtheria, the mortality of which, by its use, has been lessened about two-thirds.

I wish to make acknowledgment to Dr. Edwin A. Colton, house-physician at Gouverneur Hospital, of my thanks for his earnest and painstaking efforts in behalf of this plan of treatment and for the clinical histories here reported.

200 West Seventy-Second Street.

CHRONIC MYOSITIS RHEUMATICA AND ITS TREATMENT BY MASSAGE.

By GUSTAF NORSTROM, M.D. (Stockholm),
New York.

Chronic myositis rheumatica may follow acute myositis, or, what is more common, it is chronic from the start.[*] It was studied only very imperfectly until the fact was recognized that its clinical domain was more widespread than had been supposed and that massage was the sole remedy of value. The affection was considered for a long time from but one clinical standpoint, namely, as secondary to rheumatism, having the same general pathological and symptomatic relationship, and that it consequently would be useless to treat it separately. Froriep[1] was the first to point out the independent existence of chronic myositis, or rather the most constant of its external manifestations; yet he did not believe that the indurations discovered in certain persons, which he called rheumatic (rheumatische Schwielen), were of an inflammatory nature. The lesions did not, according to him, always have their seat in the muscular system. Froriep several times also found deposits of induration in the skin, in the subcutaneous cellular tissue, and even in the periosteum.

In spite of this the opinions of clinicians were not settled. In 1867 Oppolzer,[2] taking up Froriep's ideas, again concluded, after having examined a hardened mass of the soleus muscle, that it was purely a rheumatic lesion, having nothing inflammatory about it. He added that indurated areas of this sort were very commonly found in the muscles.

[*] The reason why traumatic myositis is incidentally spoken of is because it presents many points of similarity with that type which forms the subject of this article.

It has been proven that chronic rheumatism can produce deposits, which may have their seat in the connective tissue, under the skin, under the periosteum, or, most frequently, in the depths of the fleshy parts of the muscles. But most authors have regarded these only as a manifestation of a general process in which the whole organism is concerned, a sign of incontestable symptomatic value, which in most cases disappears spontaneously under the treatment of rheumatism proper. A second school has treated the subject from quite a different standpoint. This regards acute and chronic myositis as the fundamental affections and holds that the original diathetic tendency must be modified only in order to prevent the recurrence of the local affection. These last conditions must be treated first. Metzger's experience soon led him to analyze these phenomena more minutely than had been done before, and we can say without exaggeration that he, in advocating this theory and at the same time formulating an appropriate treatment for the affection, is to be regarded as the real father of the doctrine of muscular inflammations. The article which my countryman, Helleday,[3] published many years ago on this subject was the first one in which chronic myositis was regarded from this point of view. This was soon followed by articles of less importance, by Mosengeil,[4] Gies,[5] and others.

Myositis Chronica Rheumatica.—The only form of chronic muscular inflammation that interests us here may pathologically be designated as myositis interstitialis. Perusing the literature of the subject one finds that a great deal has been written regarding the pathological anatomy of myositis, but on sifting the material, it is not difficult to distinguish that what is said refers to other forms of myositis than the one we have in view. Only Strauss[6] makes an exception to this rule. He treats, not very extensively, of the affection which is the subject of this article, although exclusively of the advanced or indurated form. This is made clear by the designation he gives to his article *"rheumatische Muskelschwiele."*

As Dr. Adler[7] of this city states in his excellent article on muscular rheumatism, in which he says a great deal about chronic myositis, it is hard to obtain proper anatomical material for adequate histological research. People do not die of muscular rheumatism or chronic myositis. "However, thanks to occasional excisions of diseased muscles in the living subject, and to opportune and lucky finds in the corpse, enough material has from time to time been available to enable us to arrive at some idea of the actual pathological conditions on which these muscular lesions are based." I give his statement *in extenso,* as it is the only one available for our purpose. "In one or more places of the muscular system hyperemia with dilatation of the smaller vessels and capillaries, sometimes even accompanied by small hemorrhages, takes place. This is at once followed by a more or less copious emigration of cells into the interstitial tissues, the leucocytes crowding between the bundles of fibers and even between the single fibrils. Very soon active proliferation of the interstitial connective tissue takes place, and thus in a comparatively very short time after the beginning of this process an infiltration of the muscle is brought about, which varies in extent and density according to the intensity of the process. During all this time the muscle fibers themselves are not very materially affected; they are pushed apart to some extent, but do not greatly suffer. In the milder type of cases the process ends here. In due time, usually after but a very few days, absorption of the infiltrating material takes place. The muscle returns to a condition practically, though perhaps never quite, normal. If, however, the inflammatory activity attains a higher grade of intensity, the process does not end with the mere cellular infiltration, and at most a very slight degree of connective-tissue proliferation. More extensive new formation of fibrous tissue is inaugurated, sometimes to quite a considerable degree. The interstitial connective tissue proliferates vigorously; the muscle bundles and fibrils have been forced apart and compressed. They also begin to degenerate and are destroyed, exactly in the manner described for interstitial myocarditis. The result of this is a fibrous induration of the muscle. It is evident that when this stage of fibrous induration has been reached, spontaneous restitutio ad integrum is no longer possible.* If left to itself, the induration will remain, impeding function, causing pain, and facilitating the recurrence of other acute attacks, thus leading over from acute to chronic muscular rheumatism." This seems even to show that chronic myositis is merely a more or less advanced stage of chronic rheumatism.

The insertions of the muscles in reality constitute the most favorable seat for this affection. It is here that it is most frequently met with, for example, in the nape of the neck, in the extensors of the forearm near their upper insertion, etc., but it would be erroneous to suppose that isolated deposits do not exist in the fleshy parts and at a distance from the muscular insertions. Chronic myositis may be found in all parts of the body, in the head, the neck, or the trunk and all the limbs. Most of the deposits, if not all, are, as I have already mentioned, spontaneously produced in people suffering from rheumatism. Usually there is a history of preceding or simultaneous rheumatic affections in other parts of the body. Treatment by massage has had the advantage in calling our attention to the real nature of the symptom complex which nobody before had thought of connecting with the muscles. The symptoms had been referred to the digestive apparatus, the nervous system and the general state of health, such as, malnutrition of the body, but no one ever supposed that an apparently mild lesion and one which was neither painful nor extensive, could be the cause of such disturbances as muscular inflammations are able to produce.

It often requires a great deal of practice in manipulating healthy muscles, to be able to distinguish them from abnormal ones, and to this end one must acquire what Metzger calls "das normale Fleischgefühl." One will then feel that in cases of recent myositis palpation gives a sensation of decreased elasticity, of a more doughy consistency. And as the muscle increases in consistency and becomes gradually harder, the difficulty in diagnosticating decreases, to become very slight, when the deposit, probably through the above mentioned increase in the interstitial tissue, has arrived at the hard consistency of an induration.

I divide chronic muscular inflammation into three stages: (1) A *swelling,* manifesting itself only in the shape of a puffiness of the muscles. (2) *Resistance,* when the inflamed area is to some degree organized and resistant to the touch, although still preserving a certain degree of elasticity. (3) *Induration,* when the consistency is very hard, sometimes as hard as cartilage, no elasticity whatsoever being left.

The transitions of the different stages are not clearly marked. At times, two stages, even three, can exist simultaneously in the same inflamed area. It is self-evident that if there are several inflammatory spots present at the same time, all of them need not necessarily represent the same stage of the disease. On the contrary, we frequently see them representing different stages, from the single swelling to a very hard lump, distinctly separated from the surrounding healthy tissue or gradually merging into it. The essentially chronic muscular inflammatory process is, as a rule, not recognized at its origin, as it develops mostly from a preceding rheumatic condition, the pain to which this gives rise being easily confounded with that resulting from chronic myositis. Taking into consideration the slow development of chronic myositis, everything tends to the belief that a longer or shorter length of time has elapsed before it is possible to recognize it, but we have no means of determining the duration of this period. Furthermore, the muscular inflammations develop in different ways, in some cases slower, in others more quickly, but the same inflammatory stage, in some individuals, produces symptoms early and in others late. As an example of the above statement that muscular deposits mostly develop insidiously, that is to say, in a latent way and without giving rise to any noteworthy pain or to any other symptoms, until lameness or more or less pronounced stiffness has set in, and the attention of the patient is directed to his condition. I quote the following case.

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* This is even the case in an earlier phase of the disease which we call the stage of resistance. (Remark of the author.)

Last February, a gentleman, 65 years old, was sent to me by Dr. Theobald of this city, to be treated for muscular inflammation seated in the region of the hips. Several diagnoses had been made, but none of the examining physicians, save the last one, had recognized the condition as chronic myositis. The patient did not complain of anything worth speaking of, but for about eight months he had suffered from a stiffness in the hip region, which had gradually been increasing, and finally developed to such a point that at this time he was walking only with difficulty and pain, getting fatigued very easily. He felt so stiff that after having been seated for a little while, it was only with great difficulty he was able to stand up and walk. This was particularly the case in the morning for a short time after he had left his bed. I found the whole of the gluteus medius on both sides transformed into a very hard mass of indurated tissue not susceptible to any compression on the part of the examining finger. Besides, there were deposits of different size, and of the same consistency in the gluteus maximus and minimus. On account of the extreme hardness of these lumps and their great size, as well as of the age of the patient, it was only after about three months that I was able to rid him of the deposits. He now walks as well as ever, and does not feel the slightest stiffness in his hips.

Chronic myositis is not, as it is generally believed, a rare disease, on the contrary, it is one of the most frequent affections of the human body, although very seldom diagnosed, and consequently very little known. The pain of chronic myositis does not have any particular character. Mostly it resembles, as I have already mentioned, that of chronic rheumatism, for which the disease we are speaking of is most frequently mistaken, and one can, I think, without committing an error, claim that, when the pain mentioned has a tendency to remain obstinately in one spot, and recurs again and again at the same place, one may be almost sure that one has not only to deal with an ordinary muscular rheumatism, but with a real inflammatory condition of the muscle, a supposition almost always confirmed by a subsequent examination.*

I think there exists no affection in the human body which so often leads to error in diagnosis, as does chronic myositis, and this particularly because I have noticed that the disease is as little known in this country and in England, as it was in France when I first settled there. In Germany, also, it is far from being as well known, as it deserves to be. Even in modern works on pathology, as for instance in the voluminous and much read treatise on this subject by Eichorst,[8] there is almost nothing written about chronic myositis, and in the extensive work on diseases of the muscles (Die Muskelerkrankungen) by Prof. Heinrich Lorenz, in which one might hope to find a long chapter on myositis of rheumatic origin, no doubt the most frequent of all and at the same time the only one which can have any practical interest, there is only slight reference to this variety, while there is a great deal on different kinds of myositis of other origins, much more rare, as traumatic, infectious, tuberculous, syphilitic myositis, not to speak of myositis ossificans.† In this country Dr. Isaac Adler is the only one, who, as far as I know, and only incidentally, has published anything on this subject.[9]

The affections with which deposits of myositis can be confounded are so many that I cannot mention them all here. They are often mistaken for infiltrations of the skin and subcutaneous tissues; swollen glands, particularly in the neck, are sometimes confounded with myositic deposits.‡ Myositis in the chest-muscles is frequently taken for pleurisy, and particularly for intercostal neuralgia. Besides, I have from time to time seen how myositis can be mistaken for an intraabdominal affection, as for instance perityphlitis. In the following case, this quite an acute one, myositis in the psoasiliacus muscle, was confounded with lameness of the lower extremities supposed to result from concussion of the spine. Only some weeks before I left Paris for New York, I was called to see an elderly gentleman, who, while riding in the Champs Elysées, was thrown from his horse. In order to avoid falling forward, he suddenly threw his body back. Immediately afterwards, he felt a sharp pain in both sides of the abdomen, and it was impossible for him to take a single step. He was carried home, where several physicians saw him and declared that he suffered from a concussion of the spine. I saw the patient four days after the accident had taken place. During this time several treatments had already been tried without any effect. Absolute impossibility to lift the legs from the horizontal plane existed. No spontaneous local pain. Slight fever. On examing the hypogastrium and pressing deeply, the patient complained of a violent pain on both sides, but particularly on the left one. I made the diagnosis of acute myositis of the psoasiliacus muscle, caused by a violent effort to keep up the equilibrium of the body, with subsequent partial rupture of its fibers. I treated him by massage (twice a day), rendered easy by the thinness of the integuments. After six days the patient was able slightly to raise the legs from the bed, and after fourteen days of massage he could walk without any inconvenience, and without having the slightest pain.

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* As rheumatism is almost always the causative factor of myositis, it is easily understood why so many persons, suffering from this affection, feel relieved, at least for a time, by having recourse to antirheumatic treatment, and particularly to thermal baths. It may be that after a visit to one of these baths, the patient feels more or less free from pain for weeks or even months. He does not fail to return the following season to the spring which has procured him even transitory relief; and so it goes on from year to year until the real cause of the trouble may be discovered and removed. And all this is of daily occurrence.

†I regret very much not to find anything more regarding the disease under consideration in the second volume of this work, published last spring, than was in the first volume.

‡It is easy to differentiate them, as the glands have a more globular form, while the deposits of myositic origin are more flat; the former roll under the finger, while the latter, forming a part of the muscle, only move with this.

A diagnosis of chronic neuritis is often made when in reality the pains are due to chronic myositis, a mistake in diagnosis which I have observed on numerous occasions. More frequently in France than in this country. I have seen the pain in the sacro-lumbar region, resulting from a chronic myositis diagnosed as a symptom of neurasthenia (sacralgia of Charcot), if the patient at the time presented other symptoms referable to the nervous system. Another error in diagnosis is frequently made in cases in which the patients complain of a more or less constant pain in the lumbar region. The physician consulted often diagnoses the pain as dependent upon some disease of the kidney, treatment of which, however, brings no relief. A case illustrating this, and showing the serious consequence an error of diagnosis might lead to, had not the right condition been recognized in time, is given herewith.

Mrs. L. Six years ago I saw a lady of middle age, who had come to New York from one of the neighboring States for the purpose of being operated upon for a supposed calculus of the kidney, as diagnosed by several physicians at home. But before undergoing the operation already decided upon, she was persuaded by some friend of hers to consult Dr. Adler in this city, who, upon examination, came to the conclusion that the pains were due to chronic myositis, and not to calculus. The deposits were situated in the small of the back, and gave rise to a persistent and most annoying pain, from which the patient had been suffering for several years. Dr. Adler having had the kindness to recommend the patient to my care, I found on examination in the left sacro-lumbar muscle two large nodules, also two others at the same level on the right side. The first mentioned had reached the size of a fifty-cent piece, and were distinctly indurated, besides being very painful to pressure. As I had to leave New York in a month for my summer vacation in Europe, I was obliged to institute two seances a day from the beginning of the treatment, and to apply most energetic massage to the muscular indurations. After a month's treatment, they had all completely disappeared, and about a year later I heard that the patient had had no return of her pains.

What I have observed in the cases above mentioned, applies also to affections of the uterus and its adrexa. Not a few curettages have I seen performed without any benefit, and several other methods of treatment resorted to in supposed uterine affections, until examination revealed one or several myositic deposits in the sacrolumbar region as the real cause of the lumbar pain. Pressure on the muscles in the lumbar region would promptly clear up the diagnosis; for, if the pain is due to myositis, pressure will intensify it, while, if due to the uterus, pressure neither produces nor intensifies it, as in this last case the pain is only a radiated one.

Sometimes myositis in the lower extremities is mistaken for the so-called growing pains in children and young people. I do not deny that what is commonly called growing pain really exists, but I believe that a great many of these affections are due to other causes and particularly to chronic myositis of the muscles of the legs. It is easily
understood why I have not more often seen cases
this kind, as naturally nobody would imagine th
a chronic myositis could be accountable for a pe
manent pain in the legs of children. But I hav
come to this conclusion from what I have seen du
ing my sojourn in Paris, where I successfully treate
several cases of this kind. Two years ago I had t
pleasure of being able, in this city also, to rid a gi
ten years old, from this affection, which is oft
more annoying than really painful. Last spring
was consulted for the same trouble in a girl six yea
old, in a family where I was at the time treati
mother and father for muscular inflammation
various localities. I discovered several nodules
moderate hardness in the little patient's legs be
the knee. Different diagnoses had been made
particularly the above-mentioned one of "grow
pains." After six weeks of massage very little
mained of the swellings mentioned, and the p
was almost gone, allowing the child to sleep p
fectly well, and to run about without feeling
fatigue. As the family was going to Europe,
treatment was interrupted. It is not infreq
either that the edema, sometimes quite considera
due to muscular induration seated in the lower p
of the leg, is mistaken for Bright's disease, if th
are at the same time some, even small, quantities
albumen in the urine. I have seen several cases
the kind in Europe, as well as in this country, b
recall particularly one patient, a Russian general
advanced age, whom I saw in Ragatz in the s
mer of 1893. I found him scarcely able to m
about, and with his limbs swollen to an enorm
degree up to the knee. He told me he had called
in in order to ask me if I could help to rid him, e
only temporarily, from the most annoying swell
and enable him to walk. I examined him locally,
found two big, rather hard, masses in one leg a
two in the other, situated slightly above the ankl
moreover, another one, this one smaller but just
hard as the others in the fleshy part of the calf
Examination of the urine showed the presence of
small quantity of albumen; but this I believed
could place to the account of a gastrointesti
trouble, from which he had been suffering for so
time. I promised him a complete and radical cu
which he, of course, had not hoped for, so ma
eminent physicians having diagnosed his case
one of Bright's disease. After six weeks of mas
(two seances a day), the patient was entirely
from edema, and at the same time the deposit
myositis had quite disappeared. During the
night the patient continued to stay in Ragatz,
when he had been all day on his feet, there wa
the slightest tendency to a return of the swel
The following year I saw him again in Ra
where he had come to be treated by me for
stomach and bowels (constipation). He recov
completely from these also, and the following sp
he wrote me, telling me that the albumin in the
had been entirely absent for some months.
swelling of his legs had not reappeared, and he
enjoying the best of health.

Sometimes, as I have seen it happen, the ass
tion of functional heart murmurs with swellin
the region of the ankles, may lead the exami
physician astray. A muscular inflammation in
lower extremities may account for the whole tro
Lastly, a disease with which myositis is very
quently confounded, is an affection not known
side of Sweden, where it goes under the nam
*panniculitis.** This is a more or less circumsc
inflammation of the adipose tissue or rather o

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* Fortunately an error of diagnosis cannot here lea
any bad consequences.

interstitial connective fibers. There is, however, this difference between the two affections, that the latter admits of displacement on the subjacent muscular layer and that, contrary to what takes place in myositis deposits, it is movable to a certain degree, if you seize the inflamed mass between the thumb and forefinger. Besides, it is probably owing to the skin being richer in nerves than the muscles, that this is more sensitive on pressure than a myositis deposit. Sometimes the panniculitis is met with at the same time as deposits of myositis, which speaks in favor of a common predisposing cause (rheumatism); in some cases they are combined in such a way that the former covers the latter, which is then discovered for the first time after the panniculitis has been, through massage, more or less reduced in size.* Even cholecystitis can be mistaken for myositis, strange as it may seem. During my stay in Paris I saw such a thing twice, in one case the operation had already been decided upon; since coming here I have seen it in one case. Besides, Dr. Adler reports in his above-mentioned article, an observation of the same kind, and I hear from him that he has lately met with another similar case. Later, in speaking of myositis in different parts of the body, I shall allude to some other very interesting errors, which have been, and which are easily made, if proper precaution is not exercised. Lack of space does not permit me to mention all the different locations where a chronic myositis has been the cause of a wrong diagnosis. But the errors of diagnosis, which I have already noted, and those which I am going to state later, are, I think, the most frequent and are sufficient to direct the attention to the frequent existence of an affection which has, it seems to me, thus far received too little attention on the part of medical men.

We shall now review the phenomena of myositis observed in various regions.

Region of the Head and Neck.—Stiff neck (Torticollis) of muscular origin. Torticollis is a very common affection. It is observed in acute and chronic cases. When quite recent, it is easily overcome by massage. The results are less satisfactory if it is chronic, and particularly if it is inveterate. I am inclined to believe that congenital torticollis is of inflammatory origin. The cause of it is probably the rupture of a certain number of muscular fibers in the sternomastoid muscle during parturition or even during intrauterine life. The faulty position of the head is the consequence of the preceding inflammation. If treatment by massage could be employed at an early period of life, the affection might be easily cured by it; but as the patient is usually seen first at a later period during childhood or at adult age, only insignificant results are obtained by means of massage and rectification of the head. Recourse must be had to tenotomy. It is often claimed, I do not know why, that torticollis is exclusively produced in affections of the sternomastoid muscle. I have just as frequently, save in the just mentioned congenital form, seen it in chronic rheumatism or chronic myositis of the trapezius. Torticollis almost always depends upon an affection of this muscle, so that, after restoring its integrity through massage the deformity disappears. Some years before I left Paris for this country, Mr. E. from Cincinnati, came to see me, recommended to my care by Prof. Charcot of Paris. This gentleman had, more than a year before I saw him, been thrown from his horse, and had sustained a rupture of some muscular fibers on the right of the median line of the neck, apparently affecting several muscles, and particularly the trapezius. Hence there followed considerable swelling with pain and impossibility to move the neck. An immobilizing bandage was applied, and, when this was removed at the end of two months, the head had been turned to such a point to the right, that the chin almost touched the shoulder; it had become almost immobilized in that position and allowed only very little mobility in any direction. On examining I found, on the right side of the neck, a big mass almost as hard as cicatricial tissue, no doubt the final stage (induration), of a chronic myositis, which once was acute. Besides there was a very pronounced scoliosis with a curvature of the spine to the left, compensated by another lower down in the lumbar region, in the opposite direction; on account of this the patient presented a grotesque appearance in walking. Energetic massage of the swelling, accompanied by passive movements (rectification) of the head, overcame the vicious position. But it took more than two months before all deformity disappeared and the head had entirely recovered its mobility. I saw the patient's brother the following summer, who told me that during the fall following the treatment, the deformity of the body had also gradually yielded, and that his brother was then perfectly straight. To this case of traumatic origin I will add the following, resulting from chronic rheumatism in a patient suffering from various manifestations of the disease, among which chronic torticollis was perhaps the most prominent. Mr. W. S. has suffered for several years from pains of a distinctly rheumatic nature in different parts of the body. For about three years he had noticed a gradual increase in all of the symptoms, notwithstanding various treatments employed. Some months before I saw him, in the beginning of November, 1902, he had been under the care of a specialist in rheumatism of this city. The most energetic treatment employed by the latter had had no other results than to derange his stomach. At this time I found the patient in the most deplorable condition. He had grown very thin during the last year, and passed most of the nights with very little sleep. Although barely forty-five years old, he walked like a septuagenerian, stooping forward and complaining of an almost constant pain, and great stiffness in the lumbar region. Besides, there was a permanent dull pain with a feeling of weakness between the shoulder blades. His head was almost immobilized, permitting of only very little rotary movement. Passive movement was equally limited. The right arm could be lifted by the patient only half way up to the horizontal plane. Immobilizing the shoulder, in order to exclude any movement except that in the humeroscapular joint, and raising the arm one could only reach a plane lying several centimeters below the horizontal. Beyond this point there was only very little more extension of the arm possible, owing no doubt to the shrinkage and shortening of the capsule of the joint. In addition to this there was no part of the body where the patient had not more or less pain, which is easily explained by the fact that upon examination I found no less than sixteen different deposits of myositis, scattered over the body. Those situated in the right arm, back, and especially in the neck (involving nearly all the muscles in this region), were much indurated and of an almost cartilaginous consistency. Treatment by daily massage, together with forced movements of the humeroscapular joint was continued with profit for several weeks until the patient had to go to Europe. Upon the advice of Dr. A. Robin of Paris, he passed a season at Dax, where he took the mud baths. After his return here, the following November, I found him much improved from his general rheumatic condition, especially in regard to the effusions in the smaller joints, synovial burs and sheaths of tendons, but the baths had not had the slightest influence upon the chronic myositis. Treatment by massage was again begun, and although continued very irregularly, led finally to a complete cure. By the end of March the patient could move his head and right arm in every direction, all the pains and disability had disappeared, and he could walk perfectly straight. When I saw him in the beginning of last November, he looked healthy, and said he had gained forty-two pounds, and felt perfectly well.

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* As I intend later on to publish an article on this affection, whose seat of predilection is the lower extremity of the trunk, I shall not at present go into particulars. I will only briefly allude to the fact that these inflammations of the adipose tissue are, like cases of myositis, curable by massage. In fact, massage seems to be the only means of exercising any influence upon the affection.

During my residence in this country, a period of about nine years, I have treated two similar cases of chronic torticollis in which there was almost total lack of motion. After treatment by massage for two and a half and three months respectively, a complete cure was effected in each case.

Pain resulting from myositis, which has its seat in the nape of the neck, and in the neck proper, sometimes radiates out into the muscles of the arm and forearm, and produces improper attitudes, depending less upon contractures, properly so called, than upon positions involuntarily assumed by the patient in order to relax the muscles, and thus to relieve the pain. More frequently the pain is expressed in nerves of the scalp, and not in the brachial plexus of the side involved. These phenomena belong to the cephalalgias of local or muscular origin. In making the apparently paradoxical assertion that headache is cured by massage, we mean to say that there are headaches resulting from chronic myositis of the muscles of the neck, and these make up the majority, contrary to the generally accepted opinion, which are perfectly curable by massage, while others due to a general cause, such as neurasthenia, hysteria, and chloroanemia, are of course not amenable to this treatment. Like most of those who have studied massage, I was led to study the muscular system more closely than is generally done, and I have come to the conclusion that it is often a limited myositis of the neck which is the cause of the cephalalgia, neuralgic or otherwise. These cases deserve a great deal of attention, and when treated by massage, will be promptly cured.*

I can speak with a great deal of confidence and positiveness on this subject, because I have often had the opportunity of treating such cases, and have in the majority of them, produced permanent cures. With the disappearance of the muscular inflammation all headache disappears. If you are confronted with a headache, so-called rheumatic, with a neuralgia of the head or the forehead, or with an ordinary migraine, whose origin is obscure, do not confine your examination only to the region which is the seat of the pain. I have discovered myositic deposits on the margins of and on a level with the cranial attachments (less often in the fleshy part) of the trapezius, splenius, sternomastoid, scaleni, and even in the temporal muscles. Some might claim that this is a coincidence, but it is by no means so. Pressure on these deposits was often sufficient to produce an attack similar to those previously experienced by the patient. When the suspected deposits were caused to disappear, the paroxysms ceased permanently in most cases. It is impossible to admit the independent existence of these manifestations which are so closely related to each other; unluckily the connection is not always visibly traceable. The development of chronic muscular inflammations in the neck, as in other regions of the body, is always very slow. It may take not only months, but sometimes even years before they provoke pain. Thanks to this latent and insidious progress, the organism gets, so to speak, gradually accustomed to their presence. These inflammations will produce symptoms only when they have attained a certain degree of development, a period which may vary considerably in different individuals. In order to provoke an attack of headache, it is often necessary for an occasional exciting cause to be added to the already existing organic one. This new element produces a state of congestion of these myositic deposits, and may be provoked in a direct or reflex way by all the various causes, which we know usually give rise to an attack of migraine or common headache. I intend to treat, elsewhere, of this extremely interesting matter, which I have here only alluded to.

Region of the Trunk.—Myositis of the trunk, like that of the neck, gives rise to different processes. A strain in the small of the back, the Frenchman's *"tour des reins,"* is spoken of as an acute affection of traumatic origin, characterized by a sudden, continuous pain, sometimes so exaggerated on motion, that the patient is obliged to remain more or less quiet. Here, again, we have a laceration or rupture of some muscular fiber, sometimes only a violent stretching of them, followed by an inflammatory reaction. These are excellent cases for massage. In two or three sittings, sometimes in only one, the masseur is able to overcome affections which seemed intractable. It was in a case of this kind, communicated to the society in Lyon in 1837, that Martin was able to achieve wonderful results and revenge himself on one of his colleagues who was skeptically inclined towards massage. Lumbago is a painful affection which, as the name implies, has its seat in the lumbar region or in the loins. It is most frequent in its acute form, and is then either of rheumatic origin, or only a pain due to a cold, the true nature of which is not known. The terminology needs to be definitely settled; strain in the back and traumatism, lumbago and rheumatism are indifferently spoken of. In all probability the cause varies in the different cases. Massage yields almost as good results in this affection as in the troubles we have just described. As regards the chronic form it is one of the diseases we frequently encounter. In some cases there is only a common chronic muscular rheumatism left to itself or treated in a wrong way, but most frequently we have to deal with a real myositis, in a different stage of development. Most pathologists classify lumbago among the forms of rheumatism.[10] They do so because they entirely ignore its frequent myositic origin, whereas in reality, in these cases, the rheumatism only acts as the causative factor. In a great number of cases which we have had to treat, we were dealing with myositis whose deposits were often very numerous. These deposits may be discovered in the prevertebral muscles, in the sacrolumbar muscles and in the great dorsal muscle. As long as an area of loss of elasticity or a resistance remains, we must continue the massage laboriously, in order to prevent relapses. Only in young people can we, without fear of return, leave a little remainder to nature, which, as in other parts of the

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*Wretling, Helleday, Prof. Henschen, Bumm, and lately the eminent nerve specialist, Prof. Edinger, in Frankfort, have arrived at the same result. The last one has published his views in an extensive article on headache and migraine, inserted in the *Deutsche Klinik,* as well as lately through his assistant physician, Dr. Auerbach (*Sammlung Klinischer Vorträge,* No. 301).

body, owing to the increased vitality imparted to it by the treatment, will often disappear in a short time.

M. L., thirty-four years old, has complained for many years of pains in his back, particularly in the right side. Starting in the upper part of it, the pain had slowly extended to several parts, which did not seem to be affected at the beginning. Electricity, warm baths, vesicatories, hydrotherapy, were tried, but in spite of these the pains became so violent that they often compelled the patient to remain absolutely quiet for weeks. In the intervals he walked with his head constantly bent forward, carefully avoiding everything that was able to excite even the slightest tension of the affected muscles. He experienced sensations as though his chest were being constricted by a vise. Obliged always to assume the same position in the bed, he could not sleep. His general state of health declined, and he was obliged to give up his position as accountant. Last year he tried gymnastics, but without any success. Different diagnoses were made; rheumatism, neuralgia, spinal irritations. No sensitive point along the vertebræ on pressure or touch. The long muscles of the right side of the back, appear even to the eye more bulky than normal. The increase of volume ceases in the upper part of the scapular region, where the muscles seem to be normal. On exerting more powerful pressure, one discovers some deposits of myositis in the lower part of the long muscles of the back. The size of these deposits varies from that of a large pea, to that of a walnut; they present all stages of development of myositis, from puffiness to that of real sclerosis. Frictions of the belly of the muscles. Petrissage of the induration; marked relief after forty sittings; movements not very painful; the patient can walk without too much difficulty. Sleeps better; he can rest on the parts which were formerly the most painful. After a little more than two months the muscles had regained their normal state; the deposits had almost entirely disappeared, and the patient was able to sleep well and to resume his occupation. No recurrence after ten months.

There are other forms of myositis in the trunk which are not spoken of, and which, however, are nevertheless no less painful than those which I have just mentioned. They have their seat in the anterior wall of the abdomen, and are sometimes very hard to detect by the inexperienced examiner.* If the swellings are situated in the lateral parts of the abdominal wall they are often yet more difficult to discover. It is then necessary to turn the patient over to the side opposite the one in which the supposed deposit is seated. In this way, the bowels falling over to the other side, the muscles are thoroughly relaxed, and the examination is made easier. These masses, in the same way as deposits of myositis and panniculitis seated in the wall of the chest, can produce intercostal neuralgia, may give rise to gastralgia, symptoms simulating chronic gastritis, enteralgia, cystalgia, and even pain in the region of the ovary, thus simulating ovaritis. Four years ago I treated in this city an elderly lady, who, in addition to a dull pain in the lower part of the abdominal wall, complained of a very frequent micturition and constant vesical pain. Fortunately for my patient, the indurated nodules, discovered in the lower part of the abdominal wall were superficial, and easy to get at. After six weeks' massage, when almost cured, she was obliged to interrupt her treatment. She was then able to attend her business (ticket-receiver), as well as before. I saw her a few months afterwards; the improvement persisted, and was even more decided. This fact seems to confirm an opinion supported by Hartman,[11] according to whom cystalgia is very often of reflex nature. Since coming here from Europe, I have treated not less than three cases where the symptoms due to muscular inflammations in the epigastrium simulated a stomach affection, and had been treated as such. While trying to get at the stomach, in order to examine it, the patient complained of a very marked pain in the abdominal wall, contracting it beyond measure. At the same time I discovered, seated in it, and in the rectus muscles, a hard, big lump of rather flat form, the size of which in one case was that of the hand of a child. The usual internal treatment applied had, of course, been without effect (in one case the stomach had been washed out by a stomach specialist for several weeks). The treatment of the deposits with massage was followed by a permanent disappearance of all symptoms attributed to an idiopathic stomach trouble. I have already alluded to the frequency with which a muscular inflammation or panniculitis in the right side of the abdominal wall is mistaken for acute or even chronic appendicitis. Here it is particularly necessary for the physician to be very cautious, and exhaust all diagnostic resources. In the following case an error might easily have been made had the consulting physician been less on his guard. Some years ago I was called to see a gentleman who complained of a rather dull pain in the right side of the abdomen, which made it impossible for him to lie on this side. One of the best known surgeons of this city declared that the affection had nothing to do with appendicitis, but was unable to diagnose the real nature of the disease. On examination it was not difficult to discover in the right hypogastrium, seated in the integument, and in the neighborhood of the appendix, a swelling, forming a rather flat lump, and of the size of a silver dollar. It was very elastic to the touch, but the patient complained of a great deal of pain on pressure. I made the diagnosis of panniculitis, but having massaged the lump for a while, and reduced it in size, I found that, not only the adipose tissue but the underlying muscular layer also was involved in the formation of the lump, so that there was a combination of myositis and panniculitis. After massage (slight friction), had been applied for three or four weeks, the deposit disappeared. The patient is now able to lie on one side as well as the other, and has since then been entirely rid of his trouble. Of all cases of myositis affecting the trunk, the most annoying are those in which the trouble is located in the abdominal wall. Not only do they give rise to difficulties in diagnosis, but they are also very difficult to overcome; their treatment is painful; the deposits move under the finger, because the mass of intestines is continually shifting. We can only obtain a relative fixation of the parts by telling the patient to hold his breath as long as possible.

Upper Extremities.—Myositis of the shoulder and the arm. Chronic myostis is very frequent in the arm. It is often found in the deltoid muscle, and then almost always in the neighborhood of its insertion into the humerus, with a tendency for the pain to radiate down the arm into the hand.* Besides this, I have found it affecting all muscles of the arm except the biceps, this one being the seat of traumatic myositis only. In the forearm myositis much more frequently affects the muscles that are inserted into the external condyle (extensors and supinator longus), than those inserted into the internal condyle (flexors and pronator longus). With regard to this I report here a case of great interest. M. S., 24 years old, native of Germany. Very robust and healthy looking. Experienced, at the age of eighteen, pains in the upper part of the right arm; the physician consulted made the diagnosis of rheumatism. In the spring of 1893, the pains became very violent, but yielded for some weeks to treatment by massage, electricity and saline baths. In the autumn of 1894 the pains reappeared, and with greater violence than they had ever done before, so that the patient was not free from them even during the night. In this state I found the patient, when he came to see me in Ragatz, the following summer. The previous winter a well-known surgeon had advised him to undergo an operation, which was declined, in the belief that there had formed in the muscle a scar, after possible rupture of some of its muscular fibers. The pains were of a dull character, and not always of the same intensity; they were particularly violent at the approach of cold and damp weather. They were always confined to the same spot, and did not radiate along the arm. The patient also complained of weakness in his arm, which was steadily increasing, so that finally he could only move it with difficulty. The weakness had, when I saw him, developed to such a degree that he was unable to raise even light weights, such as a glass of water, or he would drop it after some moments. Penholders or similar light objects dropped out of his hand with ease. On account of this affection he was pronounced unfit for service by the military authorities, and was exempt from military duty. On inspection no external difference could be detected between the two shoulders. On palpation the right shoulder felt a little flabby. In the lower part of the shoulder, not far from the inferior insertion of the deltoid muscle, and seated rather deeply in its substance, there were two different deposits of myositis. The larger one of these was situated not far from the external border of the muscle (it was of the size of a walnut), whereas the other one, smaller and flatter, was located a little lower down. Both were in the last stage of the disease; that is to say, in the stage of induration; painful only on strong pressure. As I had only three weeks at my disposal before leaving Ragatz, I was obliged to resort to two sittings a day (during the last six days up to three sittings), and to work very energetically. Even after one week the patient felt a little better, and could pass the night without being much disturbed by pain. When I left him he was quite well, and had not felt any pain for about a week. He also maintained that the former strength of his arm had entirely returned. Two years afterwards I received word from him, learning, with pleasure, that his condition left nothing to be desired. That writer's cramp is most often due to chronic myositis of the arm, and particularly to that of the forearm and the hand, I have shown in an article published in the *New York Medical Journal*, March 12, 1904, and I refer the reader to this publication.

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*This is particularly the case when the patient is very fat, or sensitive to touch, as we find especially with hysterical subjects.

*Sometimes I have observed myositis of the deltoid giving rise to symptoms in distant parts of the arm, just as muscular inflammations in the neck do in the forehead. But here they more often assume the character of paresthesia or something like a partial paralysis. According to the greater or less proximity of the myositis, one or the other of the nerves inervating the arm and the hand is affected. How many times have I met persons who complain of numbness, formication, pricking sensations, etc.,

Lower Extremity.—Myositic deposits are found in all the gluteus muscles, but while relatively rare in the gluteus maximus and minimus they are of most frequent occurrence in the gluteus medius. Myositis of the psoasiliac muscle is rather rare, and I have already reported one of the very few cases I have seen during the very long time I have practised massage. I am now going to speak of the relation existing between sciatica and myositis in the gluteus medius or the peroneal muscles. Rheumatism produces in many cases of sciatica a special myositis, which comes on either before or after the neuralgia or the inflammation of the nerve itself, or simultaneously with it. I have carefully examined all the muscles situated along the upper course of the sciatic nerve, and to my great surprise only one of these seems to be the favorite seat of the concomitant myositis. It is the gluteus medius, and particularly that portion of it which corresponds to its upper insertion. If, however, we follow the course of the nerve downward, we sometimes notice deposits in the calf, on a level with the peroneal muscles. The deposits may extend along the entire length of these muscles, but their maximum development is most often found towards the lower insertion of the muscle. This explains, in my opinion, the particular pain which persons, affected with sciatica, real or not, very often complain of in just this last region. It is difficult to determine which one of these two phenomena, neuralgia or myositis, is first produced. Sometimes they are simultaneous, the same cause, namely, rheumatism, provoking each of them. At other times, at the onset, the nerve alone seems to be affected, but the muscle or muscles soon become involved in their turn. Finally, in certain cases I have noticed that the gluteus medius or the peroneal muscles were alone affected, and that myositis produced all the symptoms which are generally attributed to sciatica alone.* This may account for the fact that in many cases we are liable to err and that, if we were to diagnosticate the inflammation of the gluteus medius from the very beginning, we could succeed in impeding its further development by appropriate treatment, and thus prevent the propagation of the irritation to the sciatic nerve. In these cases a real compression may be produced by the inflamed muscular fibers, analogous to that sometimes, although rarely observed, in cases of tumor or foreign bodies (hard excrements) pressing on the same nerve, and giving rise to sciatica. I have had to treat, and with success, a certain number of cases in which I have used only massage on the muscle proper, without paying attention to the nerve itself. In one person, among others, laid up for six months, and in whom all classical means had been employed, I was able to obtain complete cure in less than six weeks by this procedure alone. In this case the sciatic nerve did not present more than physiological sensitiveness on pressure, but pressing on the muscle in the neighborhood caused the patient to scream out, and leap in the air, to the great surprise of the patient himself, and of the physicians who were called in consultation with me. This peculiarity is most frequently not noticed, but nevertheless it plays a most important part in the treatment. Many cases of sciatica remain uncured, because the possible presence of a myositis

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in the hand, when the real cause was a muscular inflammation of the deltoid. I have treated several cases of this kind, but I remember particularly a lady who consulted me some years ago, and whose only complaint was a most unpleasant sensation of cold with formication in the thumb and its two adjoining fingers. I found a lump in the deltoid muscle pressing slightly on the radial nerve without producing any abnormal sensation in the muscle itself. Various treatments applied, in the neighborhood of the hand had been employed without any success, whereas massage and suppression of the myosotic deposits in the above muscle brought about a permanent cure. I have also seen the same phenomena produced in the lower extremities.

*To this last pathological condition I have given the name of false sciatica.

developed in the neighborhood of the sciatic nerve has not been taken into consideration. Moreover, it is well to remember that this muscular inflammation may exist at the beginning only in the form of a simple puffiness, hardly perceptible, and slightly sensitive to the touch, and quite frequently very difficult to detect by an unpractised finger. What I have just spoken of refers only to myositic deposits. But it is not out of the ordinary to find deposits, giving rise to false sciatica, that are of a mixed nature like those formed in other parts of the body. Some of them may correspond to those of an exclusive myositic origin, whereas others are found to be of a panniculitic nature, and still others, these more rare, exhibit in the same nodule the presence of both these varieties. This is distinctly shown by the following case which I report here on account of its great interest. A young nurse, who was last year (1903) operated upon (digital stretching) for sciatica without avail, was sent to me last spring by Dr. Schwyzer of this city. On examination, I found not only a big mass of exclusively myositic origin in the gluteus medius, and seated close to the spot where the sciatic nerve emerges from the pelvis, but also one in the same muscle a little lower down, and of a mixed nature (myositis and panniculitis). Moreover, there was another deposit, this one of a more soft consistency than the others (panniculitis), situated in the fossa poplitea, and pressing on the external branch of the sciatic nerve. Furthermore, a rather hard lump (myositis) was discovered in the lower portion of the long peroneal muscle. No difference in the size of the lower extremities was noticeable, but the one corresponding to the side where the affection was seated felt distinctly more flabby than the healthy one. When, after six weeks of massage, I was obliged to interrupt the treatment on account of my departure for Europe, the patient who had been suffering a great deal, and could walk only with difficulty, limping a great deal, was in greatly improved condition, and could sometimes walk without any pain for days, excepting the discomfort felt in the popliteal region. Most of the lumps had disappeared. When I saw her again (end of October last), she told me that she had passed a rather good summer; that she scarcely felt anything in the upper region of the sciatic nerve. The only noticeable trouble that remained was the above-mentioned pain in the popliteal fossa, particularly in wet weather. This caused her to limp a little again, but after a month's treatment this pain also became very slight.

Myositis in the thigh nearly always has its seat in the quadriceps muscle. Sometimes it is also found in the aductors. It is then almost always of traumatic origin, and we see it from time to time in those who ride horseback. It is very frequent in all the muscles of the leg, and is especially so in the muscles in the region of the tendo-achilles, where its favorite seat is the inferior third and inner side of the muscles forming the lower part of the calf, the pain often radiating upwards into the calf, and sometimes into the whole leg. These last deposits generally occasion swelling of the adjoining parts, especially in the evening, when the patient has been standing or walking a great deal during the day; the tumefaction then often constituting a real cushion, which very frequently gives rise to a wrong diagnosis, as I have already mentioned. I have seen enormous swellings of this origin, with deformities of the leg, as a consequence of this disease, and time and again I have observed that the invalid, dragging his leg, was obliged to give up walking after only a very short time. Massage is very painful in these cases (particularly on the internal side), but always yields the most satisfactory results. Besides the patient whose case I have reported, among a great number of others, I recall one in particular, namely, a chambermaid, whom I treated several years ago in Paris. During the greater part of the day this girl was obliged to stand. The swellings had assumed such proportions that her legs, which were quite well formed by nature, had taken an almost cylindrical shape. When she came under my observation she was about to leave her position, on account of the disability. After more than two months' daily energetic massage (she had two big, hard lumps on one leg, and three on the other), she was relieved of her swellings, and the legs had regained their natural form. She was then able to walk as well as before, and has since always remained well. The not very rare affection named *tarsalgia* or *talalgia,* characterized by a pain in the region of the heel, and on which Dr. Vincent has of late published a very good article in the *Semaine Medicale* is, in my opinion, often due to a chronic myositis seated in the plantar muscle, corresponding to its insertion in the heel. In these cases massage yields a most satisfactory result. as also in those not infrequent cases where a deposit in the sole of the foot has been taken for a flat foot. Lastly, I will add that muscular inflammations of the leg, and particularly those of the calf, are sometimes a cause of lack of steadiness of the ankle joints, the muscles, like those fallen into atrophy, on account of their diseased and weakened condition not being able properly to hold together the respective extremities of the bones that constitute the joint. These are often disposed to separate, and often give rise to sprain.

When examining it is of great importance to relax the muscle one is palpating, as otherwise it may sometimes be difficult to differentiate a muscular inflammation, particularly in its initial stage, and a normally contracted muscle. To that end, I speak here only of the limbs; one must tell the patient not to contract his muscles. The arm should be supported by the left hand of the physician. The muscles of the leg become sufficiently relaxed for our purpose if the patient is lying on a couch or is sitting in a chair, his heel resting on another chair.

As concerns the treatment of chronic myositis, I think we can do no better than to reproduce what Dr. Adler says in the above-mentioned article. "The well-known hot baths and springs, electricity, the internal administration of iodides, gymnastics, and the host of other remedial schemes that have been recommended, will produce no lasting result. It is safe to say that they will scarcely touch the local lesion, which is our main objective. The rheumatic infiltrations and indurations can be best dealt with by proper massage." Rheumatism constituting a predisposing cause of chronic myositis, as already mentioned, it is useful to supplement massage by thermal baths, administered when the massage treatment is over, and in order to prevent relapses. Among all affections amenable to massage, there is, I think, none which taxes the patience of the patient as well as that of the masseur, so much as the treatment of well-developed deposits of myositis. This is particularly the case when one has to deal with a mass which has reached the last degree of development, a muscular induration. Such a one, sometimes of the consistency of cartilage, may, particularly in old people, demand up to two or three months' energetic treatment before it has entirely disappeared. In order to prevent relapses one should, if possible, continue the treatment until palpable changes are completely removed. As I have already mentioned, this rule is subject to exceptions, as in young people one may, without harm, leave a small residue, which by massage has been reduced to a soft condition, in the hope that nature will remove it.

The treatment comprises friction, more or less energetic according to the consistency, or, what is the same, the age of the deposit. Where the muscles are accessible to petrissage, as in the upper border of trapezius, this manipulation should be employed. For massage of the muscular deposits the thumb exclusively is used, and the development and strength of the latter plays a most important part in the treatment of a chronic myositis, the success depending greatly upon this circumstance.

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RADICAL OPERATION FOR THE REMOVAL OF A BULLET WEIGHING 70 GRAINS, EMBEDDED IN THE INTERNAL WALL OF THE MIDDLE EAR, WITH DECIDED IMPROVEMENT IN THE SUBJECTIVE SYMPTOMS.*

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Foreign bodies in the external auditory canal and cavity of the middle ear are not rare. The former, as a rule, are introduced by the patient in early life, while in the second variety the disturbing element reaches the tympanic cavity by faulty technique. In the third class, to which the subject proper of this brief contribution belongs, the extrinsic element finds its resting place by more violent force.

Among the numerous cases that have come under my personal observation, I mention, in passing, a few instances in which, unskilled manipulation drove a glass bead, a cylindrical piece of glass, a mass of silver foil, and a pebble through the drum membrane into the middle chamber. Infection had occurred and purulent discharge existed at the time of my examination, but this soon ceased after the irritating factor was removed and mild antiseptic irrigation was employed.

In the case of the pebble, the foreign body was found in the middle ear of a boy twelve years of age. It had been in position for over two months and owing to repeated attempts for its removal through the external auditory canal by different physicians the soft parts of the ear were much swollen and inflamed and considerable granulation tissue had formed around the stone, which had buried itself in a pocket at the junction of the membrane tympani with the posterior wall of the external canal. At one of the city hospitals, an incision had been made behind the auricle, but the pebble was not found. It was impossible to locate the object by inspection, but its position was detected by means of the probe. The surrounding granulation tissue bled profusely on being disturbed, and though manipulations with the dull curette were carried out the stone could not be dislodged from its pocket. Desiring to avoid further traumatism, the patient was etherized and an incision made along the auricular attachment over the mastoid. The membranous canal was detached anteriorly, and the pebble, which was about half an inch in length by a quarter of an inch in breadth, was removed quite easily. After curetting away the granulation tissue, the incision was sutured and the canal packed with iodoform gauze. The wound healed kindly and the aural suppuration ceased in a short time. Good hearing followed the closing of the perforation in the drum membrane. This history is cited merely to call attention to the necessity of rather heroic treatment which could have been avoided, if delicate and appropriate technique had been carried out at the first examination.

The following report is the history of the patient from whom this paper derives its title.

Anna S., colored, 24 years of age, presented herself at my clinic at the Manhattan Ear and Eye Hospital, February 4, 1904. She stated that three years ago she was shot in the left side of the head at close range, the bullet entering the skull immediately above the tragus. The weapon used was a 32-caliber revolver and was held within six inches of her head. Following the injury she was unconscious for three or four weeks, and for a lengthy period could not appreciate her surroundings. At the time of the injury an attempt was made to find the bullet, but without success. Vertigo promptly ensued and became so severe that the patient was unable to stand alone. (This symptom existed up to the time of the radical treatment.) Facial paralysis of the left side soon followed the injury, and at the time of my initial examination was quite in evidence, though the patient informed me that her face was much better than three years before. Suppuration of the left ear developed shortly after the shooting, though pain in the ear was not a disturbing element. The discharge became bloody and foul-smelling after a time, but no retention symptoms were observed.

With the good ear closed, the watch could not be heard at all with the left ear, but the loud voice was faintly understood. Bone conduction was decidedly positive. Inspection of the soft parts revealed a small scar, pale in color, just above the tragus. The external auditory canal was obstructed by a pale pinkish round tumor, which almost closed the opening. The growth was fibrous in its resistance to the probe, and foul-smelling pus escaped around its free surfaces. As it was impossible to see beyond the growth, the latter was immediately removed with the aural snare under cocaine anesthesia and adrenalin. The fibrous polyp was almost an inch in length and half an inch in breadth at its anterior surface. Free bleeding followed and was arrested only after tight packing with sterile gauze. Examination then showed a large perforation of the posterior half of the tympanic membrane, the edges of which were covered with granulations, and the opening in the drum seemed to be filled with a darkish mass which resembled a blood-clot. On closer observation, the substance appeared of a bluish color and gave a distinct metallic sound to the probe, showing it to be the bullet *in situ*. The leaden mass extended behind and above the posterior and superior boundary of the annulus tympanicus. It was impossible to move the flattened bullet from its position by means of a strong pair of forceps or a curette, though considerable force was used. I only succeeded in bringing away small chips of lead. The foreign body was embedded in the internal wall of the middle ear, causing pressure on the cochlea, horizontal semicircular canal, and facial nerve.

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*Read before the Harlem Medical Association, February 1, 1905.

The radical operation was performed about two weeks after the first examination, as the patient was presented at the Otological section of the Academy of Medicine with the bullet in position. The usual incision was carried along the auricular attachment over the mastoid process, and on elevating the periosteum small dark spots were seen over the bony surface where particles of lead had spattered as the molten mass had entered the skull. (The direction of the bullet must have been downward and backward, as the anterior surface of the middle ear was found free from lead.) The mastoid opening was kept close to the posterior canal wall until the antrum was entered. No pus was found in this cavity, but quite some granulation tissue was curetted away. The bridge of bone separating the canal and middle ear from the mastoid antrum was then removed, revealing the large mass of lead occupying the posterior surface of the internal wall of the middle ear. The remaining portion of the drum membrane, together with the diseased malleus and incus, was extirpated. After repeated unsuccessful attempts to lift the bullet from its bed I employed the chisel and mallet in a cautious manner, to avoid entering the cochlea and semicircular canal. By this method I was able to procure seventy grains of lead which came away in shavings. Some of the smaller pieces were lost in cleansing the cavity. The remaining coating of lead was taken away by means of the bone spoon. After thoroughly removing existing disease in the middle ear, the usual Koerner meatal flap was placed in the posterior bone opening and the skin wound sutured. Iodoform gauze was placed in the auditory canal.

There was very little reaction following the operation and though two stitch abscesses occurred in the upper portion of the wound, the healing continued without further annoyance. About the fifth day the patient was able to sit up in a chair and volunteered the information that her dizziness was much better. There was some aural discharge for three weeks after the surgical treatment, and same was treated after the dry method with good result. No evidence of lead was seen along the superior or posterior canal walls, proving that the bullet must have found its way along the free meatus to its final resting place. Two weeks after operation the ordinary speaking voice was plainly heard in the ear, with the good ear closed. The patient was able to walk quite well without support, an act she had not been able to accomplish since the injury three years before. The facial paralysis was slowly improving without additional treatment.

The interesting features in the above case is the presence of a foreign body (32-caliber bullet) lodged in the internal wall of the middle ear for a period of over three years, causing chronic suppuration, tissue proliferation, facial paralysis, and marked disturbance in equilibrium *without* more serious complications. When we consider the relative distances from the middle ear cavity to vital structures, it is surprising what active protection nature's resistance exerts at all times. Here we have an instance of a wound at close range, from a large caliber revolver, with but local disease and symptoms that may be assigned to direct pressure from the foreign body. It is but another corroboration of the anatomical truism, that a negro skull *does* withstand considerable traumatism without serious sequences. Had this injury been inflicted upon a Caucasian skull, a similar report of the case would surely never have been recorded.

58 East Seventy-Fifth Street.

AORTIC REGURGITATION WITH CHRONIC MILIARY TUBERCULOSIS IN A MAN TWENTY-TWO YEARS OLD.

By MEDWIN LEALE, A.B., M.D.,

NEW YORK.

On July 5, 1904, the following case came under my care at the Roosevelt Hospital, Out-Patient Department. Charles O'L., age 22 years, single, a native of Italy, a salesman by occupation, came to me with the following history: Family history excellent so far as could be ascertained. Four years ago he had an attack of acute articular rheumatism. He also had a bad cough about four years ago, which lasted several weeks, and during which time he spat up a few teaspoonfuls of bright red blood. Between this time and another attack of cough, two years ago, he informs me he felt perfectly well. This second attack of cough lasted somewhat longer than the first, he expectorated more abundantly, and had another hemorrhage, perhaps larger than the first. His habits of life have been excellent. He is temperate, and gives no venereal history.

Present illness: For the past three weeks he has had a troublesome cough, with mucopurulent expectoration, which at times was tinged with blood, but has had no large hemorrhages. He has not been troubled with night sweats, nor has he lost any appreciable amount of flesh. He has had no headaches, no dizziness, no flashes of light before the eyes, but has, however, been troubled with slight dyspnea, palpitation, and oppression on exertion. He has had no attacks of angina pectoris, nor anginoid pains of any sort. He has had no swelling of the feet. His appetite has been rather poor, but his bowels have been regular. In fact, his general condition has been very fair, and he now comes to consult only about his cough.

Physical examination: A man rather under the average height and weight, although fairly well nourished. The color of his skin is rather pale, as are also his mucous membranes. There is no distinct cyanosis. There is a very noticeable pulsation of the peripheral arteries, especially the carotids, temporals, brachials, and radials. The capillary pulse is well marked. The pulse is of large volume and collapsing (Corrigan pulse), but regular and of proper frequency. The arteries are not thickened to any appreciable extent. On inspection of the chest there is noticed a diffuse heaving impulse of the whole præcordium. On this account it is difficult to locate the apex, which appears to be in the lower part of the fifth interspace, about one and a half inches outside the mid-clavicular line. On palpation, besides this heaving impulse over the lower præcordium, a diastolic thrill is imparted to the palpating hand above the middle of the sternum. On percussion the area of cardiac dullness is increased downward and to the left, and somewhat to the right of the sternum, though to a less marked extent. On auscultation over the second right interspace a harsh, high-pitched diastolic murmur is heard, which is transmitted downward. The second sound is indistinct and hard to isolate from the murmur, which occupies a greater part of the diastole. Over this same area, the second right interspace, a rough systolic murmur may be heard, which is transmitted upward into the neck. At the apex a rather loud presystolic murmur is heard, in all probability the so-called Flint murmur.

On examination of the lungs, the expansion of the upper part of the left lung is found to be not so good as that of the right side. There is little appreciable change in fremitus on palpation. On percussion there is considerable dullness over the left apex in front and behind, and on auscultation the breathing is feeble and numerous fine crackling râles are heard. A specimen of the sputum showed numerous tubercle bacilli.

This case seems of special interest, as the combination of aortic regurgitation and chronic miliary tuberculosis appears of rather infrequent occurrence. It is also rather unusual to see a case of well developed aortic regurgitation in so young a subject, most of the cases occurring in those of middle age or who have passed the prime of life, in whom there is often more or less arteriosclerosis. Whether in this case the valvular lesion was secondary to the miliary tuberculosis, being part of the tubercular process, forming tubercles on or near the segments of the valve, or whether it was an entirely distinct pathological process can, of course, only be cleared up by necroscopy. In support of this hypothesis Tripier claims, although on more or less theoretic grounds, that acute tuberculous endocarditis is nearly constant in cases of general miliary tuberculosis, and we are also familiar with the results obtained by Michaelis and Blum, who demonstrated the presence of tubercle bacilli in lenticular growths on the valve segments in rabbits suffering from tuberculosis. Demme, Mariani, Pollack, and others have demonstrated tubercle bacilli in heart tuberculosis.

107 West Seventy-fourth Street.

A CASE OF CICATRICIAL STRICTURE OF THE ESOPHAGUS.

By A. B. Atherton, M.D., L.R.C.P. & S. (Edin.).
Fredericton, N. B., Canada.

As cases of cicatricial stricture of the esophagus are uncommon, and their treatment often difficult and more or less unsatisfactory, I have thought that the report of one which has recently been under my care might be of some interest.

W. B., age 26, male, first came to me for treatment on October 27, 1903, with the following history: Five months before he had swallowed some lye by mistake for whiskey. The usual pain, dysphagia, etc., followed. At the end of three months his condition became so serious that he resorted to one of our provincial city hospitals for treatment. He says a tube was passed down his throat a few times and his "stomach washed out." Deriving no benefit, he returned home after three weeks.

When first seen by me he was very much emaciated, and could swallow liquids only through a glass tube. Any attempt to drink from a cup would set up a severe fit of choking and coughing, while most of the liquid was regurgitated.

On passing a probang, I found that it brought up at the lower end of the esophagus, but I succeeded in getting an olivary French bougie of about two millimeters diameter through the stricture. In the course of a week about double this size could be introduced, but after this no effort of mine enabled me to increase the amount of dilatation. He was then, however, so far improved as to be able to drink slowly from a cup without choking.

November 19: Chloroform being given by Dr. McGrath, I opened the abdomen and drew up the stomach. After packing around with gauze, I cut into the stomach in the line of the abdominal wound and washed it out with boiled water. Then I tried to pass an olivary bougie from the mouth to the stomach, but did not succeed, largely because it was too flexible, I think. I therefore took the whalebone handle of an ivory probang and covered the rough end with a short piece of small rubber tubing secured by a silk thread wound around it, and was able to pass this through stricture. On bringing the end out of the stomach wound, I tied a stout silk plaited cord to it and withdrew them through the mouth. Then fastening this cord, by means of a silk thread to the tip of a French olivary bougie of 4 millimeters, I drew upon the end of the cord below until bougie and cord appeared. With these occupying the esophagus, I drew them back and forth a number of times. I then tried to get a larger bougie in alongside of the silk cord, but failed, the stricture not having yielded to any extent.

I now therefore left the silk cord and bougie *in situ*, and closed the wounds in stomach and abdomen.

After a few days' continuous dilatation, a larger bougie was easily got in, and by the end of ten days a No. 22 French bougie passed.

December 1: On leaving out the bougie for fifteen or sixteen hours, it was found that considerable contraction had taken place, and I resumed continuous dilatation, the instrument being removed for two good meals in the twenty-four hours, which were taken readily and with much relish.

December 15: Is able to be out of bed. Abdominal wound all healed. Gaining rapidly in flesh. A solid red rubber bougie, about a foot in length and slightly tapering at its lower end, is kept most of the time in the esophagus. It is one centimeter in diameter, and its upper end lies at the junction of the pharynx and esophagus, and is secured by a silk thread fastened to a tooth or one ear.

December 19: Patient left for his home, 100 miles away, wearing the bougie, and able to withdraw and introduce it himself.

On March 19 following, he returned to me because he had failed to pass his bougie after leaving it out several hours. I was able to introduce at once a somewhat smaller one, and in a day or two the former size. He then returned home.

I heard from the patient in November last. He is obliged to continue the daily use of bougie, otherwise the stricture soon contracts.

It is, I think, doubtful whether any better method of dealing with an obstinate cicatricial stricture of the esophagus can be employed than this one of Abbe's. A small rubber tube drawn through the esophagus on the stretch and left there to cause dilatation by its elasticity, is said to answer very well in opening up the strictured portion, after a preliminary gastrotomy. In our case, however, after the use of the cord and bougie in a seesaw fashion, dilatation was effected as readily and quickly as one could wish by retaining the ordinary olivary urethral bougie in the canal. Previous to the use of the string, no headway of any consequence was gained, while subsequently dilatation of the stricture went on easily, even though at the time of operation not much, if any, larger instrument could be got through it. I suppose the friction set up a softening process, which allowed the dilatation to take place afterwards.

Although one in this man's present condition cannot be said to have a very comfortable life, still we think he is in a much better state than one who has undergone a gastrostomy and is obliged to feed himself through a gastric fistula.

MEDICAL RECORD.

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THOMAS L. STEDMAN, A. M., M. D., EDITOR

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THE JUBILEE OF LARYNGOLOGY.

On the seventeenth of the current month, Señor Manuel Garcia, for many years a teacher of singing in London, where he now resides, and the first man who ever saw fully the interior of the living larynx and the vocal cords in action, will celebrate his one hundredth birthday. This month is also the semicentennial of laryngology. This is not the first instance in which medical science has been benefited by the work of one not directly connected with it, or in which the direct results of a discovery have been overshadowed by the indirect. Many investigators before Garcia's time had endeavored to obtain a view of the interior of the larynx in the living subject, but most of them had been working from the standpoint of the anatomist, or had looked upon their task as an interesting problem in physics. Some of them had come very near success, but no one of them had solved the problem in the sense in which we understand laryngology to-day. Garcia seems to have been unaware of these previous attempts, or if he did know of them they did not condition his own thinking. He apparently took up the question solely from the standpoint of the teacher of singing, who was naturally desirous of viewing the structures so closely related to his own life work. Almost as an inspiration, the conception of the physical laws involved came to him. Assuring himself of the practicability of his own ideas, he presented, in due time, his memorable paper to the Royal Society.

The early years of the new science were somewhat unpromising. The profession was largely hostile to its claims, and it was not until Czermak made his brilliant laryngological demonstrations in the medical centers of Europe, that it was fully realized that a new specialty had been created.

While every specialty has been accused of extreme views and of a tendency to detach itself from general medicine, there has been in each instance a faithful band of adherents, which has never forgotten that the whole is greater than any one part, and which has insisted that a specialty can never separate itself from general medicine without results disastrous to both. So it has been in laryngology, which has made illuminating contributions to general medicine.

The technical directions laid down by Garcia for laryngoscopy, were the solution of a long-debated problem. At first his "little mirror on a long handle" was regarded more as a physiological toy than as a key to the understanding of diseases of the larynx and the establishment of the latter on a logical basis of pathology and classification. But the great value of the laryngoscope soon became apparent, and it was seen that its revelations were likely to clear up some of the uncertainties of general medicine, particularly with reference to the question of nerve distribution in the larynx, and muscular action in this general area. From this beginning has grown an orderly branch of medical science with its own special literature, institutions, and teachers. With the passing years the work of Garcia has been seen in its true relations. Happily he has lived to see it fully appreciated, and has reaped the reward of his labors amid the applause of his own day and generation.

It is also a pleasing thing to view the cordial relations which have always existed between him and the London profession. By it he has been and still is highly esteemed. He has shared indirectly in many of its triumphs, and has been the recipient of much honor at its hands. On his part he has contributed in addition to his great discovery, the endowment of a charming personality, a mind with undimmed recollections, and a marvelous physical and mental activity which have made his later years, not a tedious waiting for the end, but a time of active interest in the world's affairs. To him the MEDICAL RECORD extends its heartiest congratulations. Not a false note has sounded in the acclaim which has come to him from all the quarters of the earth. It has been sincere, spontaneous, and unrestrained, and all know that the kindly feeling is cordially reciprocated by the great master.

THE HOME AND THE TUBERCULOSIS PROBLEM.

The first annual report of the Henry Phipps Institute contains a series of addresses on various phases of the tuberculosis problem delivered under the auspices of the Institute.

Dr. William Osler, on December 3, 1903, in one of these addresses, considered the home in its relation to the tuberculosis problem. The fact is being borne with increasing force upon all earnest students of the tuberculosis problem, that the home is the stronghold of the disease, and that in order to fight it with any hope of ultimate success, it must be met and grappled with in its strongest fortress. Of course the most radical and iconoclastic plan would be the most effective, that is, to destroy all rookeries and unhealthy buildings, and to erect in their stead airy, well-ventilated, and well-lighted buildings. So long as overcrowding and living under obviously unsanitary conditions are allowed it will be impossible entirely to eradicate consumption. In the course of time, when the mass of the population is educated to that point, unhealthy buildings will disappear. This result, however, will not come at once, but will be a matter of years. In the meantime physicians must do their best with the tools at hand.

Dr. Osler gives the following suggestions for a plan of campaign against consumption: (1) He would institute an educational health campaign in the homes. (2) In all cities a compulsory notification of cases should be enforced. (3) In most cities the powers of the Health Boards should be greatly enlarged, so as to deal efficiently with the question of proper disinfection of the houses occupied by tuberculous patients. (4) The question of the housing of the poor needs attention, particularly in the matter of proper control of tenements, and the regulation by law of the number of persons in each house. (5) By placing upon the landlord the responsibility of providing, under the control of the Board of Health, a clean, wholesome house for a new tenant, much good may be effected. (6) The wholesale condemnation of unsanitary streets and blocks, and the rebuilding by the municipality, as has been done in Glasgow and elsewhere, is an essential factor. But as has been said before, such changes must of necessity come slowly, and at the present time a large majority of all tuberculous patients must be treated at home. Dr. Osler points out that in the warfare against tuberculosis the man behind the gun is the general practitioner. The battle cannot be won unless he takes an active, aggressive, accurate part. Two facts must be impressed upon him: (1) That early recognition of the disease can come only from better methods of practice and greater attention to the art of diagnosis. (2) The necessity for a more masterful management of early cases. An early and accurate diagnosis is perhaps the most essential feature of a successful crusade against consumption. This matter has been thoroughly threshed out in recent years.

The second point referred to by Dr. Osler is of almost equal importance. Many medical men when they have to do with a case of pulmonary tuberculosis in an early stage, treat solely by drugs. Dr. Osler states plainly that it is his firm conviction that more tuberculosis patients are injured than helped by drugs. "It is not so much that the drugs do harm per se, but that weeks of priceless value are lost in trying to check a cough and quiet a fever in a patient who is allowed to continue his work and is up and about." Home treatment carried out in a rational manner can and will effect much in cases of consumption in the early stage. The author mentions the following as essentials in this home treatment of consumption in the small towns, country places and the suburbs of our large cities: (1) The confidence of the patient, since confidence breeds hope; (2) a masterful management on the part of the doctor; (3) persistence—benefit is usually a matter of months, complete arrest a matter of years, absolute cure a matter of many years; (4) sunshine by day, fresh air night and day; (5) rest while there is fever; (6) breadstuffs and milk, meat and eggs.

There is no doubt that home treatment of consumption, before the disease has gained too strong a hold upon its victim, can be successfully carried out in small towns, country places, and the suburbs of our large cities. There nevertheless still remain the most fruitful sources of dissemination to be dealt with, viz., the crowded parts of large cities. Home treatment may effect some good even under these conditions, but unfortunately it is but a drop in the bucket. Pulmonary tuberculosis will increase and multiply, until the poor of great cities are provided with healthy homes and overcrowding it strictly prohibited. Sanatoriums erected in the country for the treatment of indigent city patients suffering from consumption in its early stage would be a step in the right direction.

The question of extirpating consumption is after all a state and municipal one. Municipalities should provide decent dwellings for the poor, and cities and states should build sanatoriums for the same class. Such a movement would be economical in the long run, for it is the only means whereby consumption can be driven out, and it is needless to insist that the abolition of consumption or even a great lessening in the prevalence of the disease would be an economical measure of the first rank.

ALTERATIONS IN THE HEART FOLLOWING ATTACKS OF ANGINA PECTORIS.

The exact mechanism of the attack of angina pectoris is not clearly understood, although it is believed to be related to the contractility of the heart muscle. The lesions commonly observed after death consist in sclerosis of the coronary arteries, with or without infarction or softening or degeneration of the myocardium. On the other hand, it is not generally appreciated that the attack may be followed by demonstrable changes in the heart. Dr. W. Kernig (*Berliner klinische Wochenschrift*, January 2, 1905) recognizes several groups of cases in which such changes may be observed. These cases are always severe with reference to both the intensity of the pain and the duration of the attack. In the first group a mild febrile state develops in conjunction with demonstrable increase in the area of cardiac percussion—dullness as compared with the size of the heart before the attack. In the absence of other cause of fever, the elevation of temperature may be attributed to softening or inflammation of the myocardium. The second group comprises cases in which, with or without fever, obvious changes in the heart referable to dilatation of one or another cavity make their appearance under the eye of the observer. In the third group are included cases in which acute pericarditis develops in the sequence of an attack of angina pectoris. Although this condition has received but little clinical consideration, it has long been known anatomically. Its occurrence is attributed to the invasion of the pericardium by bacteria from the area of myocardial softening or infarction or abnormal perviousness of the smaller vessels. Mural endocarditis secondary to areas of myomalacia in the sequence of attacks of angina pectoris has likewise been reported. A fourth group of cases may be distinguished in which in the absence of evidence of changes in the heart demonstrable by physical means symptoms of functional derangement make their appearance, such as diminution in the amount of urine and the development of edema. In view of the foregoing facts not alone should patients suffering from angina pectoris be kept under observation for some time after an attack of any considerable degree of severity, but they should also be enjoined to secure complete physical rest in bed for days and even for weeks in order to avert a fatal termination.

Flies and Enteric Fever.

Major A. R. Aldridge, R. A. M. C., writes in the December issue of the *Journal of the Royal Army Medical Corps*, on flies as factors in the spread of typhoid fever. He points out that the disease is markedly more prevalent in those armies in which dry methods of removal of excreta are in use, than in those in which water carriage is employed. Greater prevalence of the disease is to be noted in armies on active service and in countries such as India, where dry methods are universal, and a difference is most apparent in the numerous places in Europe where the two methods are in force side by side.

Major Aldridge thinks that the reason why mounted corps suffer more from enteric fever than dismounted, is that flies are more numerous in the lines of mounted than in those of dismounted corps, owing, no doubt, to stable litter being a favorite breeding place for them.

Burying excreta, according to the writer, does not do away with the danger of dissemination by means of flies, for in Indian cantonments excreta are buried in somewhat shallow trenches and the common house fly breeds therein in enormous numbers. It seems probable that the eggs are laid in the filth in the latrines, and the larvæ hatched out after it has been put into the ground.

From observations made by Major Aldridge, he concluded that treatment of the sewage in a septic tank would lead to the destruction of the eggs or larvæ as they were hatched out, provided it be allowed to remain in the tank from twenty-four to forty-eight hours.

That flies do convey typhoid fever is certainly well proven, and measures should be formulated and carried into effect to prevent the transmission of disease by their agency. In this connection it would be interesting to learn the methods employed by the Japanese Army Medical Department to prevent the dissemination of typhoid fever. In Manchuria during the summer the weather is extremely hot and flies abound, but we heard nothing last summer and autumn of any widespread epidemic of this disease among the Japanese troops.

SPOTTED FEVER.

THIS disease, which has for many years caused much sickness and a considerable amount of mortality in the Bitter Root Valley of Montana, has been investigated on more than one occasion. The decision arrived at was that it was caused by a pyroplasma, that it was transmitted by ticks, and it originated in spermophiles (popularly known as "gophers"). From the early part of May to the beginning of July, 1904, Dr. Charles Wardell Stiles was engaged in studying the matter from a zoölogical point of view, and has now made a preliminary report, which is published in the Report of the Surgeon-General of the Public Health and Marine Hospital Service.

Dr Stiles has been unable to confirm the former hypothesis as to the origin of the disease. Among the arguments brought forward by this investigator against the tick theory, is that in five of the ten cases seen by him he was unable to establish a history of tick bite. Despite a total of at least one hundred hours' microscopical work on fresh blood, taken at various times night and day from nine cases, he was unable to find any structure which could be interpreted as a protozoon. Certain clinical features of the disease, notably the thickened condition of the blood and the condition of the urine, did not support the view that the disease is due to a pyroplasma.

Dr. Stiles concluded by stating that his work has been negative, so far as cause, treatment, and prevention are concerned, and that with regard to present theories respecting the disease, his results have been entirely of a destructive nature.

NEW ETIOLOGY AND PROPHYLAXIS OF APPENDICITIS.

DR. A. F. A. KING of Washington, in a paper read before the Medical Society of the District of Columbia, November 30, 1904, propounded a novel theory as to the prevalence of appendicitis. According to this theory the cause of the frequency of the disease is the bicycle. Dr. King shows that chronologically the appendicitic era began soon after the introduction of the bicycle, and that the disease has increased in a corresponding ratio with the increase of the use of the wheel. With regard to the modus operandi of cycling in producing appendicitis, typhlitis, and perityphlitis, it was pointed out by Dr. Byron Robinson of Chicago in the MEDICAL RECORD, November 30, 1895—but without any reference to bicycling—that "the psoas muscle may be taken as the standard of reference in regard to the pathological condition of the cecum and appendix"; and again he says, "When favorable pathological conditions arise in the bowel contents, the traumatic action of the motion of the muscle induces microbic invasion through the appendicular wall." Dr. King contends that bicycling brings about such an action of the psoas muscle as to induce the invasion referred to by Dr. Robinson. It is certainly true that appendicitis has been vastly more frequent, or at any rate more generally recognized, since the introduction of the bicycle. The point, however, as to whether the psoas muscle is used in an unnatural manner when bicycling is a moot one. Bicycling has decreased very largely during the past two years, but it does not seem that appendicitis is less common. If, when the bicycle has practically disappeared, appendicitis still holds its own as a popular disease the majority of observers will reach the obvious conclusion that the connection between bicycling and appendicitis is by no means intimate. Apropos of nothing in particular, we may recall the sage observation made by a writer in one of the English medical journals two or three years ago, that the habit of smoking cigarettes and the prevalence of appendicitis had both increased during the past two decades, and consequently it was reasonable to suppose that the former was the direct cause of the latter—or the latter of the former, we forget which.

SALTS OF POTASSIUM AS A PROPHYLACTIC FOR BLACKWATER FEVER.

DR. MATTHEW CAMERON BLAIR, writing from West Africa to the *Journal of Tropical Medicine* for September 1, 1904, gives some interesting details with regard to the use of salts of potassium among the natives of that region and of Central Africa. He draws attention to the fact that a prominent article of barter—perhaps the most prominent—along the numerous trade routes which radiate through Central Africa, is native potash. The natives use it largely and habitually, and as they suffer very rarely from blackwater fever, although, in childhood certainly, they are greatly subject to malarial fever, the writer thinks the comparative native immunity to blackwater fever may be due to this habitual dietetic use of salts of potassium. Dr. Cameron explains the immunizing properties of salts of potassium as follows: "Given a sudden escape of free hemoglobin into the liquor sanguinis through destruction of red corpuscles, it is reasonable to suppose that, given a plentiful supply of potassium, this hemoglobin will at once be utilized for the manufacture of new red blood corpuscles; while, in its absence, the free hemoglobin will escape into the urine." Dr. Cameron advises therefore that these salts should be made a constant element in the dietary of Europeans in the fever districts of Africa, especially if they have already suffered from malarial attacks.

Brilliancy Not Desirable in Surgeons.—Sir Frederick Treves in a recent address said that he had come to the conclusion that men of genius were entirely out of place in the medical profession, where even cleverness is not to be encouraged. Indeed, of all desperately dangerous persons the brilliant surgeon is the most lamentable.

News of the Week.

An Extra Pharmacopeia for America.—The Council on Pharmacy and Chemistry of the American Medical Association announces the preparation of a book, to be entitled "New and Nonofficial Remedies," to contain a description and indication for the employment of the various synthetic and proprietary remedies sold under a trademarked name. Only such drugs and preparations as conform to the following ten rules will be admitted to this semi-official formulary. (1) No article will be admitted unless its active medicinal ingredients and the amounts of such ingredients in a given quantity of the article, be furnished for publication. (2) No chemical compound will be admitted unless information be furnished regarding tests for identity, purity, and strength, and if a synthetic compound, the rational formula. (3) No article that is advertised to the public will be admitted; but this rule will not apply to disinfectants, cosmetics, foods, and mineral waters, except when advertised in an objectionable manner. (4) No article will be admitted whose label, package, or circular accompanying the package, contains the names of diseases, in the treatment of which the article is indicated. The therapeutic indications, properties and doses may be stated. This rule does not apply to vaccines and antitoxins nor to advertising in medical journals, nor to literature distributed solely to physicians. (5) No article will be admitted or retained about which the manufacturer, or his agents, make false or misleading statements regarding the country of origin, raw material from which made, method of collection or preparation. (6) No article will be admitted or retained about whose therapeutic value the manufacturer, or his agents, make unwarranted, exaggerated or misleading statements. (7) Labels on articles containing "heroic" or "poisonous" substances should show the amounts of each of such ingredients in a given quantity of the product. (8) Every article should have a name or title indicative of its chemical composition or pharmaceutic character, in addition to its trade name, when such trade name is not sufficiently descriptive. (9) If the name of an article is registered, or the label copyrighted, the date of registration should be furnished the council. (10) If the article is patented—either process or product—the number and date of such patent or patents should be furnished. If patented in other countries, the name of each country in which patent is held should be supplied, together with the name under which the article is there registered.

A Meningitis Commission.—At a recent meeting of the Health Department of this city, Dr. Darlington was empowered to ask the Board of Estimate and Apportionment for a small sum to pay a commission to investigate the unusual prevalence of cerebrospinal meningitis, and try to find some remedy, to retard, or, if possible, stamp out the disease. In January, 1904, there were twenty-five deaths, while in the same month this year there were 107. In February, 1904, there were twenty-six deaths, while in February, 1905, there were 149.

Yellow Fever on the Isthmus.—In a recent communication to the Panama Canal Commission, Gen. Davis, Governor of the Canal Zone, says concerning the prevalence of yellow fever: "Thirty-three cases of recognized yellow fever have been found on the Isthmus of Panama since last May, and of this number nine terminated fatally. There is one man in the hospital to-day seriously ill from yellow fever; six have recovered. Three new cases have been reported since Feb. 1. The whole city of Panama—and it is only in Panama that the infection exists—is being thoroughly disinfected. Of canal employees and their families coming here from the United States, only four out of some 400 or 500 have been sick from yellow fever, and of this number, one case terminated fatally."

The Status of Christian Science in Ohio.—A decision of the Ohio Supreme Court holds that Christian Science healers cannot practice without a State license. The court says: "The giving of Christian Science treatment for a fee, for the cure of disease, is practicing medicine within the meaning of the statutes regulating such practice in this State. The statute making it a misdemeanor to give such treatment for a fee is not interference with the rights of conscience and of worship, and is not on that ground unconstitutional. Legislation prohibiting any one from treating a disease for a fee, excepting such persons as have prescribed qualifications, is a valid exercise of the police power of the State and is constitutional."

The American Laryngological, Rhinological, and Otological Society.—The Eleventh Annual Meeting of the American Laryngological, Rhinological, and Otological Society will be held under the Presidency of Dr. Frederic C. Cobb, at Boston, Mass., on Monday, Tuesday, and Wednesday, June 5, 6, and 7, 1905. The secretary is Dr. Wendell C. Phillips, 40 West 47th Street, New York.

The Society of Medical Jurisprudence.—At the meeting of this society, to be held on March 13, Dr. Ferd. C. Valentine will read a paper on "Some Forensic Problems Regarding Venereal Diseases." Among those who will address the paper are Drs. Prince A. Morrow, Frederick R. Sturgis, Emmet C. Dent, and A. H. Goelet.

A School of Philanthropy at Columbia.—At a meeting of the Trustees of Columbia University on Monday of this week, it was announced that Jacob H. Schiff had given $100,000 for the endowment of a Chair of Social Work. The new professorship was filled by the appointment of Dr. Edward T. Devine, General Secretary of the Charity Organization Society, Director of the School of Philanthropy, and Editor of *Charities*. This endowment makes possible the close affiliation between the School of Philanthropy and Columbia University.

The Columbus Hospital, Chicago, was formally thrown open February 26, under the cabled blessing of Pope Pius X, and the spoken benediction of Archbishop Quigley. In the afternoon, dedication exercises were held by the prelate and prominent laymen. The new hospital was founded and will be conducted by the Missionary Sisters of the Sacred Heart. Its equipment is complete and modern, and $200,000 was spent in building and fixtures. The hospital will be conducted on non-sectarian lines. Dr. John B. Murphy, President of the Medical Staff of the Hospital, made the first address of the afternoon, and was followed by Judge Brentano, S. S. Gregory, and others. The hospital is of stone and steel, six stories high, with 85 rooms and 4 large wards with 300 beds. It has rooms for operations, sterilizing, antiseptics, pathological, microscopical, and *x*-ray work.

A Medical Library has been established by the Atlantic City Academy of Medicine, and this Society has entered into an arrangement with the Atlantic City Free Public Library by which a room has been set apart for its books and periodicals. To physicians visiting Atlantic City will be extended every courtesy the library can offer. Contributions on medical subjects will be gladly received, and may be directed to Dr. Wm. Edgar Darnall, President of the Academy, or Dr. Philip Marvel, Chairman of the Committee.

Phipps' Dispensary Opened.—The dedication of the new tuberculosis dispensary at the Johns Hopkins Hospital, took place on February 21, in the presence of the founder, Mr. Henry Phipps of Pittsburg, Pa., and from 300 to 400 other persons. Dr. H. M. Biggs, of the health department of this city, delivered an address on "The Advantages of a Tuberculosis Dispensary"; Dr. H. Barton Jacobs, president of the Laennec Society of Baltimore, spoke on "The Origin and Rise of Tuberculosis Dispensaries," while Dr. William Osler, of the Johns Hopkins Hospital, made an address on "Tuberculosis in the General Hospital." Mr. Phipps originally donated $20,000 for the establishment of the dispensary, and now has added a further sum of $5,000 to this amount, to assist in carrying on the work. The dispensary is a branch of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, which was established in Philadelphia in 1903, although it will be under the direct management of the Johns Hopkins Hospital authorities.

Association of American Medical Colleges.—The next meeting of this association will be held in Chicago on Monday, April 10, 1905, under the presidency of Dr. Samuel C. James. The secretary is Dr. Fred C. Zapffe, 1764 Lexington Street, Chicago.

The Phipps Model Tenements.—Two sites have been acquired upon which model tenements will be built with the fund of $1,000,000 provided for that purpose by Henry Phipps. One of these sites consists of seven lots on the north side of Thirty-first street, just east of Second avenue, upon which there are now old tenements. The other covers sixteen lots on Sixty-third and Sixty-fourth streets, eight lots on each street, beginning about 150 feet east of West End avenue. On the latter site houses exclusively for negro tenants will be built. Plans for the new tenements have not been sufficiently advanced to admit of any detailed description. It is understood, however, that the buildings will be six stories in height, each one occupying a plot 40 by 100 feet. All other model tenements will be carefuly studied, and all of their best features embodied in the Phipps houses.

Bactericidal Money.—In support of a bill for clean paper money, which was under consideration by a committee of Congress just before the dissolution of that body, Dr. Darlington, Health Commissioner of New York, presented a report of some studies made by Dr. Wm. H. Park to ascertain the influence of coin and of paper money upon the life of diphtheria bacilli. The experiment was made of placing pennies, nickels and dimes in the mouths of children suffering from diphtheria. The coins showed no traces of diphtheria bacilli twenty-four hours afterward. The report thus sums up the results reached: Pennies at the end of twenty-four hours gave a growth of diphtheria bacilli when fairly dry bacilli were placed on them, but none when placed on wet. Pennies at the end of forty-eight hours gave no growth. Nickels at the end of twenty-four hours gave a growth at times, but not at others. Nickels at the end of forty-eight hours gave no growth. Dimes at the end of twenty-four hours gave a growth at times and not at others. Dimes at the end of forty-eight hours gave no growth. Paper money at the end of forty-eight hours gave a growth and continued to do so at times up to one month. The results of these experiments indicate that the metallic substances in coins when brought in contact with bacteria through the solvent action of moistures are deleterious, while in paper there are no such substances, the gradual death of bacteria being due to the effect of drying.

Sanitary Improvements in the New York Post Office.—The Committee on the Prevention of Tuberculosis of the Charity Organization Society, has called the attention of the Washington authorities to many unsanitary conditions existing in the post-office building, and the necessary alterations will, it is said, be made at once.

Opposed to Baby Incubator Shows.—A bill has been introduced in the New York Legislature making it a misdemeanor to exhibit in public any infants in incubators. The bill was drawn up by the Society for the Prevention of Cruelty to Children.

Sanitary Treaty Ratified.—On March 1, the U. S. Senate ratified and made public an international sanitary treaty, adopted by a convention of representatives of practically all nations, held for the purpose of agreeing upon uniform safeguards of the public health against the invasion and propagation of plague and cholera.

Illinois Sanatorium for Consumptives.—There is a good prospect of the passage of Mr. Glackin's bill appropriating $200,000 for the erection of a sanatorium for consumptives in Illinois. The enactment of this bill into law will provide the State with an institution, which will overshadow any other institution in importance. A large number of prominent citizens have endorsed the bill.

A Testimonial to Dr. Murrell.—The sum of £1,000 has been presented by Mr. Edward Heron-Allen to the Westminster Hospital, London, to endow a bed in one of Dr. Murrell's wards "in recognition of his valuable contributions to pharmacology and his researches on the action of remedial agents in the treatment of disease."

Patent Medicines in Danger.—It appears that the makers of proprietary remedies sold in Cuba, have only narrowly escaped the necessity of publishing the formula of their nostrums. Deaths of several ignorant people, traceable to overdoses of certain patent medicine, caused the Cuban government to resurrect an old Spanish law requiring that the formula of every patent medicine be printed upon the label of the bottle in which it is sold. Manufacturers of American medicines at once foresaw loss of the secrecy heretofore protecting their products, and used their influence to have the Cuban government modify its stand. It was finally agreed that the revised law should operate simply to the extent that patent medicine formula should be filed with the Cuban government, and by it be kept secret. If the formula shows any medicine to be dangerous, proper restrictions will be placed around its sale.

Recognition of Christian Scientists.—The Christian Scientists are again attempting to obtain recognition under the medical laws of the State. Two bills have been introduced before the legislature, providing that when the Regents of the State University prepare examination papers for applicants to medical practice they shall prepare questions on "mental science as a means of promoting and preserving health," and that in the preparation of rules for examination of nurses, these rules shall provide, "among other things, for an examination in mental science as a means of promoting and preserving health."

More Cases of Wood Alcohol Poisoning.—The whiskey provided for the mourners at an East Side funeral last week appears to have been quite as vile a concoction as any sold in the infamous Striker's Farm district, a short time ago. One man is dead, another is totally blind, and several others are or have been sick, as the result of drinking the mixture, the low price of which was accounted for by the supposition that it was moonshine whiskey.

Dr. Stella Stevens Bradford has been appointed medical school inspector by the Montclair Board of Health.

Adulteration of Candy.—A report to State Commissioner of Agriculture Charles A. Wieting, by Dr. Joseph F. Geisler and Professor E. G. Love, shows that the cheaper candy sold in the city, is adulterated to a surprising degree. In more than two hundred samples taken from New York stores and submitted for analysis, paraffin was found in caramels, chocolates, and molasses candy; ordinary varnish was discovered as a coating for chocolates; aniline red and blue were detected as a coloring in gum drops and sticks of candy, while glucose was found in nearly all the cheap confections. The report included analyses of maple sugar, jellies, catsup, and honey. Of sixty-nine catsups, all but one showed added color, a sample of maple sugar contained at least ninety per cent. of cane sugar, and the honey examined was largely adulterated with cane sugar or glucose.

Patients Give Hospital $10,000.—Grateful because of their quick recovery, two private patients in the Roosevelt Hospital have given the institution $5,000 each for the opening of one of the public medical wards, which has been closed for some time owing to the lack of funds.

A New Property of Radium.—Professor Chaveau announced in a recent communication to the Parisian Académie des Sciences that, radium emanations have the property of destroying the toxicity of serpent venom. Viper and cobra poison, if submitted to the action of radium, is said to lose its virulence after fifty or sixty hours of exposure.

A Source of Dissecting-Room Material.—According to an Indiana newspaper, the removal of an axe factory has cut down very largely the supply of anatomical material of Indianapolis medical colleges. The workers in the factory were largely negroes, among whom pulmonary diseases, due to work at the grinding machines, were very common. Nearly all had insurance policies which, before death, were usually assigned to some friend for the purpose of paying the funeral expenses. The money was usually converted to other uses, however, and the body allowed to go to the destination the law prescribes for paupers. The removal of the factory resulted in a prompt decrease of available cadavers.

The National Fraternal Sanatorium for Consumptives.—A movement is on foot among the labor unions of the country, to organize a large tuberculosis camp or colony in New Mexico, where members of the unions and their families may receive suitable climatic and medical treatment at little or no personal cost. The Temple of Fraternity, a $90,000 building erected for the St. Louis exposition, by the World's Fair Fraternal Building Association, has been presented to the National Fraternal Sanatorium, and will be wrecked, transported to the site chosen, and then rebuilt, to serve as the administration building for the colony. The heads of the cigar makers' unions are also endeavoring to establish sanatoria for consumptives in various appropriate sections of the country.

Lower Death Rate.—The Health Commission reports that the death rate in this city for the week ending March 4 was lower than that for the corresponding week in any previous year. It was 20.47 per thousand, while for the corresponding week in 1904 it was 24.35, and in 1903, 20.67. There were fewer deaths from all causes over the same week last year, except from cerebrospinal meningitis. There were forty-nine deaths from that cause. Lobar pneumonia caused seventy-eight fatalities during the week, while during the same time last year there were 201.

Disease Invades the City of Healers.—Several of the prominent officers of Zion City have recently suffered severe illness, and some have died, and now it is said that Dowie himself has cancer which he cannot cure or get cured by the extra-surgical methods of his list.

Obituary Notes.—Dr. James Taylor Pirtle, of St. Louis died at his home in that city on February 27, Dr. Pirtle was 69 years of age and had practiced in St. Louis for two score years, being one of the oldest practitioners in the city. He was graduated from the St. Louis Medical College (Medical Department Washington University), in 1864.

Dr. James Paxton Barclay of Eutaw, Alabama, died February 17, at the age of 57 years. He was a graduate of the New York University Medical School in the class of 1871.

Dr. W. E. Bessey of Grand Rapids, Mich., died February 15, at the age of 80 years. He was born in Canada and was graduated in medicine from McGill University.

Dr. William Edward Griffiths died at his home in Brooklyn, on February 27, at the age of 63 years. Before his graduation from the College of Physicians and Surgeons of New York in 1868, Dr. Griffiths served for two years as surgeon's steward on the United States frigate *Colorado* in the civil war. He was visiting surgeon and consulting physician of St. Mary's Hospital and a member of the Kings County Medical Society. He served for fourteen years in the Brooklyn health department as a sanitary inspector and chief inspector of contagious diseases.

Dr. Adolph Ziperlin, an honorary member of the Faculty of the University of Tübingen, Germany, from which university he was graduated in 1840, died at his home, in Cincinnati on February 28, aged nearly ninety years. He was a surgeon in the Union Army during the civil war.

Dr. L. C. Bean of Waukegan, Ill., died February 22, of pneumonia, at the age of 84 years. He was born in New Hampshire and was graduated from the Vermont Medical School in 1849.

Dr. Milton E. Hammer of Baltimore died February 24, at the age of 39 years. He was a graduate of the University of Maryland Medical School in the class of 1890.

Dr. George D. Boon of Chetopa, Kan., died February 21. He was a graduate of the Medical Department of the University of Michigan in 1870.

Dr. John Jay Prendergast died March 1, at his home in Brooklyn, at the age of 62 years. He was one of the founders of the Manhattan Eye and Ear Hospital, and was also, at one time, a member of the visiting staff of St. Francis' Hospital, Jersey City. He was a graduate of the College of Physicians and Surgeons in this city, in the class of 1868.

Dr. Wm. B. E. Miller formerly of Camden, N. J., died at Hightstown, N. J., on March 2, at the age of 56 years. He served in the Federal army during the civil war, was for a number of years Federal Inspector of Cattle at Jersey City, and served for two terms as a member, and for one term as president of the Camden City Council.

Dr. C. W. Crowell of Marshall, Tex., died February 22 from pneumonia. He was a graduate of the Chattanooga Medical College.

Dr. Walter S. Christopher of Chicago died of heart failure March 2, at his residence. He had been ill since last August. He was 46 years old, and was born in Newport, Ky., in 1859. He was graduated from the Medical College of Ohio in 1883. During the last year of his course in the college he was an interne at the Cincinnati Hospital. As a student Dr.

Christopher had been interested in children's diseases, and upon his graduation he was made assistant in the children's clinic of the Medical College of Ohio. In this capacity he served seven years. In 1884 he became demonstrator of chemistry and continued in this relation until 1890. In 1890 he was called to the Chair of the Theory and Practice of Medicine in the University of Michigan. After a year's service in that institution he went to Chicago in 1891, and was appointed Professor of Diseases of Children at the Chicago Policlinic. A similar appointment to the College of Physicians and Surgeons of Chicago was made in 1892. He was an ex-president of the American Pediatric Society.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HUNTER'S DAY—A BLUE-BOOK ON CANCER—PANCREATIC SECRETION—MILK SUPPLY—TYPHOID AT LINCOLN—CHARING CROSS HOSPITAL—GIANTS—HOME OF RECOVERY—OBITUARY NOTES.

LONDON, February 17, 1905.

HUNTER's day is a great day at the Royal College of Surgeons, the home of this great museum. John Hunter was born on the 13th or 14th of February, 1728. There is a little uncertainty, but we keep the 14th as his day. This year the oration was delivered by Mr. John Tweedy, President, and a distinguished company gathered at the College to hear it. Having sketched Hunter's career and referred to the state of medical knowledge in his day, when he and his brother introduced systematic anatomical teaching, the President asked, What did Hunter do? and answered, he made one of the largest collections of biological specimens, the great museum now lodged in the college; but, said the orator, however precious the museum, it represented only the material part of his work. The impulse he gave to the operation of mind in the pursuit of biological knowledge was infinitely greater and would last while civilization endures. Amid the multiplicity of apparently conflicting phenomenon, he discovered unity. He had a large knowledge of facts, a fertile imagination ready to suggest the relations between them, but he submitted every hypothesis to the tests of observation and experiment. Some of his discoveries might be called accidental, but such accidents happen only to those who deserve them. The greatest men are estimated by their influence on the thoughts and activities of those who follow them; so judged Hunter is among the greatest. There are persons who would not hesitate, in the sacred name of religion, to traduce the memory of Hunter because he practised experiments on animals, though all through historic time man has continued to capture, subjugate, and slay beast, bird, and fish for his pleasure, his sustenance, and his service. Is lordship over animals given to man only for the satisfaction of his physical and sensuous needs? Is not life more than food? Does mind need no aliment? Is a veto to be applied only when the purpose is to elucidate the kindly functions of physiology or the baneful secrets of disease? In anticipation of the Great Passover, Moses commanded the Israelites to sprinkle their lintels with blood. Who shall say that the Angel of Death in our day, seeing the immunizing blood, may not take it for a token not to come into our houses? And so we may enjoy a growing freedom from pestilence, and in the fulness of knowledge and time the measure of our freedom may become full.

In the evening the dinner was held in the college, Mr. Tweedy presiding. The loyal toasts, the army and navy, were duly honored, and the "memory of John Hunter" drunk in silence.

Two years ago Mr. Chamberlain issued from the colonial office a circular to the authorities of all British Colonies and Protectorates, calling attention to the formation of the cancer research fund, and directing everything to be done to obtain information and specimens. The result is a blue-book issued this week. The first replies were largely of a negative character, *e.g.* Mr. Samuelson in Natal, though intimately acquainted with native life, had never known of a case of cancer among the natives, and from Gambia a similar report was made. At the request of the Cancer Commission a further circular was issued, suggesting that perhaps the apparent absence of cancer in some populous colonies might be due to hospital patients being usually under the cancer age. This brought many replies. From these it would really seem that cancer is rare in some races, though from what causes is by no means clear. It is suggested that few aboriginal men or women exceed the age of forty-five, below which the disease is rare in civilized peoples. This hypothesis seems to rest on rather slender evidence. The committee recognize this and express a wish that the ages of any natives who may suffer from cancer may be ascertained, and, further, that the average age attained by native men and women may be investigated.

Here are some of the facts reported. In the Gibraltar Hospital five deaths from cancer in 1903. In the native (Spanish) population the surgeon attributed the predisposing causes to excessive cigarette smoking in males, and early maternity in females. Possibly deep seated cases were not diagnosed and autopsies are with difficulty obtained. From British Honduras and from Sierra Leone, we are told that cancer does occur at times, but is rare and, therefore, opportunity for observation is slight. The commissioner for British Central Africa thinks that cancer, though it does exist, is rare within his jurisdiction, and he quotes two medical men with great experience among the natives who, between them, have met with only two certain cases and one doubtful one. There is a disinclination to apply for aid if surgical operations are likely to be recommended. From Wei-hai-wei it is said cases are rare, and the Chinese refuse to admit post-mortem examinations. In the East African Protectorate the doctors say cancer is rare among native tribes, but the medical missionaries in Uganda have met with cases. In Mauritius, hospital returns give fewer cases than in England, but it is admitted that little is known as to the occurrence of cancer in the mixed population. In the Transvaal it is reported that the disease is practically confined to Europeans. In Ceylon the deaths are said to be one in 450 per annum.

A third circular was sent out last November, urging the importance of forwarding specimens for miscroscopical examination, when there are not facilities for carrying out such on the spot.

Some interesting observations on the pancreatic secretion in man were communicated to the Pathological Society in the course of a paper by Dr. Clayton-Greene. After a pylorectomy in which the pancreas had been torn and ligatured a pancreatic fistula formed and the effect of food on the secretion was observed. A few seconds after beef tea, etc., was swallowed, a definite secretion of pancreatic juice took place. The sight of food had the same effect, just as when the salivary glands are stimulated. These facts were noted for 10 days, when the patient became worse and died. At the autopsy the pancreas was in a state of general suppuration, but there was no fatty necrosis. The observations support Pawlow's view that pancreatic secretion is influenced by a nervous mechanism, and suggest that the secretion may be started by stimulation of a sensory nerve, although secretin or prosecretin may be concerned in its maintenance as shown by Starling and Bayliss.

The milk supply of towns is a subject which bristles with difficulties, even to the most zealous sanitary reformers. Dr. McClery last week read a paper before the Incorporated Society of Medical Officers of Health, in which he advocated the municipalization of the supply as the only remedy for the abuses which prevail. This he argued would secure a fixing of responsibilities, cheapening of production and distribution, freedom from adulteration, and other benefits. This view is, I am aware, held by some eminent authorities, but the majority are against it. Dr. Boobyer criticised it from a financial point of view, and said the public was strongly opposed to the increase of municipal expenditure. Mr. Sadler, of the Cheshire Milk Supply Association, said that in his county alone there were 100,000 cows worth £20 each. These and the farms and dairy plants would have to be bought. They should improve present methods instead of trying to end them; sterilize the milk in cooperative depots, look after the condition of the railway vans, and economize the cost of distribution.

Lincoln is suffering from a widespread epidemic of typhoid fever of a mild type. Over 600 cases are reported. A medical inspector has been sent down by the Local Government Board, and in due time we may learn much about the outbreak. Meantime, it may be stated that the sanitary authorities of the city have incurred a heavy responsibility by their neglect of obvious precautions, and more than that, by their refusal to remove dangers which were pointed out to them years ago. It really sometimes looks as if local government was a failure. In some places, as in Lincoln, the local bodies will not listen to expert advice or expend money on precaution. In others they seem never at rest, and pile up debts in the most reckless fashion. So that the municipal indebtedness of the country is becoming a danger in the eyes of financial experts.

At Charing Cross Hospital, the annual meeting of governors on Wednesday was the occasion of congratulations on the completion of the renovation and extension. Lord Burnham, who presided, said he could not doubt that the improvement would have its reward in increased contributions. £23,000 is still required—enough to show that the managers, like so many others, did not fear to run into debt. In replying to a vote of thanks, Lord Burnham announced that his two sisters, Miss Matilda Levy and Lady Campbell Clarke, would give £3,000 and £1,000 respectively, to complete the Levy ward named after his family.

We have another giant on exhibition in London. I have not seen him. Some of those previously exhibited were evidently cases of acromegaly. Not so the Irish giant whose skeleton is in the Hunterian Museum. The current number of *Blackwood's Magazine*, has a timely article by Miss Masson, on John Hunter's wife, in which she tells again the story of how the corpse of the giant was secured for Hunter.

Last evening the Duke of Portland presided at a dinner in aid of a "Home of Recovery," which it is intended to build in Surrey, for patients discharged from surgical wards of the London hospitals, who are not well enough to resume their work. £30,000 is required to endow the home; it is intended to raise the money before proceeding. Sir F. Treves supported the movement, and said no scheme appealed more to hospital surgeons. A sum of £1,335 has been raised towards the amount required.

Last month I noted the deaths of some aged doctors from 80 to 90 years of age. Another, still older, has now passed over, almost a centenarian, Dr. Nathaniel Davidson. born in March, 1805, L.R.C.S. Ed., in 1828. He practised for many years in London, but long since retired to the country. He died in the Isle of Wight on the 9th inst., and was buried there on the 14th inst.

Dr. Robson Roose died on the 12th inst., aged 56. He qualified in 1870. He enjoyed, for a number of years, an extensive practice among the fashionable set. He was a genial host, much given to hospitality and his dinner table was often graced by distinguished statesmen, artists, and all sorts of notabilities, not omitting those of his own profession.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

A NEW STATION FOR FREE MILK DISTRIBUTION—THE TECHNIC OF DIAGNOSIS—A NEW DIAGNOSTIC SIGN IN ECTOPIC GESTATION—SYPHILIS IN ANIMALS—ABSORPTION OF ALBUMINS—TREATMENT OF LARYNGEAL TUBERCULOSIS BY DIRECT SUNLIGHT.

Vienna, February 25, 1905.

Vienna has, during the last few days, come into the possession of an institute for the purpose of combatting mortality among infants. A small building has been erected in connection with the St. Anna's Pediatric Hospital which, according to Professor Escherich's inaugural address, is intended to accomplish the following objects: In the first place, women of the poorer classes, who inquire, are to be given instruction in the care of their children. A physician is to be in daily attendance for the purpose of answering questions, and printed information slips will be distributed. As far as means will allow, the needy will also be given material assistance, and a committee of ladies is engaged in collecting clothing and utensils of all sorts for the protegées, who will also be visited in their homes, for the purpose of rendering all possible aid. Secondly, wholesome, properly prepared milk is to be distributed gratuitously to deserving mothers of infants. Five thousand children are born in Vienna every year, but one thousand of the number die before reaching the end of the first year, and four-fifths of the deaths are due to digestive disturbances in bottle-fed infants, due to improper nature and preparation of cow's milk. Escherich believes that the establishment of this institution represents the most satisfactory solution of the problem at present feasible. In passing, it may be said that humanitarian associations give away infants' milk to poor mothers in two other districts of the city, and it is the intention to found other establishments for this purpose. The present building contains a waiting room, an office, a bathing room for infants, a sterilizing room, the milk distributing room, a medical examining room and kitchen for milk, a bottle washing room and a laboratory.

Professor Nothnagel recently delivered an address on "The Technic of Diagnosis," in the course of which he said that it is neither the physical aids, nor the results of chemical or microscopical examination which enable physicians to arrive at a diagnosis. Diagnosis is at once an art and a science, and the scientific element should predominate, so that the more thoroughly a physician is imbued with the scientific spirit, the better a diagnostician he will be. Still, it is true that there are physicians of such temperament that diagnosis comes to them like a sort of poetical inspiration, and they are gifted with the faculty of intuitively grasping the connection of a series of manifestations; in other words, they possess a certain amount of what is called genius. The celebrated Oppolzer was more of an artist than a scientist in making diagnoses, whereas Skoda subjected the indications to analysis, and then constructed his diagnosis on this basis. The internists are in the least satisfactory position, for they are often forced to satisfy themselves merely with conclusions. Formerly, in making a diagnosis only the subjective and objective symptoms were considered, but since the work of Rokitansky and Virchow, the conviction has become established that only the anatomical diagnosis, which in some cases may be susceptible of proof on the autopsy table, should form the basis of diagnostics. Should a different point of view be adopted, the result would be a serious calamity for medicine. Of course, the etiology of disease also requires recognition, but this is the weak point in our medical knowledge, for the causes of disease are to a large extent still unknown. This ignorance also weakens our attempts at prophylaxis, by means of which we do, and should, strive to make the physician unnecessary.

At a meeting of the Physicians' Society, Mandl spoke on the clinical significance of milk secretion during pregnancy. Together with Professor Kreidl, he carried on experiments in Exner's physiological institute. Pregnant animals in various stages of gestation were laparotomized and the fetuses killed. The uterus was replaced and the wound closed. Two to four days afterward it was possible to express milk from the breasts, showing that death of the fetus brings about the appearance of milk in the mammary glands. This fact may be used to serve as an aid to diagnosis in extrauterine pregnancy, and Mandl was able to demonstrate it in three cases of tubal gestation. In the first case there was moderate bleeding, with occasional colicky pains in the left lower abdomen, and milk could be expressed from the breasts. On operation a typical tubal abortion was found. In the second case also, in which there was slight but continuous flowing, microscopic examination of the mammary secretion showed the presence of milk droplets, and on operation a tubal mole was revealed. The third case was one in which colicky pains and metrorrhagia accompanied a doughy, sausage-like tumor, situated to one side of the slightly enlarged uterus. Milk could be expressed from the breasts, and on the strength of the diagnosis of a dead ovum in the tube expectant treatment was advised. After several days the mass had almost entirely disappeared, and it was assumed that the ovum had been expelled into the peritoneal cavity and been absorbed. The period was estimated as about the tenth to the twelfth week, so that evidently even in the early weeks death of the fetus is followed by the appearance of milk in the breasts. The detection of this symptom is important, since, according to Werth, every intact etopic gestation should be operated on, in order to guard against rupture and hemorrhage, but if the ovum is dead, expectant treatment may be followed with safety. Expulsion of the decidua from the uterus is not a sure sign of death of the fetus, and the new symptom is, therefore, a welcome addition to our resources. Gessner once reported in a case of tubal pregnancy, operated in the third month, the appearance of milk five days later, and called attention to this sign of death of the fetus, but no attention was paid to his communication, and Mandl desires to emphasize the importance of this fact, which has great value from the standpoint of treatment.

R. Krauss demonstrated to the same society several monkeys that had been inoculated with syphilis. Successful experiments of this nature were first made by Metschnikoff and Roux, in 1903. The anthropoid apes first show an indurated sore, resembling the human chancre, after which an exanthem develops. In the lower monkeys the induration does not break down, and no rash appears. Both varieties are rendered immune to subsequent infection by a single inoculation. The syphilitic virus appears to undergo attenuation by passage through the lower monkeys, but produces typical chancres on reinoculation into the higher apes, although the sore differs somewhat from that produced by human virus.

E. Freund has presented a paper on the first changes in absorbed albumins, based on animal experiments and on the study of freshly removed organs. Töpfer has already reported from these experiments that the liver is able to break down albumin only with the assistance of the intestinal tract. Further observations showed that albumin taken by the mouth is in the intestine split into albumoses and pepton; these products are again synthesized by the intestinal wall and brought to the liver through the portal vein, after which the final decomposition into albumoses, peptons, and urea follows. Further changes in the products depend on the functional nature of the body cells. In hibernating animals the transudation of albuminous bodies into the intestine is reduced to a minimum through reduction in the circulation of the intestinal vessels, in inflammatory conditions metabolism is upset by the more active decomposition of albumins attending the congestion of the bowels.

In Professor Schrötter's clinic the treatment of laryngeal tuberculosis by means of direct sunlight is being made the subject of extensive trial. The results have been so favorable that it is hardly possible to doubt the value of the method. The time of exposure has varied from six to forty-four hours, and, with one exception, all the patients were greatly benefited. The plan is very simple. The patient sits with his back to the sun and reflects the light into his mouth with an ordinary hand mirror. The fact that the patients can, after a little practice, convince themselves of the progress they are making by observing the image in a laryngeal mirror renders the procedure especially comforting and satisfactory to them.

Progress of Medical Science.

Boston Medical and Surgical Journal, March 2, 1905.

Certain Aspects of Bile Duct Disease.—J. G. Mumford says that the two immediate questions in a case of bile duct disease are, first, shall we operate, and, second, if so, how? In regard to the first question, he says that a faulty digestion may be the initial symptom. Patients are apt to have a small and quickly appeased appetite, with a tendency to corpulence. With this there is a defective metabolism, as shown by constipation, occasional distress after food, indefinite but sharp occasional pains in the upper part of the abdomen, bad taste, furred tongue, frequent headaches, lack of vigor, frequent blurring vision and dizzy spells; in short, the symptom complex that the laity style biliousness. In dealing with such patients we must not forget that there may already be an infected condition of the biliary passages. For many of these Carlsbad salts, regulated life, restricted diet, exercise, massage, etc., will suffice. If, however, in spite of these measures, the patient does not improve, and is seized with gall-stone colic, recourse must be had to surgery. In the choice of a procedure, there are three ends to be attained or principles to be followed. These are thus summarized by the author: (1) Removes stones; for if left behind they are very sure to cause subsequent disturbance, and we know conversely that after the thorough removal of stones, their recurrence is almost unknown. (2) Remove, so far as possible, all disorganized, degenerated and permanently crippled tissue, for such tissue, when left behind, may become the nidus for subsequent inflammation, stone formation, and a return to the invalid condition. (3) Drain, for without drainage we have no certainty of the removal of infectious material.

New York Medical Journal, March 4, 1905.

Retarded Development of Speech in Young Children.—G. Hudson-Makuen gives the details of one case and presents the following conclusions on the general subject: (1) Retarded development of speech in young children may be the result of structural irregularities in the peripheral organs, impaired respiration due to nasal, postnasal, and pharyngeal obstructions, paresis of the nerves supplying the organs of speech, and not infrequently to some disturbance of hearing not necessarily amounting to absolute deafness. (2) Retarded development of speech always results in defective mentality. (3) The treatment consists in the removal of any obstruction that may exist in the peripheral organs and in the systematic training of the auditory and speech centers by the use of specially prepared vocal exercises. (4) A child may be taught to hear in exactly the same way as he is taught to read and write.

Active and Passive Exercise in the Treatment of Syphilis.—N. T. Beers notes that patients suffering from syphilis and actively exercising or leading an outdoor life, do much better under treatment than those who follow sedentary occupations or are shut in. He reminds us that mercury and iodine, the sheet anchors in this dyscrasia are active irritants to the human body. Free exercise is therefore necessary in order to secure proper eliminative activity. If outdoor exercise is impossible, the next best thing is cold bathing, followed by vigorous skin friction and massage. Active athletic exercise therefore is in the syphilitic patient to be encouraged. As to the administration of mercury, the author believes inunction to be the most efficacious method. The patient is allowed to bathe before each inunction if he so desires. Going over the section to be anointed with a little ether, just before applying the ointment, greatly facilitates its absorption. Beers prefers an ointment composed of very pure oil of sweet almonds, wax, gelatin, soap, and water, containing 50 per cent. of mercury. This preparation contains none of the greasy elements which make the use of the old official "blue ointment." so objectionable to many. It has no odor, keeps well, and its application is accomplished with a few moments of rubbing. On the hands, feet, and face the white mercurial ointment is used, preferably before retiring, when required in the first weeks of the secondaries.

Reports of Two Cases of Cured Graves' Disease.—The patients of G. B. Webb were two women, aged respectively, forty-five and forty years. Both had been hard domestic workers and had suffered from great restlessness and severe nervous headaches, in addition to the classical symptoms of the disease. In one case, the patient seemed to have lost the power of guiding her voluntary nerves, but was greatly benefited by being made to realize that her main trouble was a lack of mental control. She was instructed to memorize simple poems, and every day at certain hours to recite these poems to herself and to concentrate her whole being in them. Under such regulated efforts at self-control, her condition greatly improved. In the other case piano-playing and horseback riding effected a similar good result. The author therefore reasons that Graves' disease often appears on a distinctly neurasthenic basis and that the relief of the latter condition will often lead to a disappearance of the symptoms of the former malady.

Medical News, March 4, 1905.

The Equilibrium Between Infection and Immunity as Illustrated in the Tonsillar Crypt.—J. Wright considers this question of infection and immunity, dwelling on the various peculiarities of the tonsillar structures, which keep the subepithelial tissues free from the germs which swarm in the crypts. What the exact factor is he does not attempt to decide. He has suggested that there is some sensitive mechanical arrangement which closes the stomata and interstices of cells to the ingress of bacteria, but allows inorganic particles to go through. Or there may be some bacteriolysin which has a selective action against the microbic invasion. Life is a constant warfare between constructive and destructive forces, and some unknown factor controls the equilibrium between the two. The disturbance of this equilibrium may be a freshly virulent organism or an auxiliary organism. The tendency of modern investigators is that the change is usually one of the intrinsic, rather than of the extrinsic factor. In a given case of infection, the virulence of the attacking germ and the fighting powers of the cell decline in equal measure until something occurs to help the one or the other, and then the germ is exterminated or the system suffers according to the preponderance of reinforcement.

Multiple Neuritis in Wood Alcohol Poisoning.—S. E. Jelliffe has seen three cases of this condition. Two of the patients suffered from the hyperesthetic form of neuritis. Both were painters and varnishers, doing nothing but shellac work. Neither were intemperate, and their symptoms were due, apparently, to breathing the fumes of the wood alcohol in which the shellac gum was dissolved. One of them may have been in the habit of drinking the alcohol diluted. The author reviews the chemistry of this compound, and in answer to the anticipated question as to why there are not more cases of methyl alcohol peripheral neuritis on record, says that there are a number of reasons. One is that death occurs so promptly in many instances that there is not enough time to develop the lesion in the peripheral nerves; or because of the greater susceptibility of the ganglion cells of the retina, partial or complete blindness appears so promptly that the methyl alcohol mixtures are not taken for a greater length of time. As for the reasons for this relatively greater susceptibility of the retinal ganglionic structures, it can be accepted at the present time only as a fact, bearing in mind that the alcohols as a class affect the more complex nervous elements of the cerebrum and highly differentiated special senses more rapidly than the comparatively more primary spinal neurons of the peripheral nervous system. Peripheral neuritis from wood alcohol does not seem to have been observed in any of the animals experimented on. Here again the early death precludes the development of the lesion, and, moreover, most of the investigators had in mind solely the effects to be observed in the retina and optic nerves. The more general subject of experimental wood alcohol peripheral neuritis is, therefore, in need of investigation.

Appendicitis, as a Visceral Manifestation of Erythema Exudativum Multiforme.—J. S. Chenoweth notes that visceral lesions have been frequently noted in this form of erythema, and that they may precede or follow the eruption and may cause a fatal termination. In certain cases the lungs, brain, kidneys, stomach, and intestines have been pathologically affected. These visceral lesions are not uncommonly attended by intense colic, high fever, nose bleed, hematuria, hematemesis, and intestinal hemorrhage, one or all of which may be present in any given case. Cases of this erythema may be ushered in by the so-called abdominal crisis, which resembles somewhat the initial stages of an appendicitis, or the true nature of the case may be recognized, but an appendical trouble overlooked, as accompanying vasomotor circulatory disturbances in the appendix may cause congestion and hemorrhages into its lumen, whence may arise infection, inflammation, or actual gangrene. A point of diagnostic value in the author's experience has been the absence in the abdominal crises of exudative erythema, of muscular rigidity, and localized tenderness, except in those cases in which the appendix has been involved. Four cases are given in detail, and the clinical as well as microscopical study of them demonstrate the fact that the pathological condition in the appendix was primarily and essentially the same as that taking place in the skin. That the erythema was not secondary to the appendicitis is clear from the fact that previous attacks of erythema had occurred in two cases, and have occurred at intervals since the removal of the appendix. The occurrence of appendicitis in these cases is, of course, not to be regarded as due to the erythematous eruption on the skin but rather, as the title of this paper would indicate, as one of the visceral manifestations of that condition of which the presence of such an eruption is the most common and easily recognized sign.

American Medicine, March 4, 1905.

The Mortality of Pneumonia in High Altitudes.—Charles F. Kieffer refers to the very common belief that pneumonia is more fatal at high altitudes than at the sea level. Several recent papers are reviewed. The paper is a study of the cases occurring at Fort D. A. Russell, Wyoming, at an elevation of 6,195 feet above sea level, during the period between 1868 and 1905. During this time among 26,569 admissions for all causes, there were 127 cases of pneumonia with 20 deaths; a mortality of 15.74 per cent. The fatal cases are classified according to the anatomic location of the disease. The writer calls attention to the prognostic import of syphilis on pneumonia. The figures are compared with those of the entire army. In the period between 1868 and 1893 the total admissions in the army for pneumonia were 7,078, with 1,105 deaths; a mortality of 15.61 per cent. During the same years at Fort Russell, there were 123 cases with 18 deaths; a mortality of 14.63 per cent., the advantage in favor of the high altitude being 1 per cent. Charts are included showing the incidence of the disease by months and a chart showing the mortality and ratio of incidence in the army for 36 years. The paper concludes that the figures, as far as they go, seem to show that altitude has very little influence on the mortality of pneumonia.

Puerperal Tetanus.—J. F. Roederer reports a case. The first symptoms of tetanus appeared on June 7, 10 days after the birth of the child. Eighteen days later (June 25) she had entirely recovered from tetanus. From June 7 until June 11 she had only clonic spasms. The clonic spasms began on June 12 and lasted until the evening of June 24, during which time she had at least 1,500 convulsions. During the first four or five days all the spasms, which were very severe, were accompanied by intense pain. After that the convulsions were not painful, nor were they so severe. Tetanus antitoxin was administered on 32 different occasions. In all 660 c.c. were given. The tetanus was succeeded by pain in the joints, eruption and high temperature which continued three weeks and were no doubt due to the same cause which gives rise to the pain and eruption which are met in some people a number of days after the injection of dipthein antitoxin. The patient made a good recovery.

City Dust and Patent Medicine Advertisements.—Robert Hessler traces the relationship existing between the amount of infective dust in a city and the number, kind, and size of patent medicine advertisements in the newspapers. City dust differs from country road dust in the presence of spittle. In spitting and in taking patent medicines we certainly excel. Medical advertisements may be divided into three classes: (1) Patent medicines proper, of unknown composition and proprietary. (2) Those of quacks. (3) Of lotions, pennyroyal pills, syringes, etc. Patent medicines can be divided into groups, according to their use; the largest group may be designated as the dust group, because it refers to diseases and conditions that depend on infective dust. In patent medicine advertisements there is a large list of names that in most instances when applied by the laity in self-diagnosed cases, must be regarded as synonyms of dust infection; among these names are the following: Catarrh, colds, cough, grip, tonsilitis, pleurisy, rheumatism, backache, kidney disease, lumbago, muscular rheumatism, nervousness, biliousness, etc. Their names may be grouped by marking names of respiratory affection like catarrh, colds, cough, in red; those referring to rheumatic conditions in blue; nervous conditions in yellow, etc., a general idea of this dust group of patent medicine advertisements may be obtained. The amount of space occupied by medical advertisements varies greatly in different papers and in different countries. In Indiana newspapers the amount varied from 2.5 per cent. to 14.5 per cent.; dust advertisements varied from 1 per cent. in a comparatively clean city up to 10 per cent. in a dusty one. When one-eighth of the total space of a newspaper is occupied by patent medicine advertisements, whose existence rests mainly on the condition of the streets and sidewalks it may be well to inquire if there is not something wrong with that municipality. There is also a seasonal variation; low ebb is reached in the summer, high tides occur in the fall and spring. The hot rays of the sun and street sprinkling in the summer and the lack of free ventilation in winter are powerful factors. Patent medicine men may not know why their nostrums are in demand, but they know that it pays to advertise in certain towns—dusty towns, and where the spitter is unmolested. What the people save by not keeping their city clean they are compelled to spend in a vain attempt to counteract the evil influence of the dust.

The Journal of the American Medical Association, March 4, 1905.

Syphilis a Disease of the Innocent.—L. D. Bulkley states that this disease is too invariably considered disreputable and the methods of extragenital infection. No one is cercently acquired. He mentions its prevalence in past times and in certain parts of the world and its infection of whole communities, largely through family life. He quotes Fournier's statements regarding the innocent acquisition of syphilis, and says that in his private practice this was the case in 50 per cent. of female cases, and that in married women the percentage of innocent infection was quite 85 per cent. He notices the occurrence of the hereditary form and the methods of extragential infection. No one is certain, he says, of not being infected innocently. In view of these facts he urges that this disease be placed among the contagious diseases under the control of boards of health. He advises making it a punishable offense to communicate this disease knowingly. If these measures could be carried out, he believes that a great step would be taken toward restraining the disorder and preventing infection of the innocent.

Acute Yellow Atrophy of the Liver.—H. G. Wells and P. Bassoe have studied four cases of acute yellow atrophy of the liver. While they admit that these do not throw much light on the obscure subject of the etiology of the condition, they discuss this at some length and suggest that a better insight into this perplexing disease may be obtained through later investigations on autolysis or self-digestion of cells. They state that in acute yellow atrophy of the liver they are forcibly reminded of the processes of autolysis by the rapid absorption of the liver tissue which takes place with the appearance at the same time of the products of proteolysis in the urine. The slight involvement of the bile ducts is against the theory of an ascending biliary infection, and there are objections, such as the rarity of obstructions in the ampulla of Vater and the greater pressure of the bile as compared with that of the pancreatic secretion, to Quincke's ingenious theory of pancreatic digestion. The authors suggest that this condition may be explained by assuming the poisoning of the liver by some substance having a specific affinity for some vital ingredient of the liver cells, but not affecting the autolytic ferments of these cells. They contradict the statement often made that the chief change is fatty degeneration. The yellow color is not due to fat, but to bilirubin. In two of their cases in which frozen sections were stained for fat, a surprisingly small quantity of this substance was present.

Delirium as a Symptom of Hysteria.—Theodore Diller states that, while it is well known that delirium constitutes the final phases of classical attacks of major hysteria, the subject of insanity in relation to hysteria seems to be in a state of more or less confusion or doubt. This, he believes, is due to the fact that these cases are not studied in their whole course by the same men. The family physician sees the earlier symptoms, and the asylum physician the later manifestations. Diller says that some authors call certain mental symptoms hysterical when they are mild or of short duration, but apply the designation "insanity" to the same symptoms when they are prolonged beyond a certain time or when they become more striking in type. He quotes at some length from Janet on the subject of delirium as a symptom of insanity, and reports several illustrative cases. In one case a diagnosis of typhoid was made, but Diller considered it a secondary infection, favored by the condition of the patient. In all the cases reported there was more or less marked neurotic disturbance or shock, and he considers that the diagnosis of hysteria was justified.

Exploratory Abdominal Section.—John Young Brown insists on the importance of exploratory section in all cases of penetrating wounds of the abdomen, when multiple perforations exist, or when the blood supply is cut off resection of the bowel is imperative. For this purpose, in case of gunshot wounds, he considers the Murphy button the ideal method. In severe abdominal contusions, he agrees with Bottomley, that operation is generally advisable, especially when there is pain, tenderness and muscular rigidity. In cases of strangulated hernia, when there is any question as to the integrity of the bowel, he believes that resection should be performed. The distended loop should be drained above the constriction. As soon as the gut has been delivered through the supplementary incision he clamps it off and ties a glass tube, to which is attached a rubber hose, into its proximal end, and then proceeds with the resection. This is time saving and drainage is effected without soiling the field.

The Lancet, February 25, 1905.

Mental Symptoms Associated with Heart Disease.—H. Kerr reports a case of valvular heart disease occurring in a man of fifty-two years, autopsy showing an enormously hypertrophied organ, with mitral and aortic lesions. The special features of the case center about the patient's mental condition, which presented, as initial features, depression, low spirits, and a suicidal tendency. Later, after admission to the asylum, he became suspicious. After a few weeks' treatment he became cheerful and sociable, and was able to take part in indoor games. With a relapse in his cardiac condition his mental state again grew worse, and before death he had become stupid and morose. Concerning the association of insanity and heart disease, the author notes that lunacy reports show the latter to cause about ten per cent of deaths occurring among the insane. In a large proportion of these cases the heart affection has, in all probability, but little direct relation to the mental condition of the patient, but in a certain number of cases mental symptoms are present which have a very definite relation to the cardiac condition, and conform to a certain clinical type. It is this fact which has led alienists to give a place in their classifications to the insanity of heart disease as a distinct clinical variety, with subvarieties according to the different cardiac lesions, and the above mental symptoms are the typical ones of this type of insanity.

A Peculiar Form of Chronic Hyperplasia of the Mucous Membranes of the Upper Air Tract.—A series of three cases is reported by Sir F. Semon, who refers to similar cases reported by others generally as sclerotic hyperplasia. The histological findings in some of the cases are given in detail. Semon is inclined to call the process as a chronic hyperplasia, simply omitting the designation "sclerotic," for in one of his own cases a spontaneous complete disappearance of all the infiltration took place after it had existed several years. He has no theory to advance as to the cause of this peculiar change. Tuberculosis, syphilis, and rhino scleroma seem to be out of the question. Different pathologists have practically agreed as to their findings under the microscope. In general they suggest those of the later stage of hyperplastic rhinitis, in that there is an overgrowth of firm fibrillar connective tissue and small-celled infiltration around the smaller vessels.

British Medical Journal, February 25, 1905.

A Case of Acute Lymphatic Leukemia.—W. D. Donnan reports the history of this patient, a boy of twelve years, who came under his care. The child had returned home from school for the Easter holidays, and his mother noticed a spotty rash on his chest. He seemed a little more languid than usual, and became rather short of breath after any exercise. Although he expressed himself as feeling quite well, there was distinct anemia, showing especially in the mucous membrane of the lips and palate. The tongue was coated, and a petechial rash was present on the chest and trunk, and distinctly marked on the legs. The heart was normal. The spleen was just palpable under the costal margin at the end of a deep inspiration. He remained in bed for a fortnight, with a slight rise of temperature, not exceeding 100°. There was pain and swelling in one knee. The petechiæ came out in crops. At the end of the two weeks a blood examination was made. The red cells numbered 1,600,000, the white cells 40,000, while there was 30 per cent. of hemoglobin present. A differential count showed that 99 per cent. of the leucocytes were lymphocytes. The true nature of the malady was then revealed. The patient was put on Fowler's solution. The spleen increased in size. There was no lymphatic enlargement. A rise of pulse and temperature was followed by a sharp attack of epistaxis, which recurred within a few hours. Apparently as a result of the hemorrhage, the spleen was much reduced in size, and could just be felt under the costal margin. The course was so rapid that it might be compared to that of a specific fever or septicemic process. If the onset of the malady is dated from three weeks before the boy was seen, the disease ran its course in six weeks. The symptoms were acute only from the first epistaxis—six days before death. It was impossible for the mother to realize the fatal character of the disease, as the boy sat up in bed talking with his brothers and sisters, and yet eight days later he was dead. In every case in which there is anemia and the symptoms are obscure, a blood count is an absolute necessity. The patient did not appear to die from loss of blood, but rather from an acute septicemia, with high temperature and a steadily increasing pulse. The epistaxis could always be controlled by plugging. The only sign in this case for several weeks was the presence of a purpuric eruption on the body. The white cells, as is usual in acute lymphatic cases, were almost exclusively large lymphocytes. Acute leukemia is generally of the lymphatic type, occurs in young subjects, is generally fatal in from two to four months, and is uninfluenced by treatment.

Ovariotomy in a Child.—J. Hope Reford describes this case. The patient was eleven and a half years old. She had a temperature of 101° F., and was suffering from colic in the lower part of the abdomen, with gastrointestinal disturbance. For the previous five months the patient had complained more or less of these symptoms, but within the last few days they had become much aggravated. There was fullness of the hypogastrium, and a tumor was plainly palpable, extending above the umbilicus, dull, fluctuating, very tense, and with outlines clearly defined. There was no dullness in the flanks, and the tumor remained unchanged when the bladder was evacuated. At operation the tumor was found beneath the omentum. Its surface was smooth, it was very tense, and filled the lower part of the abdomen. On puncturing, about one and a half pints of slightly blood-stained fluid escaped. The cyst was found to spring from the left ovary. A few recent adhesions to the intestines were easily separated by the fingers. The appendages on the left side were removed, together with the tumor. The right ovary was not disturbed, as it appeared to be healthy. On opening the tumor, a mass of hair appeared, revealing a dermoid cyst. This fact probably accounted for its development at such an early age. The patient made a good recovery.

Incubation Period of Mumps.—James E. Blomfield calls attention to the fact that in the Code of Rules for Prevention of Infectious and Contagious Diseases in Schools, the quarantine period of mumps is given as twenty-four days. He mentions a case in which, at the extreme end of the twenty-fifth day, after exposure, an attack of mumps began, though it could not be recognized as mumps till the twenty-sixth day. In various treatises, the limit of the incubation period of this disease is given as three weeks, while in two it is given as twenty-five days.

Berliner klinische Wochenschrift, February 13, 1905.

Misuse of Tendon Transplantation.—Oppenheim says that, although undoubtedly good results have been obtained in certain cases by the transplantation of tendons, the indications for the operation should be restricted solely to conditions in which the morbid process has run its course and is stationary. That sufficient care in selecting cases is not always exercised by operating orthopedists is shown by three cases which have lately come under the author's observation, in which the ill-advised attempt was made to correct by operation palsies due to progressive central lesions. The first case was one of progressive muscular atrophy, the second, one of chronic anterior poliomyelitis. The third patient was an elderly woman who had suffered for some time from pain and weakness in the left leg, for which a celebrated orthopedic operator did a transplantation, regardless of the fact that similar symptoms were beginning to develop in the other leg also. Oppenheim's examination, three months later, showed that the symptoms were due to pressure on the lumbosacral cord by a tumor, probably malignant, and this diagnosis was confirmed by radiography. He accordingly concludes that it is the duty of the surgeon before undertaking such an operation to assure himself that the patient's malady has come to a permanent standstill and is no longer progressive.

Palpation of the Appendix and Appendicitis Larvata.—Hausmann agrees with Ewald, Edebohls and others who believe that the normal appendix can in many cases be palpated without any great difficulty, and says that he has succeeded in thirty-six cases. Considerable practice is necessary and some patients are wholly unsuited to this examination by reason of thick or resistant abdominal walls, or through inability to breathe properly. The latter feature is important as it is neccessary gradually to force the examining fingers deeply down to the pelvic brim, and each advance must be made while the muscles are relaxed during expiration. In order not to impair the tactile sensibility of the palpating fingers the other hand should be applied to the back of the examining fingers and supply all the pressure needed. The cecum, ascending colon and ilium must first be identified and the the cord-like, more or less hard, appendix be sought for by moving the fingers back and forth along the pelvic brim. By this means it is frequently possible to detect enlargement or tenderness of the organ, and so make the diagnosis of masked appendicitis in cases without local symptoms, and often simulating other diseases.

Münchener medizinische Wochenschrift, February 14, 1905.

The Hemolytic Action of Photodynamic Substances.—Sacharoff and Sachs undertook experiments on the hemolytic powers of fluorescent and other similar bodies, in order to supplement the observations of Tappeiner, Jodlbauer, Edlefsen and others on sensibilization, protozoa, etc. The first tests were made with eosin, which was added in varying amounts to 5 per cent. dilutions of rabbits' corpuscles, and the tubes then exposed to the sun while a control set of tubes was kept in the dark. The latter showed no change at the end of two hours, whereas the contents of the former had undergone complete hemolysis even in the dilution of 0.00075 c.c. of a 1 per cent. eosin solution to 1 c.c. of 5 per cent. rabbit's blood. The fact that this activity is largely dependent on oxidation was demonstrated by adding sodium sulphite to tubes containing erythrosin, under which conditions no hemolysis took place. It was found that the hemolytic property was manifested only by fluorescent substances, but that the degree of fluorescence and of photodynamic activity was not proportional, some of the most strongly fluorescent bodies being less hemolytic than others showing less fluorescence. The non-fluorescent substances tested did not possess any hemolytic activity, in spite of the fact that several of them, such as nigrosin, fuchsin and methylviolet belong to the best photographic sensibilizers. The authors therefore conclude that there is some connection between fluorescence and photodynamic activity.

The Question of Acute Cardiac Dilatation.—Starck says that the possibility of acute dilatation of the heart accompanying exertion, followed by rapid return to normal size is still disputed, as various authors who have studied the question, both clinically and experimentally, have arrived at widely different conclusions. He describes the case of a student who was examined shortly before a student duel and again immediately afterward, when he was found to have enormous cardiac dilatation, which had, however, almost completely disappeared a few hours later. The patient had experienced similar attacks of tachycardia and cardiac pain after other severe exertions, such as bicycling, and the author attributes the weakness to a preceding typhoid and other infectious diseases. The enormous dilatation taking place at the duel, which gave rise to such severe distress as to compel interruption of the combat before it had lasted more than a few moments, must be ascribed to psychical excitement rather than to fatigue, as the muscular work had been only very slight.

An Automatic Mixer for Making Serum Tests.—Pfaundler describes a device by which it is possible to make twelve dilutions of mixtures of serum and culture for agglutination reactions, ranging from 1-4 to 1-8,000, in three minutes and without requiring more than 0.5 c.c. of serum. By the use of the Thoma-Zeiss blood pipette in conjunction with the apparatus, the necessary dilutions may be carried out using only a single drop of blood from the patient. The author's device consists of a glass stop cock having four short tubes radiating from it at right angles to its long axis. The valve plug is recessed so as to form a cavity holding about 0.5 c.c. which can be brought into communication with any of the four tubes. One tube contains salt solution, another culture, another the serum, and the fourth is the mixing chamber from which each dilution as made is discharged. The author claims as advantages for the method the convenience with which dilutions up to any grade may be made, the fact that the culture is never exposed to the action of a stronger concentration of serum than it is to be tested with, and that the same quantity of culture is present in each dilution, the small amount of blood required, the avoidance of all danger of infection of the operator with the culture, and the simplicity and cheapness of the apparatus which can readily be cleaned and disinfected.

Deutsche medizinische Wochenschrift, February 2, 1905.

A New Method of Epilation.—Kromayer describes a new principle for the removal of undesirable hairs, which consists in punching out little disks of skin with a rotary circular knife. The procedures usually resorted to for this purpose, comprising the application of pastes and pulling out the individual hairs with forceps, are unreliable and almost certain to be followed by recurrences of greater or less extent because the papilla is left behind, and even with the electrolytic needle many of the papillæ escape destruction. The attachments of the hair follicle to the cutis are fairly close, but the root itself in the subcutaneous tissues is but loosely fixed. The author employs circular cutters varying in diameter from .7 to 1.2 mm., which are driven by a treadle machine or a motor, and with which it is possible to punch out minute disks of skin, the resulting wound healing without leaving a scar. The method of application is to cut the hairs short and with a quick touch of the cutter to punch out a tiny piece of skin having a hair in its center, the knife being carried just through the cutis. The stump with the root attached may then readily be removed with forceps. The course taken by the knife should follow that of the hair, but usually the instrument need not penetrate to a greater depth than 1.5 mm. The pain caused is about the same as that attending the prick of a needle, and for sensitive patients freezing with ethyl chloride is recommended. Depending on the circumstances, from one to two hundred hairs may be removed at a sitting, and the author has gone as high as three hundred.

The Treatment of Pulmonary Hemorrhage.—Hochhaus says that slight degrees of pulmonary hemorrhage require rest in bed in a cool room with no one present except the nurse, so as to avoid all excitement or talking; cracked ice by mouth and the application of the ice bag to the affected side if it be known, otherwise to the heart. It is not certain that the external cold actually does influence the internal vessels, but at any rate it enforces quiet on the patient, and has a good moral effect. Of the hemostatic drugs, a tablespoonful of salt in a little water is an old remedy, and ten to twenty drops of the fluid extract of ergot, or the same dose of fluid extract of hydrastis may be given. Traube recommends 0.02 gm. of lead acetate every two hours, and Fränkel has found 0.5 gram capsules of oil of turpentine every six hours useful. The routine use of opium in these cases is to be condemned and the drug is to be employed only when persistent cough keeps up the bleeding. In more severe cases the subcutaneous injection of of 40 c.c. of sterile 10 per cent. gelatine solution is warmly recommended by the author, as well as hypodermic injections of ergotin. Bandaging the extremities helps to relieve the pressure in the lungs, and should be done in such a way as to impede venous return but not to check the arterial flow; in this way large quantities of blood may be stored in each limb. Immobilization of the affected sides of the chest by strips of adhesive plaster is also to be tried in obstinate cases. Quincke in an intractable case had Bier resect the two first ribs in order to cause collapse of the affected lung, with temporary cessation of the hemorrhage; Turban also tried this measure with similar results.

The American Journal of the Medical Sciences, Feb., 1905.

Copious Water-Drinking and Polyuria in Typhoid Fever.—Edward F. Cushing and T. W. Clarke have made some very interesting observations on this subject. They report the results of the administration of abundance of water to one hundred typhoid patients. They have found that unusual amounts of from a gallon to a gallon and a half of water, or even more, could easily be taken in the twenty-four hours by typhoid fever patients. This was accomplished by giving four ounces every fifteen minutes during the waking hours. This amounted to from eight to fourteen pints. Besides this, an ordinary patient received every two hours during the day, and once or twice at night, alternately six ounces of milk and six ounces of albumen-water. This amounted to about three pints more of fluid. These large quantities were well borne. A careful analysis of these cases has been made, and has been compared with a series of fifty cases in which this treatment was not followed. In relation to this treatment, the writers state that a copious elimination of watery urine at once follows, the degree of polyuria, day by day, closely corresponding to the quantity of fluid ingested. Patients are more comfortable by this mode of treatment, and toxic, nervous symptoms are lessened. The mortality, as well as the severity, of typhoid fever, they believe, is still further diminished by this method of hydrotherapy employed as an accessory to the cool-bath treatment of the disease.

Chloride and Water Excretion in Typhoid Fever, with Copious Diuresis.—Torald Sollmann and J. A. Hofmann have investigated several interesting features of urine secretion in typhoid fever, as influenced by the treatment described in the preceding article. They offer the following conclusions: The free administration of water to typhoid patients causes a large polyuria, exceeding three litres per day, and averaging over five litres. On isolated days nine litres are not rarely excreted. The percentage of chlorides and the total molecular concentration are much below normal, while the daily excretion of total dissolved molecules exceeds that of ordinary typhoid cases. The eliminating capacity of the kidneys is not injured in typhoid fever, nor by a prolonged polyuria. There does not appear to be any accumulation of fluid in the body, the excretion being very nearly parallel to the income. The quantity of urine is influenced by the perspiration, and to a lesser extent by catharsis. It seems probable that the perspiration is freer under the influence of the large administration of fluid. The temperature has no direct effect on the diuresis. Diuretics do not increase the polyuria, nor does the administration of calcium chloride appear to diminish diuresis. The effect of the polyuria on the chloride excretion, as compared with ordinary typhoid cases, consists in a diminution of the percentage and an increase of the amount excreted per day. Minor variations in diuresis affect the percentage, but not the daily output. Perspiration acts indirectly by influencing the diuresis. The course of the fever, the degrees of hyperpyrexia, and the convalescence appear to have no direct effect. The chloride excretion varies strictly with the chloride income. The effect of calcium chloride, however, is delayed and comparatively small. Agurin, sodium acetate and nitrate, and urotropin had no effect on the chloride excretion, but it was increased by iodide. Moderate nephritis was without effect. The excretion of water and chlorides in typhoid fever appears to obey the same laws as in health. But there is a greater tendency to chloride retention in the fever. The difference appears to be quantitative and not qualitative. It is greatly diminished by polyuria. The prolonged restriction of the chloride income appears to produce no deleterious effects, and the patients do not develop "salt hunger."

The Toxemia of Pregnancy.—Edward P. Davis declares that pernicious nausea is the earliest manifestation of the toxemia of pregnancy. Strong evidence has been advanced that a toxemic condition is the cause of pernicious nausea. Skilful feeding and absolute rest offer the most successful treatment for this condition, and when these fail, pregnancy should be interrupted. The writer, after suggesting various available methods in the investigation of toxemia, emphasizes the importance of the careful observation of the patient by the physician, without recourse to technical examination. In the toxemia of pregnancy, the liver is the organ most often diseased. Post-mortem findings show the most striking changes in the liver. The characteristic lesion in the liver of toxemia and eclampsia in mother and fetus is hemorrhagic necrosis, with multiple thrombosis. The part played by the intestine in the toxemia of pregnancy is well known. In this condition the thyroid gland is deficient or altered in activity. The writer declares that our best knowledge at present leads us to believe that the toxemia of pregnancy is not essentially of nephritic origin. While the study of the urine does not show marked renal changes in the toxemia of pregnancy, the examination of the blood is more conclusive. In these cases the blood serum is distinctly toxic, as can be seen by its effects on animals. The poison of toxemia and eclampsia has not yet been chemically identified. In treating this condition the details of hygiene must be observed. As to drugs, laxatives are indicated. Calomel is valuable in increasing the solid excretion. Salines often cause the dissolution of dried feces and the absorption of fecal matter. If the toxemia persists, not yielding to treatment, induction of labor must be considered. Saline waters, especially vichy, are valuable in preventing serious toxemia. Normal salt solution by hypodermoclysis or by rectal injection, is indicated in the presence of threatening toxemia. In this affection it must be remembered that the vital organs are undergoing extensive degenerative changes, and the toxemic woman is not safe with the termination of pregnancy.

The Clinical Manifestations of Hemorrhages in Eclampsia.—Ralph Waldo Lobenstine states that hemorrhagic manifestations in eclampsia are evidenced only in those cases suffering from an extreme degree of toxicity. Although he has made an extensive review of the literature, he has come to no accurate conclusion as to the frequency of this group of cases. Only a few isolated cases have so far been reported. The writer enumerates the chief symptoms, as follows: Profound toxicity, jaundice, abdominal distention, which is usually a prominent and early symptom, beginning as an epigastric distention, which gradually becomes generalized; this sign is of bad omen, and in eclampsia should always suggest the possibility of hemorrhagic complications; vomiting, which consists of clear fluid or curdled milk, then bile, and, finally, coffee-ground material or clear blood; pain and tenderness over the liver and hemorrhagic manifestations other than the vomiting of blood. The chief pathological features are the development of multiple hemorrhagic foci in the various organs, the development of thrombotic processes in many of the smaller vessels, and the formation of irregularly shaped areas of necrosis in the several organs of the body, especially in the liver. The writer does not believe that eclampsia should be spoken of as being either primarily renal or hepatic in origin. Rather, the lesions in these organs should be regarded as the result of and not the cause of a toxemia whose true nature is not yet known, but in which doubtless both the mother and fetus play a part. Five of the seven cases which the author reports died. Treatment consists in sedatives, emptying of the uterus, diuresis, suprarenal extract and calcium chloride in large doses, preferably given by rectum.

Pathological Study of a Case of Myxedema Associated with Tuberculosis of the Adrenals.—J. Ramsay Hunt gives the results of his study of a case of this nature in which the disease had been gradually progressing during a period of four years, so that the dermal and neural manifestations were well marked at the time of death. In reviewing the changes, he states that the most important and essential one consists of an extensive atrophy and sclerosis of the thyroid gland. The hypophysis cerebri was not the seat of any considerable compensatory hypertrophy. The coexistence of a chronic tuberculosis of the adrenal glands is a rare example of a pathological coincidence. The characteristic symptoms of Addison's disease were absent. There was well marked generalized arteriosclerosis. Histological examination of the central and peripheral nervous systems was entirely negative. It is strange that symptoms which are so grave, and which persist often for years, are not attended by permanent alterations of nerve structure, but it has been impossible to demonstrate in the central nervous system uniform structural change which could be taken as their basis. The effects of thyroid therapy in cases of myxedema give strong clinical evidence that the nerve element in this disease is not dependent upon organic changes in the neural structures of the body.

Posterior Basic Meningitis.—Henry Koplik has seen a number of cases of posterior basic meningitis occurring sporadically throughout five years of continuous hospital service. He has established the fact recently that these cases may occur in epidemics of cerebrospinal meningitis. In a recent epidemic eight cases of cerebrospinal meningitis were typical cases of posterior basic meningitis, admitted at various periods of the affection. Some of these cases were as young as four months of age; most of them were below two years of age. The previous history was negative in all of these cases. The onset in the cases below two years of age was sudden in all but one case. In all cases fever and vomiting were followed by rigidity of the neck, in some cases by convulsions. The temperature in cases which had lasted for some length of time would not range above the normal until close to the final issue. In most of the cases below two years of age, there was no change in the fundus of the eye. The leucocyte counts were, as a rule, low, similar to those noted in tuberculous meningitis, and of no diagnostic value. Lumbar puncture in posterior basic meningitis is not always successful in evacuating fluid. The chronic cases yielded negative results so far as microorganisms in the puncture fluid are concerned, and the mononuclear picture resembled what is seen in tuberculous meningitis. According to the writer's interpretation, there are two forms of basic meningitis. The first, which is primary, corresponds to the type described by Still, in which there is a primary inflammation of the meninges, caused by the diplococcus intracellularis of Weichselbaum, and the second, occurring in older children, in which the symptoms in no way resemble those of the cases described by Still. In the second type the disease may be complicated with pneumonia, or may be secondary to this affection. Certain symptoms may occur, however, which will point to a basic involvement, such as facial paresis and paralysis of the eye muscles.

A Case of Parinaud's Conjunctivitis.—William Campbell Posey, in describing this disease, states that the first symptoms are those of a mild case of granular or purulent conjunctivitis. The secretion is not very abundant, the lids are swollen, the conjunctiva thickened, and granulations appear, which are at first small and semitransparent, later becoming yellowish, then red and opaque. In most cases some of the granulations assume a polypoid character, and may attain one-quarter of an inch or more in length. The writer says that these granulations, hanging chiefly from the fornix, present a most striking appearance, and form one of the characteristic features of the disease. This affection simulates tuberculous conjunctivitis very closely. The simultaneous involvement of the glandular system, and the peculiar pedunculated character of the granulations in some cases, and the rather characteristic erosions which occur between the granulations will usually differentiate the diagnosis without much difficulty. In certain cases, however, histological examinations and experimental inoculations will be necessary to make the diagnosis absolute. The origin of the affection is unknown. The pathological anatomy is also still in doubt. Treatment consists in antiseptic lotions and cauterization with silver and copper. Excision may be practised when the granulations are large. In certain cases searing with the actual cautery may be necessary. Alterative ointments should be applied to the glands, and if suppuration threatens, hot compresses, followed by incision and drainage. The glandular involvement and the symptoms of general systemic depression seem to point to an infective process.

Typhoidal Insanity in Childhood.—David L. Edsall believes that while this affection is uncommon, it is not extremely rare. From his study of the literature, the writer finds that in an appreciable number of cases the insanity persists; that mania is but little more common than dementia, while melancholia is far less common, and that a very marked proportion of the dementias do not get well. Dementias following typhoid fever must be far more common in childhood than in adults. Dementias are of far graver prognosis when of marked degree than are the other forms of insanity. The simple delusions and hallucinations, without other mental disturbance, seem practically always to get well. The writer states that it is almost impossible to make any satisfactory statement as to the actual frequency of typhoidal insanity in childhood. It is often far more difficult to determine with children that this affection is present, and when it began, than it is with adults. The course of almost all of the cases that the writer has seen was directly related to the condition of the general nutrition. A certain number are without doubt toxic in their origin. The histories of the cases show no consistent relation to the severity of the attack of typhoid fever. There is, however, often a story of marked reduction of nutrition. The writer believes that feeding should be as free as possible, even during the latter part of the fever, and particularly if suspicious symptoms remain present or develop, the food should be very rapidly increased during convalescence.

Annals of Surgery, February, 1905.

Acid Intoxication; Its Significance in Surgical Conditions.—A series of forty-five cases has been studied by J. A. Kelly, who observes that at present our knowledge of the conditions accountable for the symptoms present, and for the occurrence of acetone and diacetic in the urine, is yet in its infancy. It has been proved experimentally that it is not due to acetone circulating in the blood, as the same condition has been produced experimentally by other substances. The amount of acetone found in the urine is no index as to the severity of the affection. Whether the occurrence of the symptoms is due to a toxic substance acting on psychomotor centers, or due to pressure on these centers, has not been proven. This is only offered as a suggestion as to the causation. That there is some toxemia occurring is doubtless true; whether it is due to the presence of volatile fatty acids, to the rapid destruction of proteid matter, or to the rapid elimination of the alkalies is impossible to say at the present time. The object of the author is to report a series of cases in which the condition has been present in a large proportion; to call attention to the condition as it exists in surgical cases; to show that what has been considered as a rather fatal condition is present mildly in a variety of cases, and to hope that it will stimulate to some extent experimental and clinical investigation.

Volvulus of the Jejunum.—A case is reported by C. L. Scudder, his patient being an adult woman who, after a "boiled dinner," was seized with colic, nausea, vomiting, and loose bowels. She was first seen by the author on the third day of the attack, and was then in a condition suggesting peritonitis and impending collapse. Abdominal section revealed an almost black coil of the jejunum about two feet long, twisted at its mesenteric attachment. Upon untwisting this volvulus it was found to extend up to within about two inches of the beginning of the jejunum, and thence down for two feet. The condition of the patient precluded the possibility of further interference. The abdomen was closed and the woman died. The author notes the necessity of exact diagnosis as to the cause of abdominal pain, and believes that earlier intervention in this case would probably have saved it. Volvulus of the jejunum as high as was this is rare. Microscopic examination of the tissues removed showed obliterating thrombosis of the superior mesenteric vein, with hemorrhagic infarction of a portion of the jejunum.

Primary Urethral Calculus.—H. E. Wolf reports the case of a man of fifty years, who died of a general sepsis, with multiple visceral lesions. Autopsy showed a calculus in the urethra, which was overlooked owing to absence of symptoms pointing to involvement of the genitourinary tract. The calculus weighed a little over 23½ grammes, and was located in the pendulous urethra, its foremost point being 5.4 cm. posterior to the external meatus, and the rear end 10 cm. from the same point. Its shape was such as to leave a narrow slit, through which the urine could pass. Two specimens examined showed no sediment. Analysis is made of previously reported cases.

Case of Bone Transference.—T. W. Huntington publishes the history of a case which illustrates the possibility of supplying a tibial defect amounting to absence of nearly the entire diaphysis by the appropriation of a corresponding portion of its companion fibula. The defect was the result of an acute, infectious osteomyelitis occurring in a boy of seven years. The fibula was sawed at a point opposite to the lower end of the upper tibial fragment and attached thereto, and the divided end of the fibula was firmly planted in a cup-shaped depression of the tibia. Union was slow, but became solid in the course of six months. Three months later it was decided to transfer the lower end of the fibula to the lower fragment of the tibia. Bony union was secured, and the patient made a good recovery. The limb was three-quarters of an inch shorter than its fellow, but was of fairly normal contour, and the patient was able to walk with only the suggestion of a limp, and to join in the ordinary sports of his fellows.

Contrecoup Fracture of the Sternum.—The rarity of sternal fractures leads G. De Tarnowsky to report a personal case. His patient, a man of forty-three years, fell from a ladder, turning a somersault and doubling up his body. Examination showed, among other injuries, a distinct protuberance of the sternum at the level of the second and third chondrosternal articulations. There were no external bruises; exquisite tenderness was present and crepitus was elicited. The patient progressed slowly toward recovery, but one week later began to have cramp-like pains in both arms. It was judged that there was some pressure over the lower cervical vertebræ, but no deformity could be made out at that site, nor was there any external evidence of injury. Two weeks later there was a distinct palpable ridge at the level of the second costal cartilages, the lower fragment slightly overlapping the upper. The callus was dense. All the spinal symptoms disappeared, and the patient was discharged in a satisfactory condition. Sixteen cases previously reported are analyzed, and the condition considered in a systematic way as to etiology, pathology, diagnosis, prognosis, and treatment. The factors producing such sternal fractures are summarized as follows: (1) Falls on the head or shoulders press the ribs forward and upward, the range of motion increasing from the first to the seventh pair. (2) The clavicles may sometimes act as a lever and help to wrench the manubrium from the gladiolus. This is especially true in falls on the extended hands. (3) Intrathoracic pressure at the time of the fall exerts a positive pressure on the thoracic wall. (4) The second costal cartilages act as a wedge, tending to separate the manubrium from the gladiolus.

Symmetrical Inflammation of the Epiphyseal Beak of the Tibia.—By the term "beak," K. Winslow refers to one of the two centers of ossification of the tubercle of the tibia, which develops as a peculiar process, which projects downward from the upper epiphysis. This beak is separated from the lower center of ossification of the tubercle by cartilage up to the eighteenth to twentieth year, when the two centers become merged into one bony tubercle, as it is seen in adult life. The lower center of ossification of the tubercle does not appear until the twelfth year. He then reports the case of a boy of fourteen years, in whom there was an inflammation of these structures on the two sides. He had had, probably, a scarlet fever two years and a half previously, followed by joint lesions. The knees were said to have been very sore for some time (when the case was first seen by the author) and to "give way" frequently. After rest in bed, with fixation of the limbs on splints had been tried for a month, together with various other measures, as external applications of heat and cold, counterirritants, actual cautery, etc., without avail, the boy came to operation July 9, 1904. At operation there was found an area of softened, spongy, and much infected bone, perhaps as large as a silver quarter-dollar, covered with greatly thickened periosteum under the seat of each external protuberance at the head of the tibia. The softened, diseased bone was scraped away to a depth of perhaps one-third of an inch, and the periosteum and skin were approximated without drainage. There was no suggestion of any suppurative process. The wounds healed well without infection. Cultures taken from the scrapings proved sterile, and an emulsion of the same injected several times intraperitoneally into a rabbit gave a negative result. The scrapings did not afford suitable material for sectioning. The patient made a perfect recovery.

French and Italian Journals.

Post-Malarial Cerebral Syndrome.—Forli observed a young man in whom there was an undoubted cerebellar syndrome ending after two weeks in recovery, but returning at the end of a month of good health. The history of malarial fever, the enlargement of the spleen, and the absence of other organic or functional alterations which might cause the symptoms made him regard them as due to malaria. The immediate cause might be an anatomical lesion or a toxic action from the changes in the blood.—*La Riforma Medica,* February 4, 1905.

Treatment of Echinococcus Cysts of the Liver.—Biondi advises in unilocular cysts, single or multiple, if non-suppurating and not adherent, laparotomy, complete evacuation, injection of fluoride of silver in 1 per cent. solution, and suture of the liver and abdominal walls. If adherent and non-suppurating, evacuation without laparotomy and silver injection. In non-suppurating cysts with proliferating cysts, laparotomy, evacuation, irrigation with normal salt solution or disinfection with silver, suture of the sac. In single and multiple suppurating cysts, marsupialization after the Lindemann-Landau method, and silver irrigation. In small, free, pedunculated cysts, enucleation and suture. In an entire lobe filled with cysts and easily pedunculable, resection and suture. In case of alveolar echinococci not susceptible of radical treatment, excise as much as possible and treat the rest by injection of fluoride of silver.—*La Riforma Medica,* February, 1905.

Book Reviews.

The Influence of Growth on Congenital and Acquired Deformities. By Adoniram Brown Judson, A.M., M.D., Orthopedic Surgeon to the Out-Patient Department, New York Hospital, 1878-1903; Statistical Secretary of the New York Academy of Medicine; formerly President of The American Orthopedic Association, etc. New York: William Wood & Company, 1905.

"The object of this book," the author states, "is to emphasize the fact that prevention and cure are to be found in so managing a case and equipping a patient that nature-growth will be the principal factor in recovery." It is refreshing in these latter days, when the tendency is to rely exclusively on the knife to correct deformities, to have our attention called to the fact that, with a little judicious assistance, the natural processes can effect cures in children in the larger number of cases. And this method of correcting deformities has two important advantages. First, the gradual return of the limb to its proper position by natural forces secures a better adjustment of the bones to their changed relations than occurs when these bones are suddenly and violently wrenched from their displaced state and then forcibly held in their new position. Second, the treatment of deformities by "nature-growth," as the author happily terms his method, has this great advantage over operative procedures, that it enables every practitioner to treat his own cases with the more or less frequent advice of an expert in the use of appliances. It is on this account that we regard the work before us as a most important contribution to orthopedic surgery.

The text is written in a very concise and yet lucid style, with such necessary discussion of the causation, pathology, and indications of treatment of deformities as will enable every physician to appreciate the precise line of procedure in each case. Each instrument is explained with that amplitude of details in regard to its special features and its application to the affected part that will enable the busy practitioner to treat successfully the deformities which from time to time occur in his practice.

This work will prove very acceptable to those who have been familiar with the patient and successful labors of Dr. Judson in the field of mechanical surgery. Whatever allurements the more immediately brilliant results of operative treatment of deformities may have presented to others, he has never swerved from his devotion to nature nor lost faith in her conservative power in correcting her own errors when assisted by an intelligent mind and skilful hand.

Bacteriology and the Public Health. By George Newman, M.D., D.P.H., etc. Third Edition. Philadelphia: P. Blakiston's Son & Co., 1904.

This book presents a simple, general statement, brought up to date, of our knowledge of bacteria in their relations to the public health. It does not pretend to deal fully with laboratory methods or technique, but broadly treats the general subject covered by its title, and particularly the everyday problems of preventive medicine. The author is conservative and draws no deductions which are not substantiated by abundant proof. Altogether, the book is an excellent one and should be in the library of every health officer, who will find it a ready and safe recourse for reference.

Die Färbetechnik für das Nervensystem. Von Dr. Bernhard Pollack. Berlin: S. Karger, 1905.

This book is intended to serve as a guide for advanced workers engaged in the microscopical investigations of the central nervous system. It contains chapters on autopsy technique, on methods of hardening, imbedding, and staining the various elements of the nervous system, also on the change in the weight of the brain after preservation in various fluids. The present is the third edition of the work, and it has been brought up to date in conformity with recent progress in this field. Particular attention is accorded to the methods for demonstrating the neurofibrillæ, in accordance with the importance which this subject has lately assumed.

Surgery of the Prostate, Pancreas, Diaphragm, Spleen, Thyroid, and Hydrocephalus—A Historical Review. By Benjamin Merrill Ricketts, Ph.B., M.D. Cincinnati, 1904.

In writing this book, the author has examined all the available literature on the subjects mentioned, has arranged it chronologically and placed it in chapter form, each introduced by a brief anatomical description of the part and a historical review. The work represents an enormous amount of careful and painstaking labor, and will afford surgeons and writers a most complete bibliography of the surgery of the organs mentioned. It is in fact an elaborated index medicus, and the idea might well be applied to other branches of medical science.

Géographie Médicale. Par le Dr. E. Laurent. Paris: A Maloine, 1905.

This book stands almost alone in the subject of which it treats. The author has endeavored to prepare a book of ready reference for intending travelers or for physicians who are consulted as to the effect of certain climates upon special diseases. The medical geography of France is discussed quite fully, and the detailed information about that country is very valuable. When the author comes to discuss the other countries of the world, however, his statements are more or less general and vague, and lack that exactness and fullness of detail which alone would render such a work as that under consideration one of much practical value. Dr. Laurent has made the mistake of attempting to compress within a relatively few pages a subject, the proper treatment of which would require many volumes. Still, his book has a certain value for "globe-trotters" and physicians sending patients abroad, and, so far as it goes, it can be recommended.

The After-Treatment of Operations. A Manual for Practitioners and House Surgeons. By P. Lockhart Mummery, F.R.C.S. New York: William Wood & Co., 1905.

The appearance of a second edition within a year after the publication of the first, indicates that this book has been favorably received. It was written to fill a vacancy in surgical literature, and it has evidently met the indications demanded. It has not been found necessary to add very much to the original text, a section on smoking and drug habits in their relation to operative procedure has been added and the description of postoperative insanity has been enlarged. The chapter on shock and collapse has been revised and brought up to date, likewise that on abdominal surgery, especially the part dealing with the operation for appendicitis. This book constitutes practically the first effort to present this subject in a useful form for ready reference, for what has been written is found for the most part in a fragmentary form in the larger textbooks and scattered through medical journals. The author deserves to be commended for presenting a work of this nature to the profession.

Manual of Operative Surgery. By Dr. John Fairbairn Binnie, A.M., C.M. Philadelphia: P. Blakiston's Son & Co., 1905.

Works on operative surgery have become so numerous during the past few years, that any accession to the ranks must demand some special reason for its publication. And we find that the present work is intended by the author as a manual in which there should be omitted, as far as possible, all descriptions of those procedures which are ordinarily thoroughly given in the usual textbooks on general surgery. Reference to amputation and ligation has been omitted, and such portions of genitourinary and rectal surgery as are treated in the textbooks are not taken up, neither is the operative surgery of bones and joints. The aim has been to be practical, to describe operative procedures as they are done on the living subject, instead of on the cadaver. In going over the book one is impressed by the fact that a large amount of material has been gathered into a small compass, much of which has hitherto been available only in scattered books and journal articles. The text is clear and concise, the illustrations numerous, simple and well selected.

The Common Lot. By Robert Herrick, Author of "The Web of Life," "The Real World," etc. New York: The Macmillan Company; London: Macmillan & Co., Ltd., 1904.

In this work the author has given to the public another and a very valuable contribution to that order of fiction now in vogue, and of which there have been several notable examples of late years—so-called realistic—and truly so-called in the sense that they take us down into that arena of life where men actually move and work and have their being. In that rushing clamoring world of business, where men deal hand to hand with men, character is sometimes made, and often marred, but it is always tested, and it always tells, and it is good to be reminded that through all the rush and the dust and the din, the voice of the ideal is still to be heard, and that there are to be found men who heed it, and that to-day, as of old, "honesty is still the best policy" in many senses of the phrase. The mills of the gods grind so slowly to the perceptions of many of us, that our writers of serious fiction may be held as benefactors of their kind when they give us books as good as this one to remind us that they still grind.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, Held February 21, 1905.

Dr. Charles H. Lewis in the Chair.

An Unusual Case of Chorea.—Dr. Wm. B. Noyes reported a case because of its interest in emphasizing some of the unusual symptoms and causes. The patient was a girl, 23 years old, a foundling. She had suffered within a year with rheumatic pains in different joints. Five or six months ago she developed some skin eruption, which she called "hives," and which itched, but disappeared when she took sulphur. Her hair had been falling out. About four weeks before the doctor saw her she had a sore throat and white patches in her mouth. For some weeks she had been acting strangely and had threatened suicide. She made two attacks against her roommate. She cried frequently and her memory was said to be failing. Her speech was somewhat affected and her enunciating was slurring. Ten days ago she noticed a twitching of her arms, shoulders, and facial muscles. She had never had a previous attack of chorea. Her right arm was so numb that she could not use it. Her friends said that she had been delirious for several nights. When called the doctor found her suffering from general choreiform movements of the face, upper extremities, and legs, so severe that she could hardly walk or sit up in a chair. Her mental condition seemed to be hysterical. She was sent to the Columbus Hospital. On admission her nervous and mental condition seemed to be somewhat better. A soft, systolic murmur, presumably hemic, was present. The cervical and epithrochlear glands were enlarged. There were constant choreiform movements of the tongue and irritated patches under the tongue. There was a coarse macular eruption over the forearms and over the palms, which did not itch. The skin of the legs and body was free. The rash was diagnosed as an early secondary syphilitic eruption. Her mental faculties, excepting for her complaint of depression and suicidal impulses, seemed more normal, and memory and reasoning power appeared to be normal. For some days her temperature was 99° in the morning and 100° in the evening. Treatment in the hospital by antisyphilitic measures resulted in a rapid disappearance of the choreiform movements. The eruption entirely faded away. At the end of one month she was found to be pregnant, being four months advanced. This had caused her a little discomfort. Dr. Noyes said this report suggested two lines of thought; first, what mental symptoms were to be considered a part of the usual clinical history of chorea and when was a diagnosis of some independent complicating psychosis necessary; secondly, what was the relation of chorea to such etiological factors as syphilis and pregnancy. He said that an accumulation of the unusual types of chorea was convincing that besides the familiar forms of Sydenham's chorea there were a variety of symptomatic choreas with choreiform movements absolutely indistinguishable from those of ordinary chorea minor. We could be assured that we were dealing with Sydenham's chorea if we had the circle of the choreiform movements, a history of rheumatism and endocarditis. He said no one had yet disproved that Sydenham's chorea, as well as the symptomatic forms, were not secondary to toxemia, and the same statement might be made of an acute articular rheumatism. Concerning chorea magna, it might be safely stated that it was in reality no disease *sui generis,* but that it appeared at puberty from the influence of hysteria or simulation. Genuine psychoses and cerebral disease were responsible for part of the cases. Concerning chorea of pregnancy, while many gave a history of previous attacks of undoubted Sydenham's chorea in childhood, and the condition was seen as a rule among the young and frequently unmarried subjects, the prognosis was far more serious than in other forms, death being due to exhaustion. The movements in these cases were usually identical with those of Sydenham's chorea. Very few cases of chorea due to syphilis were on record. In the case reported the appearance of chorea, and of the secondary symptoms or eruption of syphilis, and the early stages of pregnancy were nearly simultaneous. Three weeks of antisyphilitic treatment caused the movements to entirely disappear.

Dr. J. Finley Bell recalled a case occurring in a poorly nourished woman, 35 years of age, in the third month of pregnancy, who was practically starving. The messenger said she was suffering from convulsions and he went to her prepared to remove a fetus. She had simple choreiform movements. The urine revealed a large amount of indican with diacetic acid and acetone. She was placed on a nourishing diet and eliminative treatment and she went through her pregnancy without further trouble. She had been absolutely without food for three days.

Contribution to the Alcohol Question.—S. P. Beebe, Ph.D., presented this communication. He said that in view of the influence of alcoholic beverages, physical, economical, and moral, upon society, it was of vast importance that the truth in regard to their physiological effect be known and taught. The analysis of many preparations, such as patent medicines, showed alcohol to be present in quantities varying from 7 to 47 per cent. Certain proprietary foods for the sick were found to contain quantities varying from 10.6 to 23 per cent. His paper was chiefly concerned with the so-called moderate use of alcohol. The maximum quantity of alcohol which might be classed as a moderate quantity had steadily decreased during the past fifty years, and at present an amount corresponding to about six ounces of whiskey was considered to be near the upper limit of a moderate drinker. The recent experiments of Atwater and Benedict with the respiration calorimeter had shown that when the daily dose of alcohol does not exceed 72.5 grains not more than two per cent. leaves the body unchanged, the 98 per cent. being oxidized into carbon dioxide and water. Such being the case, the potential energy of the alcohol must be available for use in the body for supplying heat, doing work, or in sparing body tissue. The careful respiration experiments of Zuntz and Geppert had shown that the amount of energy used in its absorption was less than that yielded by its oxidation, leaving a net percentage for body uses as great as that yielded by other forms of food. Experiments of men who approached the subject from opposite opinions had led to the following concordant results: (1) Alcohol might take the place of some fat or carbohydrate in the food. (2) When taken to replace dynamically (*i.e.* a quantity of alcohol having the same potential energy as the food replaced) a given amount of fat or carbohydrate in a body unaccustomed to its use it caused for a few days an increased excretion of nitrogen. During these few days the body gradually acquired a tolerance for this poison and the energy from its oxidation was then available for bodily needs to the same extent as the food replaced. (3) Alcohol was an extraordinary food, to be used only in certain conditions when it oxidation might be of great benefit; but on no accoun should it be taken except when needed. The conclusio that alcohol might under certain conditions be a foo substance did not argue that it should be used widely an indiscriminately. All of the conclusions from experiments regarding the food value of alcohol depended upo the determination of the total nitrogen excreted in th urine; such a determination could be made by methods tha were beyond reproach, yet they did not tell the whole stor of the effect of alcohol on the proteid metabolism in th body, for they gave no clew to the distribution of this nit gen among the several normal constituents of the urin Impairment of function might show itself in an abnorm distribution of the nitrogen among the several physiologic constituents. In health, 85 to 90 per cent. of the nitrog showed itself as urea, 2.5 to 5 per cent. as ammonia, and 3 to 5 per cent. as uric acid. The alcohol might show its toxic effect by interfering in the forms in which the total amount was excreted. The writer then described a series of experiments which he had made along this line first with alcohol and then with port wine and ale. It was noticed that the increase of uric acid was proportionally much greater when the latter were used than when a purer form of alcohol was employed. Probably port wine had the reputation of being the worst form of alcohol which could be taken. The results showed that alcohol caused a disturbance of those processes which made up metabolism and that this disturbance was evidenced by changes in the distribution of the nitrogen among the several physiological constituents of urine. With one exception the same result was found in all subjects experimented upon. Alcohol caused an increase in the excretion of uric acid; the point of greatest increase being the fifth hour following the meal. The total excretion for the alcohol day was greater than that on the control days, showing that the increase following the meal on the alcohol day was not due to a mere hastening of the normal output for a few hours, to be followed later by a drop below the normal. This experiment also afforded evidence that urates were not swept out of the body fluids by diuresis. The three products considered in these experiments, urea, ammonia, and uric acid, were the most important end products arising from the proteid metabolism in the body. The experimental work done upon the relationship which these substances bore to one another, and to the metabolic processes by which they were elaborated, had furnished but little knowledge. The relationship which uric acid bore to the complex compounds found in the cell nuclei, its origin from these compounds during the processes of metabolism, and its partial destruction by oxidation in the body tissues, were matters established with a high degree of certainty. The final steps in the production of urea were still obscure, but evidence showed that its immediate precursors were ammonia compounds and that the hepatic cells were the active agents in the preparation. In pathological conditions affecting these cells a much greater proportion of the total nitrogen was likely to appear as ammonia. It seemed probable that the liver was an agent of the greatest importance in dealing with the exogenous portion. It seemed that the experimental results might best be explained by supposing that alcohol had by its toxic action on the liver cells incapacitated them to some extent. The rapidity of its absorption into the portal circulation exposed the liver to a higher degree of concentration of the alcohol than other tissues of the body excepting the stomach mucosa. A portion of the alcohol was prbably oxidized immediately on reaching the liver, but there must have been an appreciable time previous to its oxidation during which it might exhibit its toxic action. Certain fact indicated that the oxidative functions of the liver had suffered as a result of the alcohol. Alcohol taken without food caused no increase in the excretion of uric acid and purin bases; taken with food it caused an increase of these substances, which, with constant quantities of alcohol in the same subject, seemed to be roughly proportional to the amount of purin material taken in the food. In those experiments in which the ammonia was estimated it invariably showed an increase during the alcohol period and since the diet was constant this indicated liver incapacity also. These results were obtained with moderate quantities of alcohol and no digestive disturbance was noted, but the long-continued use of moderate quantities did cause such disturbance. He said it was rather a dangerous doctrine for physicians to be too strenuous in insisting upon alcohol being a food simply as a result of calorimeter experiments, where energy was considered.

Dr. **Egbert Le Fevre** said that in the treatment of gouty conditions the use of salicylic acid was said to have a profound influence in causing a marked excretion of uric acid and, therefore, this was one of the drugs to use in this condition, clearing the blood of the uric acid that was present in it. But in Von Norden's communication it was claimed that salicylic acid was a most dangerous drug to use. that the output of uric acid was not due to a clearing out of retained uric acid in the blood, but it acted as did alcohol in increasing the output by diminishing the oxidation. It seemed certain that drugs, such as alcohol, had the power of acting upon the liver, by changing the oxidation of the purin bodies or the xanthine products so called, and increasing the amount of elimination by diminishing the amount of oxidation. Therapeutically, Dr. Le Fevre said he was a firm believer in alcohol as a food product, increasing body weight especially in certain diseases, in fevers, and in septic conditions.

Dr. E. E. **Smith** asked Mr. Beebe how many experiments were conducted to show that a pure diet of alcohol did not increase the amount of uric acid excreted?

Mr. S. P. **Beebe** replied that but three experiments had been conducted to show this. Dr. Graham Lusk has reported a case of a man who took practically nothing but alcohol. The taking of 900 c.c. of whiskey produced absolutely no change at all in the amount of uric acid.

Dr. E. E. **Smith** referred to certain experiments he had made some time ago in which the amount of uric acid was increased, more than double; these experiments were conducted upon dogs; but a moderate dose of alcohol did not increase the uric acid. He thought a possible explanation of this might be found in the influence of alcohol upon the formation of acids other than uric in the body. It was known that certain organic acids were formed in the body and gave rise to an increase in the elimination of ammonia and the synthetic formation of uric acid. By its influence on digestion alcohol might occasion certain digestive disturbances and the formation of lactic acid.

Mr. S. P. **Beebe** said that if large quantities of alcohol were used, and for a considerable length of time, it would be reasonable to suppose that these digestive disturbances would develop, but in his experiments only moderate doses were used, and no digestive disturbances were to be observed. He said he did not mean to combat the therapeutic use of alcohol. He thought the physician should be careful in advising patients that moderate doses of alcohol were without distinct harm.

The Treatment of Renal Inadequacy Associated with an Apparent Nephritis.—Dr. **William** J. **Pulley** read this paper. He said that Edebohls claimed to be able to cure any kind of chronic nephritis coming under his classification, viz., chronic parenchymatous, chronic diffuse, and chronic interstititial nephritis, which to a certain extent embodied all kinds of chronic kidney inflammations. He said that Edebohls had stated further that "this cure is brought about by removing a barrier in the shape of a capsule proper, to the creation of a new and increased and more active blood supply to the diseased kidney. The removal of this barrier by decapsulation is followed by the formation on the most extensive scale possible of a new connection between the kidney and its fatty capsule." Dr. Pulley said that at least three observers who had had opportunities of observing and examining minutely kidneys that had been decapsulated some length of time before removal had denied that this new vascular supply was formed. Jewett, Cutler and Boncz-Osmolowsky found but little connection between the blood supply of the new formed capsule and the kidney. That a new capsule, denser than the one removed, was formed after decapsulation was sufficiently proven by the observation of several men, including Edebohls himself. He said that Edebohls had further stated that the probable manner in which a cure was effected was by this new blood supply removing by absorption the products of inflammation. This might be the case if the exudate was comparatively recent, but it was hard to understand in the case of chronic interstitial nephritis. The same might be said concerning the increased nutrition brought to the kidney epithelia by this new formed blood supply, but here the etiology of nephritis was ignored, although the cause still existed in all probability, and would be just as potent as ever against this so-claimed new blood supply, resulting in a return of all the symptoms after a certain length of time. Dr. Pulley then referred to the paper of Dr. Winfield Ayres, which was read before the Urological Society in June, 1904, in which it was stated that beginning nephritis under certain conditions could be cured by lavage of the kidney pelvis, and cited several cases which had shown marked improvement after a washing out of the pelvis of the kidney. In looking over the cases of other observers he found the diagnosis of chronic nephritis was based principally upon finding urine containing casts, epithelial cells from the kidney tubes, and albumin. These methods of diagnosis, he said, might be very well for the quick cure of chronic nephritis by surgical or other means of local measures, but it was a question in his mind as to whether they were sufficient thoroughly to establish a true diagnosis of the condition. It was his belief that the diagnosis of the forms of chronic nephritis could not be made by a few examinations of specimens of urine collected at random, but other things must be looked into as symptomatology, diet, exercise, and the general physical condition of the patient. All causes especially which tended to congest the kidneys or put tension upon its capsule must be eliminated. It was his belief that these conditions might cause simply a disturbance of the kidney function, probably by producing an increase of the kidney pressure and tension of the kidney capsule. In other words, many of these cases giving symptoms and secreting urine of a kind to make some believe they indicated a true chronic nephritis, he believed to be simple renal inadequacies, probably resulting from some mechanical obstruction; when this obstruction was removed the kidney would do its work properly, but was not cured of any chronic nephritis in the true sense of the word. It was incredible to him that when a true nephritis from any cause had advanced to that stage where the urine contained constantly casts of different kinds, with a lessening of the urea and solids, with a pronounced anemia due to chronic poisoning, that any surgical procedure or local treatment, could cure the pathological process that must necessarily be present. Decapsulation, or even lavage of the kidney pelvis, might produce a temporary relief at certain stages and in certain forms of chronic nephritis where the tension of the capsule simply increased the symptoms, but that was all. After reading Dr. Ayres' statement regarding his results in washing out the pelvis of the kidney, he began a systematic treatment of a number of cases by his method. The recital of a number of cases here followed, as well as the history of one of Dr. Ayres' cases. In conclusion, Dr. Pulley said that it was his belief (1) that chronic nephritis was never cured by purely surgical procedures or any kind of local treatment so far known to him. (2) That many symptoms of chronic nephritis which were due to an increase of internal kidney pressure could be relieved by decapsulation. (3) That many so-called cases of chronic nephritis were simply mechanical interferences with the normal kidney function, and that the inflammatory process, if any, was of secondary importance. (4) That lavage of the kidney pelvis was limited in its good effects to two conditions only, viz., pyelitis from any cause which affected the functions of the kidney by increasing its internal pressure, and secondly in parenchymatous and diffuse nephritis where there was a great deal of cellular débris, a concentrated urine, increased kidney pressure and tension of the capsule. He hazarded the explanation that the seemingly good results obtained by kidney lavage in pyelitis were due to clearing the pelvis and ureters of irritating substances, and in the parenchymatous and diffuse nephritis, principally by influencing the blood supply of the kidney, accelerating a sluggish current, expelling more or less stagnant blood, thereby bringing to the kidney fresh blood, which in turn stimulated the kidney epithelia to more vigorous action, and reducing the internal kidney pressure and capsule tension, thus tending to reestablish the normal conditions. The treatment consisted simply in passing catheters by means of the cystoscope into each ureter once or twice a week and washing out the pelves of the kidneys with a warm aqueous solution of nitrate of silver, 1-5,000 or 1-10,000 strength. The proteids were cut from the diet and the patient kept at rest. The only medication given were cathartics, and Basham's mixture three times a day.

Dr. Winfield Ayres said that in cases of degenerated tubule cells not due to irritation of a probably beginning nephritis, where there was a pyelitis and a possibility of its extension from the pelvis of the kidney up into the kidney, lavage would cause the tubule cells and albumin to disappear. He said he had tried it in forty-three cases of this kind, and in all but five it caused to entirely disappear all the tubule cells, the albumin, and the urines entirely cleared up. Some of these cases had been under observation for five or six months, with no return of cells or albumin, and he thought they were absolutely cured. Lavage of the renal pelvis, he said, would not cure a chronic parenchymatous nephritis, but it would relieve the symptoms to a marked extent. He had tried it in three cases of interstitial nephritis with some improvement. Lavage should be given at first once a week, and if the urethra would stand it, twice a week, but never oftener. After the first lavage, he said, there usually followed a distinct colic, which a dose of morphine would relieve, and which usually did not return, and this, in all probability, was due to spasm of the ureter. He said he had performed this operation 2,500 or 3,000 times, and that the time required to pass the catheters into the ureters and withdraw the cystoscope, leaving the catheters in place, was probably five minutes, and the entire treatment of one case required about one hour.

Dr. J. Finley Bell cautioned against the possibility of an ascending infection, carried from the urethra or bladder up into the ureters.

Dr. William N. Berkeley said he believed that in twenty-five or thirty years from now, when the physiology of the kidney would be worked out in the laboratory, our present views would be changed, and there would be some place to locate these cases which did not belong with acute, or subchronic, or inflammatory processes of the kidney, such as could be found in pathological examinations of the kidneys, when the post mortems were made within six to fourteen hours after death. A medical director of one of our largest insurance companies told him recently that he rejected all cases if the urine contained albumin, because he knew of no way to discriminate between the ordinary albuminurias and cases of true nephritis.

Dr. E. E. Smith asked what constituted a nephritis, and he agreed that there would occur a revision of our present conception of its nature. The presence of albumin and casts in the urine was evidence of a renal degeneration, or a degenerative process of renal parenchymatous tissues, but one should not conclude that that constituted a condition of progressive renal disease.

Dr. Charles H. Lewis said that to make a true diagnosis of chronic nephritis required a number of careful examinations and much time; many things should be carefully considered before making a diagnosis of chronic nephritis. Interstitial nephritis he had never considered a disease, but rather a sign of age. The kidneys would wear out, and in old people one could usually find albumin and casts if carefully examined for. Dr. Ferguson had told him that he never saw a healthy kidney in a person over fifty years of age. Dr. Lewis believed that a nephritis would carry away all of us after seventy years of age unless we died of some other disease.

Landry's Paralysis.—Charles F. Wiley reports an interesting case in a young man of twenty-four, who became ill July 2, 1904, which terminated in a fairly good recovery. Up to the present time, however, in spite of treatment, the lower back pelvic and lower extremity muscles are still inactive.—*American Medicine*, March 5, 1905.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held February 23, 1905.

Dr. Chas. F. Adams, Chairman.

An Undetermined Tumor in the Interior of the Uterus.—Dr. George H. Balleray presented a uterus that he had removed from a patient five weeks ago. The woman was 47 years old and had never had any children. During the past year or two her periods had been very irregular, going over time, until six months ago when she had more or less metrorrhagia. This bleeding occurred at very irregular intervals; there was a considerable amount of blood lost, watery in character, and with a distinct odor. The patient was very much emaciated when she entered the hospital, she had some elevation of temperature, cough, and coryza. During her first week in hospital her temperature rose to 103° and 104°, and then subsided. Her general condition was below par. Malignant disease of the body of the uterus was suspected, but when the high temperature developed he thought she might have had simply an attack of influenza. He then thought of the possibility of tuberculosis. At any rate he determined to remove the uterus. The uterus was found to be bound down not only to the adnexa, but to the intestines, the adhesions being as dense as any he had ever encountered. During the operation her condition became exceedingly bad, and it was found that she was practically a "bleeder," although no such history was obtainable. So much blood was lost during the operation that she became pulseless. In spite of stimulation and transfusions she remained pulseless, bleeding from the vaginal tissues so profusely that he believed she would die on the operating table. The blood seemed to well up from the tissues. The tissues were clamped with a hysterectomy clamp and left in situ, and the wound was packed and the patient removed to the bed. The next morning the pulse was perceptible, and was 160. On the second day it ran from 140 to 130, and on the third day vomiting set in, at one time fecal in character. The stomach was washed out, the bowels were irrigated, stimulants were given, and the patient then went on to an uneventful recovery. He regretted that a microscopical examination of the specimen had not been made. The tubes, especially the right one, was very much dilated at the time of removal.

Double Pyosalpinx With No Clinical Symptoms.—Dr. George H. Balleray presented a specimen of the uterus and adnexa which he had removed from a woman 36 years old, the mother of six children, and who had had one miscarriage. The last child was born last March, and the labor was difficult, the patient making a slow recovery and remaining quite anemic, and she was not considered to be in good condition until January last, when she entered the hospital, her physician supposing she was suffering from an attack of appendicitis. After a week the symptoms subsided. A mass was found on both sides of the uterus, and there was a very bad tear of the cervix uteri. Last Monday she was operated upon. The laceration in the cervix was very extensive, extending into the perimetrium, and there was so much cicatricial formation that it bound the uterus down. An abdominal section was done; both adnexa were found diseased and the uterus firmly bound down. The tubes contained pus which, during manipulation, escaped into the pelvis and was mopped up as fast as it escaped. The specimen, he said, was interesting in showing to what extent structures might undergo disease and yet give so few signs. The masses on the sides of the uterus were the size of the closed fist. This patient died of secondary hemorrhage. During the operation there was very little blood lost, but the shock of the operation was great. She died three-quarters of an hour after the first symptoms showed themselves. The hemostasis was most perfect in this case. He reported this case to emphasize his belief that hysterectomies should not be advised so indiscriminately. He acknowledged that he could not keep his mortality of total abdominal hysterectomies below 10 or 12 per cent., and for that reason he did not believe in advising patients to submit to operations of this kind unless the indications were very clear. It was the condition of the cervix itself which caused him to do the operation, for it seemed to be bordering on malignancy.

Dr. Arnold Sturmdorf said that Dr. Balleray's mortality would never be lowered if he continued to wait. He said he could recall two cases in which secondary hemorrhage occurred after special precautions had been taken to prevent it, but he had been fortunate in stopping it before the patients were removed from the operating room. The slipping of the ligatures was not due so much to faulty tying, but to the edematous condition of the tissues at the time of ligation. The severance of the tissues caused a reduction in the mass and slipping of the ligatures. The blood vessels at the roof of the vagina were too small to be caught, and at times the rigidity of the tissues prevented their being caught. He said that two cases had been reported where adrenalin had been given, but death resulted from secondary hemorrhage in spite of it.

Dr. Balleray said the slipping of the ligatures was, in all probability, caused by the lessening in bulk of the tissues following incisions into them. With regard to operating more often upon fibroid cases, he thought that possibly he might get a smaller mortality, but he did not feel that he was warranted in operating upon such small fibroids because so many of these patients went along without any trouble at all; whereas, if he had operated upon them he would have subjected them to a certain risk. In the case he reported he said there was no doubt at all about the diagnosis of fibroids. He had seen tumors of this nature disappear after pregnancy when, at the time of delivery, they were large enough to obstruct delivery. In 1886 he read a paper before the Medical Society of the State of New York, in which he detailed several such cases.

Ruptured Cyst of Ovary from Twisted Pedicle; Hydrosalpinx on the Other Side.—Dr. S. Marx presented this specimen, which was of peculiar interest in showing how little one knew of what was going on within the abdomen until it was opened. The patient from whom the specimen was removed was 25 or 26 years old, who had had, five or six years previous, a very difficult labor and severe laceration. The laceration was operated upon six months after delivery, but it was followed shortly after by a prolapse of the second degree. The pessary treatment was tried, but she could not stand the discomfort. When Dr. Marx saw the patient there was an intense pain in both groins, and an examination revealed a prolapse of the uterus, and this organ was absolutely fixed and he wondered how a pessary could have been worn at all. He advised an operation. Examination showed a tumefaction about the size of the closed fist to the right of the uterus. When the patient was admitted to the hospital she had a normal pulse and temperature. The operation was an elective one. When the patient was examined under the anesthetic no tumor presented, and he took it for granted that a wrong diagnosis had been made, but he decided to open the abdomen anyway because of the firm fixation of the uterus. In the abdominal cavity he found a mass of blood and also a gangrenous cyst of the ovary which had ruptured into the abdominal cavity; the coppery-colored mass was this gangrenous tumor due to twisting of its pedicle. An examination of the other side revealed a hydrosalpinx. The gangrenous tissue was sewn up, and the patient, in spite of this procedure, made a rapid and uneventful recovery. Dr. Marx said this case proved how little one knew of what was going on in the abdomen until it was opened and inspected.

Is Craniotomy on a Living Child Ever Justifiable?—Dr. S. Marx read this paper. He said that this subject resolved itself into a discussion on craniotomy versus cesarean section, or symphyseotomy. Other things being equal, the religious question always weighed strongly, and more often than not absolutely determined the result; the writer

was ignored, although the cause still existed in all probability, and would be just as potent as ever against this so-claimed new blood supply, resulting in a return of all the symptoms after a certain length of time. Dr. Pulley then referred to the paper of Dr. Winfield Ayres, which was read before the Urological Society in June, 1904, in which it was stated that beginning nephritis under certain conditions could be cured by lavage of the kidney pelvis, and cited several cases which had shown marked improvement after a washing out of the pelvis of the kidney. In looking over the cases of other observers he found the diagnosis of chronic nephritis was based principally upon finding urine containing casts, epithelial cells from the kidney tubes, and albumin. These methods of diagnosis, he said, might be very well for the quick cure of chronic nephritis by surgical or other means of local measures, but it was a question in his mind as to whether they were sufficient thoroughly to establish a true diagnosis of the condition. It was his belief that the diagnosis of the forms of chronic nephritis could not be made by a few examinations of specimens of urine collected at random, but other things must be looked into as symptomatology, diet, exercise, and the general physical condition of the patient. All causes especially which tended to congest the kidneys or put tension upon its capsule must be eliminated. It was his belief that these conditions might cause simply a disturbance of the kidney function, probably by producing an increase of the kidney pressure and tension of the kidney capsule. In other words, many of these cases giving symptoms and secreting urine of a kind to make some believe they indicated a true chronic nephritis, he believed to be simple renal inadequacies, probably resulting from some mechanical obstruction; when this obstruction was removed the kidney would do its work properly, but was not cured of any chronic nephritis in the true sense of the word. It was incredible to him that when a true nephritis from any cause had advanced to that stage where the urine contained constantly casts of different kinds, with a lessening of the urea and solids, with a pronounced anemia due to chronic poisoning, that any surgical procedure or local treatment, could cure the pathological process that must necessarily be present. Decapsulation, or even lavage of the kidney pelvis, might produce a temporary relief at certain stages and in certain forms of chronic nephritis where the tension of the capsule simply increased the symptoms, but that was all. After reading Dr. Ayres' statement regarding his results in washing out the pelvis of the kidney, he began a systematic treatment of a number of cases by his method. The recital of a number of cases here followed, as well as the history of one of Dr. Ayres' cases. In conclusion, Dr. Pulley said that it was his belief (1) that chronic nephritis was never cured by purely surgical procedures or any kind of local treatment so far known to him. (2) That many symptoms of chronic nephritis which were due to an increase of internal kidney pressure could be relieved by decapsulation. (3) That many so-called cases of chronic nephritis were simply mechanical interferences with the normal kidney function, and that the inflammatory process, if any, was of secondary importance. (4) That lavage of the kidney pelvis was limited in its good effects to two conditions only, viz., pyelitis from any cause which affected the functions of the kidney by increasing its internal pressure, and secondly in parenchymatous and diffuse nephritis where there was a great deal of cellular débris, a concentrated urine, increased kidney pressure and tension of the capsule. He hazarded the explanation that the seemingly good results obtained by kidney lavage in pyelitis were due to clearing the pelvis and ureters of irritating substances, and in the parenchymatous and diffuse nephritis, principally by influencing the blood supply of the kidney, accelerating a sluggish current, expelling more or less stagnant blood, thereby bringing to the kidney fresh blood, which in turn stimulated the kidney epithelia to more vigorous action, and reducing the internal kidney pressure and capsule tension, thus tending to reestablish the normal conditions. The treatment consisted simply in passing catl
by means of the cystoscope into each ureter once or t
week and washing out the pelves of the kidneys w
warm aqueous solution of nitrate of silver, 1-5,0
1-10,000 strength. The proteids were cut from the di
the patient kept at rest. The only medication give
cathartics, and Basham's mixture three times a da

Dr. Winfield Ayres said that in cases of dege
tubule cells not due to irritation of a probably be
nephritis, where there was a pyelitis and a possib
its extension from the pelvis of the kidney up i
kidney, lavage would cause the tubule cells and
to disappear. He said he had tried it in forty-thr
of this kind, and in all but five it caused to entirel
pear all the tubule cells, the albumin, and the urines
cleared up. Some of these cases had been under
tion for five or six months, with no return of cells
min, and he thought they were absolutely cured.
of the renal pelvis, he said, would not cure a
parenchymatous nephritis, but it would relieve t
toms to a marked extent. He had tried it in th
of interstitial nephritis with some improvement.
should be given at first once a week, and if th
would stand it, twice a week, but never oftener.
first lavage, he said, there usually followed a dist
which a dose of morphine would relieve, and whi
did not return, and this, in all probability, w
spasm of the ureter. He said he had performed
tion 2,500 or 3,000 times, and that the time requi
the catheters into the ureters and withdraw the
leaving the catheters in place, was probably fi
and the entire treatment of one case required
hour.

Dr. J. Finley Bell cautioned against the p
an ascending infection, carried from the urethr
up into the ureters.

Dr. William N. Berkeley said he belie
twenty-five or thirty years from now, when th
of the kidney would be worked out in the
our present views would be changed, and the
some place to locate these cases which did not
acute, or subchronic, or inflammatory processe
ney, such as could be found in pathological ex
the kidneys, when the post mortems were ma
to fourteen hours after death. A medical di
of our largest insurance companies told him
he rejected all cases if the urine contained alb
he knew of no way to discriminate between
albuminurias and cases of true nephritis.

Dr. E. E. Smith asked what constituted a
he agreed that there would occur a revision
conception of its nature. The presence of
casts in the urine was evidence of a renal d
a degenerative process of renal parenchyr
but one should not conclude that that constitu
of progressive renal disease.

Dr. Charles H. Lewis said that to mak
nosis of chronic nephritis required a nun
examinations and much time; many things
fully considered before making a diagno
nephritis. Interstitial nephritis he had nev
disease, but rather a sign of age. The kidr
out, and in old people one could usually fi
casts if carefully examined for. Dr. Fergus
that he never saw a healthy kidney in a p
years of age. Dr. Lewis believed that a
carry away all of us after seventy years o
died of some other disease.

Landry's Paralysis.—Charles F. Wiley
esting case in a young man of twenty-fou
July 2, 1904, which terminated in a fair
Up to the present time, however, in spite
lower back pelvic and lower extremity
inactive.—*American Medicine,* March 5,

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held February 23, 1905.

DR. CHAS. F. ADAMS, CHAIRMAN.

Undetermined Tumor in the Interior of the Uterus.—[illegible] GEORGE H. BALLERAY presented a uterus that he had ...ed from a patient five weeks ago. The woman was ...rs old and had never had any children. During ... year or two her periods had been very irregular, ...ver time, until six months ago when she had more ... metrorrhagia. This bleeding occurred at very ir... intervals; there was a considerable amount of ...ust, watery in character, and with a distinct odor. ...ient was very much emaciated when she entered the ...l, she had some elevation of temperature, cough, ...ga. During her first week in hospital her tem... rose to 103° and 104°, and then subsided. Her ... condition was below par. Malignant disease of ... of the uterus was suspected, but when the high ...re developed he thought she might have had sim... ...ck of influenza. He then thought of the possibility ...sis. At any rate he determined to remove the ...he uterus was found to be bound down not only ...a, but to the intestines, the adhesions being ... any he had ever encountered. During the ...er condition became exceedingly bad, and it ... that she was practically a "bleeder," although ...ry was obtainable. So much blood was lost ... operation that she became pulseless. In spite ... and transfusions she remained pulseless, ... the vaginal tissues so profusely that he be... would die on the operating table. The blood ...ed up from the tissues. The tissues were ... a hysterectomy clamp and left in situ, and ... was packed and the patient removed to the ... morning the pulse was perceptible, and was ... second day it ran from 140 to 130, and on ... vomiting set in, at one time fecal in character. ... was washed out, the bowels were irrigated, ... given, and the patient then went on to an ... recovery. He regretted that a microscopical ... of the specimen had not been made. The ... the right one, was very much dilated at ...

[illegible]

[illegible] with No Clinical Symptoms.—Dr. [illegible] presented a specimen of the uterus and ... removed from a woman 36 years ... and who had had one ... last March, and the ... making a slow recovery and ... was not considered to be ... when she entered ... she was suffering ... a week the symptoms ... [illegible]

his mortality of total abdominal hysterectomies below 10 or 12 per cent., and for that reason he did not believe in advising patients to submit to operations of this kind unless the indications were very clear. It was the condition of the cervix itself which caused him to do the operation, for it seemed to be bordering on malignancy.

Dr. ARNOLD STURMDORF said that Dr. Balleray's mortality would never be lowered if he continued to wait. He said he could recall two cases in which secondary hemorrhage occurred after special precautions had been taken to prevent it, but he had been fortunate in stopping it before the patients were removed from the operating room. The slipping of the ligatures was not due so much to faulty tying, but to the edematous condition of the tissues at the time of ligation. The severance of the tissues caused a reduction in the mass and slipping of the ligatures. The blood vessels at the roof of the vagina were too small to be caught, and at times the rigidity of the tissues prevented their being caught. He said that two cases had been reported where adrenalin had been given, but death resulted from secondary hemorrhage in spite of it.

Dr. Balleray said the slipping of the ligatures was, in all probability, caused by the lessening in bulk of the tissues following incisions into them. With regard to operating more often upon fibroid cases, he thought that possibly he might get a smaller mortality, but he did not feel that he was warranted in operating upon such small fibroids because so many of these patients went along without any trouble at all; whereas, if he had operated upon them he would have subjected them to a certain risk. In the case he reported he said there was no doubt at all about the diagnosis of fibroids. He had seen tumors of this nature disappear after pregnancy when, at the time of delivery, they were large enough to obstruct delivery. In 1886 he read a paper before the Medical Society of the State of New York, in which he detailed several such cases.

Ruptured Cyst of Ovary from Twisted Pedicle; Hydrosalpinx on the Other Side.—Dr. [illegible] presented this specimen, which was of ... [illegible]

...was removed ... years ... The ... [illegible]

[illegible]

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Münchener medizinische Wochenschrift, February 14, 1905.

The Hemolytic Action of Photodynamic Substances.—Sacharoff and Sachs undertook experiments on the hemolytic powers of fluorescent and other similar bodies, in order to supplement the observations of Tappeiner, Jodlbauer, Edlefsen and others on sensibilization, protozoa, etc. The first tests were made with eosin, which was added in varying amounts to 5 per cent. dilutions of rabbits' corpuscles, and the tubes then exposed to the sun while a control set of tubes was kept in the dark. The latter showed no change at the end of two hours, whereas the contents of the former had undergone complete hemolysis even in the dilution of 0.00075 c.c. of a 1 per cent. eosin solution to 1 c.c. of 5 per cent. rabbit's blood. The fact that this activity is largely dependent on oxidation was demonstrated by adding sodium sulphite to tubes containing erythrosin, under which conditions no hemolysis took place. It was found that the hemolytic property was manifested only by fluorescent substances, but that the degree of fluorescence and of photodynamic activity was not proportional, some of the most strongly fluorescent bodies being less hemolytic than others showing less fluorescence. The non-fluorescent substances tested did not possess any hemolytic activity, in spite of the fact that several of them, such as nigrosin, fuchsin and methylviolet belong to the best photographic sensibilizers. The authors therefore conclude that there is some connection between fluorescence and photodynamic activity.

The Question of Acute Cardiac Dilatation.—Starck says that the possibility of acute dilatation of the heart accompanying exertion, followed by rapid return to normal size is still disputed, as various authors who have studied the question, both clinically and experimentally, have arrived at widely different conclusions. He describes the case of a student who was examined shortly before a student duel and again immediately afterward, when he was found to have enormous cardiac dilatation, which had, however, almost completely disappeared a few hours later. The patient had experienced similar attacks of tachycardia and cardiac pain after other severe exertions, such as bicycling, and the author attributes the weakness to a preceding typhoid and other infectious diseases. The enormous dilatation taking place at the duel, which gave rise to such severe distress as to compel interruption of the combat before it had lasted more than a few moments, must be ascribed to psychical excitement rather than to fatigue, as the muscular work had been only very slight.

An Automatic Mixer for Making Serum Tests.—Pfaundler describes a device by which it is possible to make twelve dilutions of mixtures of serum and culture for agglutination reactions, ranging from 1-4 to 1-8,000, in three minutes and without requiring more than 0.5 c.c. of serum. By the use of the Thoma-Zeiss blood pipette in conjunction with the apparatus, the necessary dilutions may be carried out using only a single drop of blood from the patient. The author's device consists of a glass stop cock having four short tubes radiating from it at right angles to its long axis. The valve plug is recessed so as to form a cavity holding about 0.5 c.c. which can be brought into communication with any of the four tubes. One tube contains salt solution, another culture, another the serum, and the fourth is the mixing chamber from which each dilution as made is discharged. The author claims as advantages for the method the convenience with which dilutions up to any grade may be made, the fact that the culture is never exposed to the action of a stronger concentration of serum than it is to be tested with, and that the same quantity of culture is present in each dilution, the small amount of blood required, the avoidance of all danger of infection of the operator with the culture, and the simplicity and cheapness of the apparatus which can readily be cleaned and disinfected.

Deutsche medizinische Wochenschrift, February 2, 1905.

A New Method of Epilation.—Kromayer describes a new principle for the removal of undesirable hairs, which consists in punching out little disks of skin with a rotary circular knife. The procedures usually resorted to for this purpose, comprising the application of pastes and pulling out the individual hairs with forceps, are unreliable and almost certain to be followed by recurrences of greater or less extent because the papilla is left behind, and even with the electrolytic needle many of the papillæ escape destruction. The attachments of the hair follicle to the cutis are fairly close, but the root itself in the subcutaneous tissues is but loosely fixed. The author employs circular cutters varying in diameter from .7 to 1.2 mm., which are driven by a treadle machine or a motor, and with which it is possible to punch out minute disks of skin, the resulting wound healing without leaving a scar. The method of application is to cut the hairs short and with a quick touch of the cutter to punch out a tiny piece of skin having a hair in its center, the knife being carried just through the cutis. The stump with the root attached may then readily be removed with forceps. The course taken by the knife should follow that of the hair, but usually the instrument need not penetrate to a greater depth than 1.5 mm. The pain caused is about the same as that attending the prick of a needle, and for sensitive patients freezing with ethyl chloride is recommended. Depending on the circumstances, from one to two hundred hairs may be removed at a sitting, and the author has gone as high as three hundred.

The Treatment of Pulmonary Hemorrhage.—Hochhaus says that slight degrees of pulmonary hemorrhage require rest in bed in a cool room with no one present except the nurse, so as to avoid all excitement or talking; cracked ice by mouth and the application of the ice bag to the affected side if it be known, otherwise to the heart. It is not certain that the external cold actually does influence the internal vessels, but at any rate it enforces quiet on the patient, and has a good moral effect. Of the hemostatic drugs, a tablespoonful of salt in a little water is an old remedy, and ten to twenty drops of the fluid extract of ergot, or the same dose of fluid extract of hydrastis may be given. Traube recommends 0.02 gm. of lead acetate every two hours, and Fränkel has found 0.5 gram capsules of oil of turpentine every six hours useful. The routine use of opium in these cases is to be condemned and the drug is to be employed only when persistent cough keeps up the bleeding. In more severe cases the subcutaneous injection of of 40 c.c. of sterile 10 per cent. gelatine solution is warmly recommended by the author, as well as hypodermic injections of ergotin. Bandaging the extremities helps to relieve the pressure in the lungs, and should be done in such a way as to impede venous return but not to check the arterial flow; in this way large quantities of blood may be stored in each limb. Immobilization of the affected sides of the chest by strips of adhesive plaster is also to be tried in obstinate cases. Quincke in an intractable case had Bier resect the two first ribs in order to cause collapse of the affected lung, with temporary cessation of the hemorrhage; Turban also tried this measure with similar results.

The American Journal of the Medical Sciences, Feb., 1905.

Copious Water-Drinking and Polyuria in Typhoid Fever.—Edward F. Cushing and T. W. Clarke have made some very interesting observations on this subject. They report the results of the administration of abundance of water to one hundred typhoid patients. They have found that unusual amounts of from a gallon to a gallon and a half of water, or even more, could easily be taken in the twenty-four hours by typhoid fever patients. This was accomplished by giving four ounces every fifteen minutes during the waking hours. This amounted to from eight to fourteen pints. Besides this, an ordinary patient received every two hours during the day, and once or twice at night, alternately six ounces of milk and six ounces of albumen-water. This amounted to about three pints more of fluid. These large quantities were well borne. A careful analysis of these cases has been made, and has been compared with a series of fifty cases in which this treatment was not followed. In relation to this treatment, the writers state that a copious elimination of watery urine at once follows, the degree of polyuria, day by day, closely corresponding to the quantity of fluid ingested. Patients are more comfortable by this mode of treatment, and toxic, nervous symptoms are lessened. The mortality, as well as the severity, of typhoid fever, they believe, is still further diminished by this method of hydrotherapy employed as an accessory to the cool-bath treatment of the disease.

Chloride and Water Excretion in Typhoid Fever, with Copious Diuresis.—Torald Sollmann and J. A. Hofmann have investigated several interesting features of urine secretion in typhoid fever, as influenced by the treatment described in the preceding article. They offer the following conclusions: The free administration of water to typhoid patients causes a large polyuria, exceeding three litres per day, and averaging over five litres. On isolated days nine litres are not rarely excreted. The percentage of chlorides and the total molecular concentration are much below normal, while the daily excretion of total dissolved molecules exceeds that of ordinary typhoid cases. The eliminating capacity of the kidneys is not injured in typhoid fever, nor by a prolonged polyuria. There does not appear to be any accumulation of fluid in the body, the excretion being very nearly parallel to the income. The quantity of urine is influenced by the perspiration, and to a lesser extent by catharsis. It seems probable that the perspiration is freer under the influence of the large administration of fluid. The temperature has no direct effect on the diuresis. Diuretics do not increase the polyuria, nor does the administration of calcium chloride appear to diminish diuresis. The effect of the polyuria on the chloride excretion, as compared with ordinary typhoid cases, consists in a diminution of the percentage and an increase of the amount excreted per day. Minor variations in diuresis affect the percentage, but not the daily output. Perspiration acts indirectly by influencing the diuresis. The course of the fever, the degrees of hyperpyrexia, and the convalescence appear to have no direct effect. The chloride excretion varies strictly with the chloride income. The effect of calcium chloride, however, is delayed and comparatively small. Agurin, sodium acetate and nitrate, and urotropin had no effect on the chloride excretion, but it was increased by iodide. Moderate nephritis was without effect. The excretion of water and chlorides in typhoid fever appears to obey the same laws as in health. But there is a greater tendency to chloride retention in the fever. The difference appears to be quantitative and not qualitative. It is greatly diminished by polyuria. The prolonged restriction of the chloride income appears to produce no deleterious effects, and the patients do not develop "salt hunger."

The Toxemia of Pregnancy.—Edward P. Davis declares that pernicious nausea is the earliest manifestation of the toxemia of pregnancy. Strong evidence has been advanced that a toxemic condition is the cause of pernicious nausea. Skilful feeding and absolute rest offer the most successful treatment for this condition, and when these fail, pregnancy should be interrupted. The writer, after suggesting various available methods in the investigation of toxemia, emphasizes the importance of the careful observation of the patient by the physician, without recourse to technical examination. In the toxemia of pregnancy, the liver is the organ most often diseased. Post-mortem findings show the most striking changes in the liver. The characteristic lesion in the liver of toxemia and eclampsia in mother and fetus is hemorrhagic necrosis, with multiple thrombosis. The part played by the intestine in the toxemia of pregnancy is well known. In this condition the thyroid gland is deficient or altered in activity. The writer declares that our best knowledge at present leads us to believe that the toxemia of pregnancy is not essentially of nephritic origin. While the study of the urine does not show marked renal changes in the toxemia of pregnancy, the examination of the blood is more conclusive. In these cases the blood serum is distinctly toxic, as can be seen by its effects on animals. The poison of toxemia and eclampsia has not yet been chemically identified. In treating this condition the details of hygiene must be observed. As to drugs, laxatives are indicated. Calomel is valuable in increasing the solid excretion. Salines often cause the dissolution of dried feces and the absorption of fecal matter. If the toxemia persists, not yielding to treatment, induction of labor must be considered. Saline waters, especially vichy, are valuable in preventing serious toxemia. Normal salt solution by hypodermoclysis or by rectal injection, is indicated in the presence of threatening toxemia. In this affection it must be remembered that the vital organs are undergoing extensive degenerative changes, and the toxemic woman is not safe with the termination of pregnancy.

The Clinical Manifestations of Hemorrhages in Eclampsia.—Ralph Waldo Lobenstine states that hemorrhagic manifestations in eclampsia are evidenced only in those cases suffering from an extreme degree of toxicity. Although he has made an extensive review of the literature, he has come to no accurate conclusion as to the frequency of this group of cases. Only a few isolated cases have so far been reported. The writer enumerates the chief symptoms, as follows: Profound toxicity, jaundice, abdominal distention, which is usually a prominent and early symptom, beginning as an epigastric distention, which gradually becomes generalized; this sign is of bad omen, and in eclampsia should always suggest the possibility of hemorrhagic complications; vomiting, which consists of clear fluid or curdled milk, then bile, and, finally, coffee-ground material or clear blood; pain and tenderness over the liver and hemorrhagic manifestations other than the vomiting of blood. The chief pathological features are the development of multiple hemorrhagic foci in the various organs, the development of thrombotic processes in many of the smaller vessels, and the formation of irregularly shaped areas of necrosis in the several organs of the body, especially in the liver. The writer does not believe that eclampsia should be spoken of as being either primarily renal or hepatic in origin. Rather, the lesions in these organs should be regarded as the result of and not the cause of a toxemia whose true nature is not yet known, but in which doubtless both the mother and fetus play a part. Five of the seven cases which the author reports died. Treatment consists in sedatives, emptying of the uterus, diuresis, suprarenal extract and calcium chloride in large doses, preferably given by rectum.

Pathological Study of a Case of Myxedema Associated with Tuberculosis of the Adrenals.—J. Ramsay Hunt gives the results of his study of a case of this nature in which the disease had been gradually progressing during a period of four years, so that the dermal and neural manifestations were well marked at the time of death. In reviewing the changes, he states that the most important and essential one consists of an extensive atrophy and sclerosis of the thyroid gland. The hypophysis cerebri was not the seat of any considerable compensatory hypertrophy. The coexistence of a chronic tuberculosis of the adrenal glands is a rare example of a pathological coincidence. The characteristic symptoms of Addison's disease were absent. There was well marked generalized arteriosclerosis. Histological examination of the central and peripheral nervous systems was entirely negative. It is strange that symptoms which are so grave, and which persist often for years, are not attended by permanent alterations of nerve structure, but it has been impossible to demonstrate in the central nervous system uniform structural change which could be taken as their basis. The effects of thyroid therapy in cases of myxedema give strong clinical evidence that the nerve element in this disease is not dependent upon organic changes in the neural structures of the body.

Posterior Basic Meningitis.—Henry Koplik has seen a number of cases of posterior basic meningitis occurring sporadically throughout five years of continuous hospital service. He has established the fact recently that these cases may occur in epidemics of cerebrospinal meningitis. In a recent epidemic eight cases of cerebrospinal meningitis were typical cases of posterior basic meningitis, admitted at various periods of the affection. Some of these cases were as young as four months of age; most of them were below two years of age. The previous history was negative in all of these cases. The onset in the cases below two years of age was sudden in all but one case. In all cases fever and vomiting were followed by rigidity of the neck, in some cases by convulsions. The temperature in cases which had lasted for some length of time would not range above the normal until close to the final issue. In most of the cases below two years of age, there was no change in the fundus of the eye. The leucocyte counts were, as a rule, low, similar to those noted in tuberculous meningitis, and of no diagnostic value. Lumbar puncture in posterior basic meningitis is not always successful in evacuating fluid. The chronic cases yielded negative results so far as microorganisms in the puncture fluid are concerned, and the mononuclear picture resembled what is seen in tuberculous meningitis. According to the writer's interpretation, there are two forms of basic meningitis. The first, which is primary, corresponds to the type described by Still, in which there is a primary inflammation of the meninges, caused by the diplococcus intracellularis of Weichselbaum, and the second, occurring in older children, in which the symptoms in no way resemble those of the cases described by Still. In the second type the disease may be complicated with pneumonia, or may be secondary to this affection. Certain symptoms may occur, however, which will point to a basic involvement, such as facial paresis and paralysis of the eye muscles.

A Case of Parinaud's Conjunctivitis.—William Campbell Posey, in describing this disease, states that the first symptoms are those of a mild case of granular or purulent conjunctivitis. The secretion is not very abundant, the lids are swollen, the conjunctiva thickened, and granulations appear, which are at first small and semitransparent, later becoming yellowish, then red and opaque. In most cases some of the granulations assume a polypoid character, and may attain one-quarter of an inch or more in length. The writer says that these granulations, hanging chiefly from the fornix, present a most striking appearance, and form one of the characteristic features of the disease. This affection simulates tuberculous conjunctivitis very closely. The simultaneous involvement of the glandular system, and the peculiar pedunculated character of the granulations in some cases, and the rather characteristic erosions which occur between the granulations will usually differentiate the diagnosis without much difficulty. In certain cases, however, histological examinations and experimental inoculations will be necessary to make the diagnosis absolute. The origin of the affection is unknown. The pathological anatomy is also still in doubt. Treatment consists in antiseptic lotions and cauterization with silver and copper. Excision may be practised when the granulations are large. In certain cases searing with the actual cautery may be necessary. Alterative ointments should be applied to the glands, and if suppuration threatens, hot compresses, followed by incision and drainage. The glandular involvement and the symptoms of general systemic depression seem to point to an infective process.

Typhoidal Insanity in Childhood.—David L. Edsall believes that while this affection is uncommon, it is not extremely rare. From his study of the literature, the writer finds that in an appreciable number of cases the insanity persists; that mania is but little more common than dementia, while melancholia is far less common, and that a very marked proportion of the dementias do not get well. Dementias following typhoid fever must be far more common in childhood than in adults. Dementias are of far graver prognosis when of marked degree than are the other forms of insanity. The simple delusions and hallucinations, without other mental disturbance, seem practically always to get well. The writer states that it is almost impossible to make any satisfactory statement as to the actual frequency of typhoidal insanity in childhood. It is often far more difficult to determine with children that this affection is present, and when it began, than it is with adults. The course of almost all of the cases that the writer has seen was directly related to the condition of the general nutrition. A certain number are without doubt toxic in their origin. The histories of the cases show no consistent relation to the severity of the attack of typhoid fever. There is, however, often a story of marked reduction of nutrition. The writer believes that feeding should be as free as possible, even during the latter part of the fever, and particularly if suspicious symptoms remain present or develop, the food should be very rapidly increased during convalescence.

Annals of Surgery, February, 1905.

Acid Intoxication; Its Significance in Surgical Conditions.—A series of forty-five cases has been studied by J. A. Kelly, who observes that at present our knowledge of the conditions accountable for the symptoms present, and for the occurrence of acetone and diacetic in the urine, is yet in its infancy. It has been proved experimentally that it is not due to acetone circulating in the blood, as the same condition has been produced experimentally by other substances. The amount of acetone found in the urine is no index as to the severity of the affection. Whether the occurrence of the symptoms is due to a toxic substance acting on psychomotor centers, or due to pressure on these centers, has not been proven. This is only offered as a suggestion as to the causation. That there is some toxemia occurring is doubtless true; whether it is due to the presence of volatile fatty acids, to the rapid destruction of proteid matter, or to the rapid elimination of the alkalies is impossible to say at the present time. The object of the author is to report a series of cases in which the condition has been present in a large proportion; to call attention to the condition as it exists in surgical cases; to show that what has been considered as a rather fatal condition is present mildly in a variety of cases, and to hope that it will stimulate to some extent experimental and clinical investigation.

Volvulus of the Jejunum.—A case is reported by C. L. Scudder, his patient being an adult woman who, after a "boiled dinner," was seized with colic, nausea, vomiting, and loose bowels. She was first seen by the author on the third day of the attack, and was then in a condition suggesting peritonitis and impending collapse. Abdominal section revealed an almost black coil of the jejunum about two feet long, twisted at its mesenteric attachment. Upon untwisting this volvulus it was found to extend up to within about two inches of the beginning of the jejunum, and thence down for two feet. The condition of the patient precluded the possibility of further interference. The abdomen was closed and the woman died. The author notes the necessity of exact diagnosis as to the cause of abdominal pain, and believes that earlier intervention in this case would probably have saved it. Volvulus of the jejunum as high as was this is rare. Microscopic examination of the tissues removed showed obliterating thrombosis of the superior mesenteric vein, with hemorrhagic infarction of a portion of the jejunum.

Primary Urethral Calculus.—H. E. Wolf reports the case of a man of fifty years, who died of a general sepsis, with multiple visceral lesions. Autopsy showed a calculus in the urethra, which was overlooked owing to absence of symptoms pointing to involvement of the genitourinary tract. The calculus weighed a little over 23½ grammes, and was located in the pendulous urethra, its foremost point being 5.4 cm. posterior to the external meatus, and the rear end 10 cm. from the same point. Its shape was such as to leave a narrow slit, through which the urine could pass. Two specimens examined showed no sediment. Analysis is made of previously reported cases.

Case of Bone Transference.—T. W. Huntington publishes the history of a case which illustrates the possibility of supplying a tibial defect amounting to absence of nearly the entire diaphysis by the appropriation of a corresponding portion of its companion fibula. The defect was the result of an acute, infectious osteomyelitis occurring in a boy of seven years. The fibula was sawed at a point opposite to the lower end of the upper tibial fragment and attached thereto, and the divided end of the fibula was firmly planted in a cup-shaped depression of the tibia. Union was slow, but became solid in the course of six months. Three months later it was decided to transfer the lower end of the fibula to the lower fragment of the tibia. Bony union was secured, and the patient made a good recovery. The limb was three-quarters of an inch shorter than its fellow, but was of fairly normal contour, and the patient was able to walk with only the suggestion of a limp, and to join in the ordinary sports of his fellows.

Contrecoup Fracture of the Sternum.—The rarity of sternal fractures leads G. De Tarnowsky to report a personal case. His patient, a man of forty-three years, fell from a ladder, turning a somersault and doubling up his body. Examination showed, among other injuries, a distinct protuberance of the sternum at the level of the second and third chondrosternal articulations. There were no external bruises; exquisite tenderness was present and crepitus was elicited. The patient progressed slowly toward recovery, but one week later began to have cramp-like pains in both arms. It was judged that there was some pressure over the lower cervical vertebræ, but no deformity could be made out at that site, nor was there any external evidence of injury. Two weeks later there was a distinct palpable ridge at the level of the second costal cartilages, the lower fragment slightly overlapping the upper. The callus was dense. All the spinal symptoms disappeared, and the patient was discharged in a satisfactory condition. Sixteen cases previously reported are analyzed, and the condition considered in a systematic way as to etiology, pathology, diagnosis, prognosis, and treatment. The factors producing such sternal fractures are summarized as follows: (1) Falls on the head or shoulders press the ribs forward and upward, the range of motion increasing from the first to the seventh pair. (2) The clavicles may sometimes act as a lever and help to wrench the manubrium from the gladiolus. This is especially true in falls on the extended hands. (3) Intrathoracic pressure at the time of the fall exerts a positive pressure on the thoracic wall. (4) The second costal cartilages act as a wedge, tending to separate the manubrium from the gladiolus.

Symmetrical Inflammation of the Epiphyseal Beak of the Tibia.—By the term "beak," K. Winslow refers to one of the two centers of ossification of the tubercle of the tibia, which develops as a peculiar process, which projects downward from the upper epiphysis. This beak is separated from the lower center of ossification of the tubercle by cartilage up to the eighteenth to twentieth year, when the two centers become merged into one bony tubercle, as it is seen in adult life. The lower center of ossification of the tubercle does not appear until the twelfth year. He then reports the case of a boy of fourteen years, in whom there was an inflammation of these structures on the two sides. He had had, probably, a scarlet fever two years and a half previously, followed by joint lesions. The knees were said to have been very sore for some time (when the case was first seen by the author) and to "give way" frequently. After rest in bed, with fixation of the limbs on splints had been tried for a month, together with various other measures, as external applications of heat and cold, counterirritants, actual cautery, etc., without avail, the boy came to operation July 9, 1904. At operation there was found an area of softened, spongy, and much infected bone, perhaps as large as a silver quarter-dollar, covered with greatly thickened periosteum under the seat of each external protuberance at the head of the tibia. The softened, diseased bone was scraped away to a depth of perhaps one-third of an inch, and the periosteum and skin were approximated without drainage. There was no suggestion of any suppurative process. The wounds healed well without infection. Cultures taken from the scrapings proved sterile, and an emulsion of the same injected several times intraperitoneally into a rabbit gave a negative result. The scrapings did not afford suitable material for sectioning. The patient made a perfect recovery.

French and Italian Journals.

Post-Malarial Cerebral Syndrome.—Forli observed a young man in whom there was an undoubted cerebellar syndrome ending after two weeks in recovery, but returning at the end of a month of good health. The history of malarial fever, the enlargement of the spleen, and the absence of other organic or functional alterations which might cause the symptoms made him regard them as due to malaria. The immediate cause might be an anatomical lesion or a toxic action from the changes in the blood.—*La Riforma Medica,* February 4, 1905.

Treatment of Echinococcus Cysts of the Liver.—Biondi advises in unilocular cysts, single or multiple, if non-suppurating and not adherent, laparotomy, complete evacuation, injection of fluoride of silver in 1 per cent. solution, and suture of the liver and abdominal walls. If adherent and non-suppurating, evacuation without laparotomy and silver injection. In non-suppurating cysts with proliferating cysts, laparotomy, evacuation, irrigation with normal salt solution or disinfection with silver, suture of the sac. In single and multiple suppurating cysts, marsupialization after the Lindemann-Landau method, and silver irrigation. In small, free, pedunculated cysts, enucleation and suture. In an entire lobe filled with cysts and easily pedunculable, resection and suture. In case of alveolar echinococci not susceptible of radical treatment, excise as much as possible and treat the rest by injection of fluoride of silver.—*La Riforma Medica,* February, 1905.

Book Reviews.

The Influence of Growth on Congenital and Acquired Deformities. By Adoniram Brown Judson, A.M., M.D., Orthopedic Surgeon to the Out-Patient Department, New York Hospital, 1878-1903; Statistical Secretary of the New York Academy of Medicine; formerly President of The American Orthopedic Association, etc. New York: William Wood & Company, 1905.

"The object of this book," the author states, "is to emphasize the fact that prevention and cure are to be found in so managing a case and equipping a patient that nature-growth will be the principal factor in recovery." It is refreshing in these latter days, when the tendency is to rely exclusively on the knife to correct deformities, to have our attention called to the fact that, with a little judicious assistance, the natural processes can effect cures in children in the larger number of cases. And this method of correcting deformities has two important advantages. First, the gradual return of the limb to its proper position by natural forces secures a better adjustment of the bones to their changed relations than occurs when these bones are suddenly and violently wrenched from their displaced state and then forcibly held in their new position. Second, the treatment of deformities by "nature-growth," as the author happily terms his method, has this great advantage over operative procedures, that it enables every practitioner to treat his own cases with the more or less frequent advice of an expert in the use of appliances. It is on this account that we regard the work before us as a most important contribution to orthopedic surgery.

The text is written in a very concise and yet lucid style, with such necessary discussion of the causation, pathology, and indications of treatment of deformities as will enable every physician to appreciate the precise line of procedure in each case. Each instrument is explained with that amplitude of details in regard to its special features and its application to the affected part that will enable the busy practitioner to treat successfully the deformities which from time to time occur in his practice.

This work will prove very acceptable to those who have been familiar with the patient and successful labors of Dr. Judson in the field of mechanical surgery. Whatever allurements the more immediately brilliant results of operative treatment of deformities may have presented to others, he has never swerved from his devotion to nature nor lost faith in her conservative power in correcting her own errors when assisted by an intelligent mind and skilful hand.

Bacteriology and the Public Health. By George Newman, M.D., D.P.H., etc. Third Edition. Philadelphia: P. Blakiston's Son & Co., 1904.

This book presents a simple, general statement, brought up to date, of our knowledge of bacteria in their relations to the public health. It does not pretend to deal fully with laboratory methods or technique, but broadly treats the general subject covered by its title, and particularly the everyday problems of preventive medicine. The author is conservative and draws no deductions which are not substantiated by abundant proof. Altogether, the book is an excellent one and should be in the library of every health officer, who will find it a ready and safe recourse for reference.

Die Färbetechnik für das Nervensystem. Von Dr. Bernhard Pollack. Berlin: S. Karger, 1905.

This book is intended to serve as a guide for advanced workers engaged in the microscopical investigations of the central nervous system. It contains chapters on autopsy technique, on methods of hardening, imbedding, and staining the various elements of the nervous system, also on the change in the weight of the brain after preservation in various fluids. The present is the third edition of the work, and it has been brought up to date in conformity with recent progress in this field. Particular attention is accorded to the methods for demonstrating the neurofibrillæ, in accordance with the importance which this subject has lately assumed.

Surgery of the Prostate, Pancreas, Diaphragm, Spleen, Thyroid, and Hydrocephalus—A Historical Review. By Benjamin Merrill Ricketts, Ph.B., M.D. Cincinnati, 1904.

In writing this book, the author has examined all the available literature on the subjects mentioned, has arranged it chronologically and placed it in chapter form, each introduced by a brief anatomical description of the part and a historical review. The work represents an enormous amount of careful and painstaking labor, and will afford surgeons and writers a most complete bibliography of the surgery of the organs mentioned. It is in fact an elaborated index medicus, and the idea might well be applied to other branches of medical science.

Géographie Médicale. Par le Dr. E. Laurent. Paris: A Maloine, 1905.

This book stands almost alone in the subject of which it treats. The author has endeavored to prepare a book of ready reference for intending travelers or for physicians who are consulted as to the effect of certain climates upon special diseases. The medical geography of France is discussed quite fully, and the detailed information about that country is very valuable. When the author comes to discuss the other countries of the world, however, his statements are more or less general and vague, and lack that exactness and fullness of detail which alone would render such a work as that under consideration one of much practical value. Dr. Laurent has made the mistake of attempting to compress within a relatively few pages a subject, the proper treatment of which would require many volumes. Still, his book has a certain value for "globe-trotters" and physicians sending patients abroad, and, so far as it goes, it can be recommended.

The After-Treatment of Operations. A Manual for Practitioners and House Surgeons. By P. Lockhart Mummery, F.R.C.S. New York: William Wood & Co., 1905.

The appearance of a second edition within a year after the publication of the first, indicates that this book has been favorably received. It was written to fill a vacancy in surgical literature, and it has evidently met the indications demanded. It has not been found necessary to add very much to the original text, a section on smoking and drug habits in their relation to operative procedure has been added and the description of postoperative insanity has been enlarged. The chapter on shock and collapse has been revised and brought up to date, likewise that on abdominal surgery, especially the part dealing with the operation for appendicitis. This book constitutes practically the first effort to present this subject in a useful form for ready reference, for what has been written is found for the most part in a fragmentary form in the larger textbooks and scattered through medical journals. The author deserves to be commended for presenting a work of this nature to the profession.

Manual of Operative Surgery. By Dr. John Fairbairn Binnie, A.M., C.M. Philadelphia: P. Blakiston's Son & Co., 1905.

Works on operative surgery have become so numerous during the past few years, that any accession to the ranks must demand some special reason for its publication. And we find that the present work is intended by the author as a manual in which there should be omitted, as far as possible, all descriptions of those procedures which are ordinarily thoroughly given in the usual textbooks on general surgery. Reference to amputation and ligation has been omitted, and such portions of genitourinary and rectal surgery as are treated in the textbooks are not taken up, neither is the operative surgery of bones and joints. The aim has been to be practical, to describe operative procedures as they are done on the living subject, instead of on the cadaver. In going over the book one is impressed by the fact that a large amount of material has been gathered into a small compass, much of which has hitherto been available only in scattered books and journal articles. The text is clear and concise, the illustrations numerous, simple and well selected.

The Common Lot. By Robert Herrick, Author of "The Web of Life," "The Real World," etc. New York: The Macmillan Company; London: Macmillan & Co., Ltd., 1904.

In this work the author has given to the public another and a very valuable contribution to that order of fiction now in vogue, and of which there have been several notable examples of late years—so-called realistic—and truly so-called in the sense that they take us down into that arena of life where men actually move and work and have their being. In that rushing clamoring world of business, where men deal hand to hand with men, character is sometimes made, and often marred, but it is always tested, and it always tells, and it is good to be reminded that through all the rush and the dust and the din, the voice of the ideal is still to be heard, and that there are to be found men who heed it, and that to-day, as of old, "honesty is still the best policy" in many senses of the phrase. The mills of the gods grind so slowly to the perceptions of many of us, that our writers of serious fiction may be held as benefactors of their kind when they give us books as good as this one to remind us that they still grind.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, Held February 21, 1905.

DR. CHARLES H. LEWIS IN THE CHAIR.

An Unusual Case of Chorea.—Dr. WM. B. NOYES reported a case because of its interest in emphasizing some of the unusual symptoms and causes. The patient was a girl, 23 years old, a foundling. She had suffered within a year with rheumatic pains in different joints. Five or six months ago she developed some skin eruption, which she called "hives," and which itched, but disappeared when she took sulphur. Her hair had been falling out. About four weeks before the doctor saw her she had a sore throat and white patches in her mouth. For some weeks she had been acting strangely and had threatened suicide. She made two attacks against her roommate. She cried frequently and her memory was said to be failing. Her speech was somewhat affected and her enunciating was slurring. Ten days ago she noticed a twitching of her arms, shoulders, and facial muscles. She had never had a previous attack of chorea. Her right arm was so numb that she could not use it. Her friends said that she had been delirious for several nights. When called the doctor found her suffering from general choreiform movements of the face, upper extremities, and legs, so severe that she could hardly walk or sit up in a chair. Her mental condition seemed to be hysterical. She was sent to the Columbus Hospital. On admission her nervous and mental condition seemed to be somewhat better. A soft, systolic murmur, presumably hemic, was present. The cervical and epithrochlear glands were enlarged. There were constant choreiform movements of the tongue and irritated patches under the tongue. There was a coarse macular eruption over the forearms and over the palms, which did not itch. The skin of the legs and body was free. The rash was diagnosed as an early secondary syphilitic eruption. Her mental faculties, excepting for her complaint of depression and suicidal impulses, seemed more normal, and memory and reasoning power appeared to be normal. For some days her temperature was 99° in the morning and 100° in the evening. Treatment in the hospital by antisyphilitic measures resulted in a rapid disappearance of the choreiform movements. The eruption entirely faded away. At the end of one month she was found to be pregnant, being four months advanced. This had caused her a little discomfort. Dr. Noyes said this report suggested two lines of thought; first, what mental symptoms were to be considered a part of the usual clinical history of chorea and when was a diagnosis of some independent complicating psychosis necessary; secondly, what was the relation of chorea to such etiological factors as syphilis and pregnancy. He said that an accumulation of the unusual types of chorea was convincing that besides the familiar forms of Sydenham's chorea there were a variety of symptomatic choreas with choreiform movements absolutely indistinguishable from those of ordinary chorea minor. We could be assured that we were dealing with Sydenham's chorea if we had the circle of the choreiform movements, a history of rheumatism and endocarditis. He said no one had yet disproved that Sydenham's chorea, as well as the symptomatic forms, were not secondary to toxemia, and the same statement might be made of an acute articular rheumatism. Concerning chorea magna, it might be safely stated that it was in reality no disease *sui generis*, but that it appeared at puberty from the influence of hysteria or simulation. Genuine psychoses and cerebral disease were responsible for part of the cases. Concerning chorea of pregnancy, while many gave a history of previous attacks of undoubted Sydenham's chorea in childhood, and the condition was seen as a rule among the young and frequently unmarried subjects, the prognosis was far more serious than in other forms, death being due to exhaustion. The movements in these cases were usually identical with those of Sydenham's chorea. Very few cases of chorea due to syphilis were on record. In the case reported the appearance of chorea, and of the secondary symptoms or eruption of syphilis, and the early stages of pregnancy were nearly simultaneous. Three weeks of antisyphilitic treatment caused the movements to entirely disappear.

Dr. J. FINLEY BELL recalled a case occurring in a poorly nourished woman, 35 years of age, in the third month of pregnancy, who was practically starving. The messenger said she was suffering from convulsions and he went to her prepared to remove a fetus. She had simple choreiform movements. The urine revealed a large amount of indican with diacetic acid and acetone. She was placed on a nourishing diet and eliminative treatment and she went through her pregnancy without further trouble. She had been absolutely without food for three days.

Contribution to the Alcohol Question.—S. P. B Ph.D., presented this communication. He said that in view of the influence of alcoholic beverages, physical, economical, and moral, upon society, it was of vast importance that the truth in regard to their physiological effect be known and taught. The analysis of many preparations, such as patent medicines, showed alcohol to be present in quantities varying from 7 to 47 per cent. Certain proprietary foods for the sick were found to contain quantities varying from 10.6 to 23 per cent. His paper was chiefly concerned with the so-called moderate use of alcohol. The maximum quantity of alcohol which might be classed as a moderate quantity had steadily decreased during the past fifty years, and at present an amount corresponding to about six ounces of whiskey was considered to be near the upper limit of a moderate drinker. The recent experiments of Atwater and Benedict with the respiration calorimeter had shown that when the daily dose of alcohol does not exceed 72.5 grains not more than two per cent. leaves the body unchanged, the 98 per cent being oxidized into carbon dioxide and water. Such being the case, the potential energy of the alcohol must be available for use in the body for supplying heat, doing work, or in sparing body tissue. The careful respiration experiments of Zuntz and Geppert had shown that the amount of energy used in its absorption was less than that yielded by its oxidation, leaving a net percentage for bodily uses as great as that yielded by other forms of food. Experiments of men who approached the subject from opposite opinions had led to the following concordant results: (1) Alcohol might take the place of some fat or carbohydrate in the food. (2) When taken to replace dynamically (*i.e.* a quantity of alcohol having the same potential energy as the food replaced) a given amount of fat or carbohydrate in a body unaccustomed to its use it caused for a few days an increased excretion of nitrogen. During these few days the body gradually acquired a tolerance for this poison and the energy from its oxidation was then available for bodily needs to the same extent as the food replaced. (3) Alcohol was an extraordinary food, to be used only in certain conditions when its oxidation might be of great benefit; but on no account should it be taken except when needed. The conclusion that alcohol might under certain conditions be a food substance did not argue that it should be used widely and indiscriminately. All of the conclusions from experiments regarding the food value of alcohol depended upon the determination of the total nitrogen excreted in the urine; such a determination could be made by methods that were beyond reproach, yet they did not tell the whole story of the effect of alcohol on the proteid metabolism in the body, for they gave no clew to the distribution of this nitrogen among the several normal constituents of the urine. Impairment of function might show itself in an abnormal distribution of the nitrogen among the several physiological constituents. In health, 85 to 90 per cent. of the nitrogen showed itself as urea, 2.5 to 5 per cent. as ammonia, and 3 to 5 per cent. as uric acid. The alcohol might show its toxic effect by interfering in the forms in which the total amount was excreted. The writer then described a series of experiments which he had made along this line first with alcohol and then with port wine and ale. It was noticed that the increase of uric acid was proportionally much greater when the latter were used than when a purer form of alcohol was employed. Probably port wine had the reputation of being the worst form of alcohol which could be taken. The results showed that alcohol caused a disturbance of those processes which made up metabolism and that this disturbance was evidenced by changes in the distribution of the nitrogen among the several physiological constituents of urine. With one exception the same result was found in all subjects experimented upon. Alcohol caused an increase in the excretion of uric acid; the point of greatest increase being the fifth hour following the meal. The total excretion for the alcohol day was greater than that on the control days, showing that the increase following the meal on the alcohol day was not due to a mere hastening of the normal output for a few hours, to be followed later by a drop below the normal. This experiment also afforded evidence that urates were not swept out of the body fluids by diuresis. The three products considered in these experiments, urea, ammonia, and uric acid, were the most important end products arising from the proteid metabolism in the body. The experimental work done upon the relationship which these substances bore to one another, and to the metabolic processes by which they were elaborated, had furnished but little knowledge. The relationship which uric acid bore to the complex compounds found in the cell nuclei, its origin from these compounds during the processes of metabolism, and its partial destruction by oxidation in the body tissues, were matters established with a high degree of certainty. The final steps in the production of urea were still obscure, but evidence showed that its immediate precursors were ammonia compounds and that the hepatic cells were the active agents in the preparation. In pathological conditions affecting these cells a much greater proportion of the total nitrogen was likely to appear as ammonia. It seemed probable that the liver was an agent of the greatest importance in dealing with the exogenous portion. It seemed that the experimental results might best be explained by supposing that alcohol had by its toxic action on the liver cells incapacitated them to some extent. The rapidity of its absorption into the portal circulation exposed the liver to a higher degree of concentration of the alcohol than other tissues of the body excepting the stomach mucosa. A portion of the alcohol was prbably oxidized immediately on reaching the liver, but there must have been an appreciable time previous to its oxidation during which it might exhibit its toxic action. Certain fact indicated that the oxidative functions of the liver had suffered as a result of the alcohol. Alcohol taken without food caused no increase in the excretion of uric acid and purin bases; taken with food it caused an increase of these substances, which, with constant quantities of alcohol in the same subject, seemed to be roughly proportional to the amount of purin material taken in the food. In those experiments in which the ammonia was estimated it invariably showed an increase during the alcohol period and since the diet was constant this indicated liver incapacity also. These results were obtained with moderate quantities of alcohol and no digestive disturbance was noted, but the long-continued use of moderate quantities did cause such disturbance. He said it was rather a dangerous doctrine for physicians to be too strenuous in insisting upon alcohol being a food simply as a result of calorimeter experiments, where energy was considered.

Dr. **Egbert Le Fevre** said that in the treatment of gouty conditions the use of salicylic acid was said to have a profound influence in causing a marked excretion of uric acid and, therefore, this was one of the drugs to use in this condition, clearing the blood of the uric acid that was present in it. But in Von Norden's communication it was claimed that salicylic acid was a most dangerous drug to use. that the output of uric acid was not due to a clearing out of retained uric acid in the blood, but it acted as did alcohol in increasing the output by diminishing the oxidation. It seemed certain that drugs, such as alcohol, had the power of acting upon the liver, by changing the oxidation of the purin bodies or the xanthine products so called, and increasing the amount of elimination by diminishing the amount of oxidation. Therapeutically, Dr. Le Fevre said he was a firm believer in alcohol as a food product, increasing body weight especially in certain diseases, in fevers, and in septic conditions.

Dr. E. E. **Smith** asked Mr. Beebe how many experiments were conducted to show that a pure diet of alcohol did not increase the amount of uric acid excreted?

Mr. S. P. **Beebe** replied that but three experiments had been conducted to show this. Dr. Graham Lusk has reported a case of a man who took practically nothing but alcohol. The taking of 900 c.c. of whiskey produced absolutely no change at all in the amount of uric acid.

Dr. E. E. **Smith** referred to certain experiments he had made some time ago in which the amount of uric acid was increased, more than double; these experiments were conducted upon dogs; but a moderate dose of alcohol did not increase the uric acid. He thought a possible explanation of this might be found in the influence of alcohol upon the formation of acids other than uric in the body. It was known that certain organic acids were formed in the body and gave rise to an increase in the elimination of ammonia and the synthetic formation of uric acid. By its influence on digestion alcohol might occasion certain digestive disturbances and the formation of lactic acid.

Mr. S. P. **Beebe** said that if large quantities of alcohol were used, and for a considerable length of time, it would be reasonable to suppose that these digestive disturbances would develop, but in his experiments only moderate doses were used, and no digestive disturbances were to be observed. He said he did not mean to combat the therapeutic use of alcohol. He thought the physician should be careful in advising patients that moderate doses of alcohol were without distinct harm.

The Treatment of Renal Inadequacy Associated with an Apparent Nephritis.—Dr. **William** J. **Pulley** read this paper. He said that Edebohls claimed to be able to cure any kind of chronic nephritis coming under his classification, viz., chronic parenchymatous, chronic diffuse, and chronic interstititial nephritis, which to a certain extent embodied all kinds of chronic kidney inflammations. He said that Edebohls had stated further that "this cure is brought about by removing a barrier in the shape of a capsule proper, to the creation of a new and increased and more active blood supply to the diseased kidney. The removal of this barrier by decapsulation is followed by the formation on the most extensive scale possible of a new connection between the kidney and its fatty capsule." Dr. Pulley said that at least three observers who had had opportunities of observing and examining minutely kidneys that had been decapsulated some length of time before removal had denied that this new vascular supply was formed. Jewett, Cutler and Boncz-Osmolowsky found but little connection between the blood supply of the new formed capsule and the kidney. That a new capsule, denser than the one removed, was formed after decapsulation was sufficiently proven by the observation of several men, including Edebohls himself. He said that Edebohls had further stated that the probable manner in which a cure was effected was by this new blood supply removing by absorption the products of inflammation. This might be the case if the exudate was comparatively recent, but it was hard to understand in the case of chronic interstitial nephritis. The same might be said concerning the increased nutrition brought to the kidney epithelia by this new formed blood supply, but here the etiology of nephritis was ignored, although the cause still existed in all probability, and would be just as potent as ever against this so-claimed new blood supply, resulting in a return of all the symptoms after a certain length of time. Dr. Pulley then referred to the paper of Dr. Winfield Ayres, which was read before the Urological Society in June, 1904, in which it was stated that beginning nephritis under certain conditions could be cured by lavage of the kidney pelvis, and cited several cases which had shown marked improvement after a washing out of the pelvis of the kidney. In looking over the cases of other observers he found the diagnosis of chronic nephritis was based principally upon finding urine containing casts, epithelial cells from the kidney tubes, and albumin. These methods of diagnosis, he said, might be very well for the quick cure of chronic nephritis by surgical or other means of local measures, but it was a question in his mind as to whether they were sufficient thoroughly to establish a true diagnosis of the condition. It was his belief that the diagnosis of the forms of chronic nephritis could not be made by a few examinations of specimens of urine collected at random, but other things must be looked into as symptomatology, diet, exercise, and the general physical condition of the patient. All causes especially which tended to congest the kidneys or put tension upon its capsule must be eliminated. It was his belief that these conditions might cause simply a disturbance of the kidney function, probably by producing an increase of the kidney pressure and tension of the kidney capsule. In other words, many of these cases giving symptoms and secreting urine of a kind to make some believe they indicated a true chronic nephritis, he believed to be simple renal inadequacies, probably resulting from some mechanical obstruction; when this obstruction was removed the kidney would do its work properly, but was not cured of any chronic nephritis in the true sense of the word. It was incredible to him that when a true nephritis from any cause had advanced to that stage where the urine contained constantly casts of different kinds, with a lessening of the urea and solids, with a pronounced anemia due to chronic poisoning, that any surgical procedure or local treatment, could cure the pathological process that must necessarily be present. Decapsulation, or even lavage of the kidney pelvis, might produce a temporary relief at certain stages and in certain forms of chronic nephritis where the tension of the capsule simply increased the symptoms, but that was all. After reading Dr. Ayres' statement regarding his results in washing out the pelvis of the kidney, he began a systematic treatment of a number of cases by his method. The recital of a number of cases here followed, as well as the history of one of Dr. Ayres' cases. In conclusion, Dr. Pulley said that it was his belief (1) that chronic nephritis was never cured by purely surgical procedures or any kind of local treatment so far known to him. (2) That many symptoms of chronic nephritis which were due to an increase of internal kidney pressure could be relieved by decapsulation. (3) That many so-called cases of chronic nephritis were simply mechanical interferences with the normal kidney function, and that the inflammatory process, if any, was of secondary importance. (4) That lavage of the kidney pelvis was limited in its good effects to two conditions only, viz., pyelitis from any cause which affected the functions of the kidney by increasing its internal pressure, and secondly in parenchymatous and diffuse nephritis where there was a great deal of cellular débris, a concentrated urine, increased kidney pressure and tension of the capsule. He hazarded the explanation that the seemingly good results obtained by kidney lavage in pyelitis were due to clearing the pelvis and ureters of irritating substances, and in the parenchymatous and diffuse nephritis, principally by influencing the blood supply of the kidney, accelerating a sluggish current, expelling more or less stagnant blood, thereby bringing to the kidney fresh blood, which in turn stimulated the kidney epithelia to more vigorous action, and reducing the internal kidney pressure and capsule tension, thus tending to reestablish the normal conditions. The treatment consisted simply in passing catheters by means of the cystoscope into each ureter once or twice a week and washing out the pelves of the kidneys with a warm aqueous solution of nitrate of silver, 1-5,000 or 1-10,000 strength. The proteids were cut from the diet and the patient kept at rest. The only medication given were cathartics, and Basham's mixture three times a day.

Dr. Winfield Ayres said that in cases of degenerated tubule cells not due to irritation of a probably beginning nephritis, where there was a pyelitis and a possibility of its extension from the pelvis of the kidney up into the kidney, lavage would cause the tubule cells and albumin to disappear. He said he had tried it in forty-three cases of this kind, and in all but five it caused to entirely disappear all the tubule cells, the albumin, and the urines entirely cleared up. Some of these cases had been under observation for five or six months, with no return of cells or albumin, and he thought they were absolutely cured. Lavage of the renal pelvis, he said, would not cure a chronic parenchymatous nephritis, but it would relieve the symptoms to a marked extent. He had tried it in three cases of interstitial nephritis with some improvement. Lavage should be given at first once a week, and if the urethra would stand it, twice a week, but never oftener. After the first lavage, he said, there usually followed a distinct colic, which a dose of morphine would relieve, and which usually did not return, and this, in all probability, was due to spasm of the ureter. He said he had performed this operation 2,500 or 3,000 times, and that the time required to pass the catheters into the ureters and withdraw the cystoscope, leaving the catheters in place, was probably five minutes, and the entire treatment of one case required about one hour.

Dr. J. Finley Bell cautioned against the possibility of an ascending infection, carried from the urethra or bladder up into the ureters.

Dr. William N. Berkeley said he believed that in twenty-five or thirty years from now, when the physiology of the kidney would be worked out in the laboratory, our present views would be changed, and there would be some place to locate these cases which did not belong with acute, or subchronic, or inflammatory processes of the kidney, such as could be found in pathological examinations of the kidneys, when the post mortems were made within six to fourteen hours after death. A medical director of one of our largest insurance companies told him recently that he rejected all cases if the urine contained albumin, because he knew of no way to discriminate between the ordinary albuminurias and cases of true nephritis.

Dr. E. E. Smith asked what constituted a nephritis, and he agreed that there would occur a revision of our present conception of its nature. The presence of albumin and casts in the urine was evidence of a renal degeneration, or a degenerative process of renal parenchymatous tissues, but one should not conclude that that constituted a condition of progressive renal disease.

Dr. Charles H. Lewis said that to make a true diagnosis of chronic nephritis required a number of careful examinations and much time; many things should be carefully considered before making a diagnosis of chronic nephritis. Interstitial nephritis he had never considered a disease, but rather a sign of age. The kidneys would wear out, and in old people one could usually find albumin and casts if carefully examined for. Dr. Ferguson had told him that he never saw a healthy kidney in a person over fifty years of age. Dr. Lewis believed that a nephritis would carry away all of us after seventy years of age unless we died of some other disease.

Landry's Paralysis.—Charles F. Wiley reports an interesting case in a young man of twenty-four, who became ill July 2, 1904, which terminated in a fairly good recovery. Up to the present time, however, in spite of treatment, the lower back pelvic and lower extremity muscles are still inactive.—*American Medicine*, March 5, 1905.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held February 23, 1905.

DR. CHAS. F. ADAMS, CHAIRMAN.

An Undetermined Tumor in the Interior of the Uterus.—Dr. GEORGE H. BALLERAY presented a uterus that he had removed from a patient five weeks ago. The woman was 47 years old and had never had any children. During the past year or two her periods had been very irregular, going over time, until six months ago when she had more or less metrorrhagia. This bleeding occurred at very irregular intervals; there was a considerable amount of blood lost, watery in character, and with a distinct odor. The patient was very much emaciated when she entered the hospital, she had some elevation of temperature, cough, and coryza. During her first week in hospital her temperature rose to 103° and 104°, and then subsided. Her general condition was below par. Malignant disease of the body of the uterus was suspected, but when the high temperature developed he thought she might have had simply an attack of influenza. He then thought of the possibility of tuberculosis. At any rate he determined to remove the uterus. The uterus was found to be bound down not only to the adnexa, but to the intestines, the adhesions being as dense as any he had ever encountered. During the operation her condition became exceedingly bad, and it was found that she was practically a "bleeder," although no such history was obtainable. So much blood was lost during the operation that she became pulseless. In spite of stimulation and transfusions she remained pulseless, bleeding from the vaginal tissues so profusely that he believed she would die on the operating table. The blood seemed to well up from the tissues. The tissues were clamped with a hysterectomy clamp and left in situ, and the wound was packed and the patient removed to the bed. The next morning the pulse was perceptible, and was 160. On the second day it ran from 140 to 130, and on the third day vomiting set in, at one time fecal in character. The stomach was washed out, the bowels were irrigated, stimulants were given, and the patient then went on to an uneventful recovery. He regretted that a microscopical examination of the specimen had not been made. The tubes, especially the right one, was very much dilated at the time of removal.

Double Pyosalpinx With No Clinical Symptoms.—Dr. GEORGE H. BALLERAY presented a specimen of the uterus and adnexa which he had removed from a woman 36 years old, the mother of six children, and who had had one miscarriage. The last child was born last March, and the labor was difficult, the patient making a slow recovery and remaining quite anemic, and she was not considered to be in good condition until January last, when she entered the hospital, her physician supposing she was suffering from an attack of appendicitis. After a week the symptoms subsided. A mass was found on both sides of the uterus, and there was a very bad tear of the cervix uteri. Last Monday she was operated upon. The laceration in the cervix was very extensive, extending into the perimetrium, and there was so much cicatricial formation that it bound the uterus down. An abdominal section was done; both adnexa were found diseased and the uterus firmly bound down. The tubes contained pus which, during manipulation, escaped into the pelvis and was mopped up as fast as it escaped. The specimen, he said, was interesting in showing to what extent structures might undergo disease and yet give so few signs. The masses on the sides of the uterus were the size of the closed fist. This patient died of secondary hemorrhage. During the operation there was very little blood lost, but the shock of the operation was great. She died three-quarters of an hour after the first symptoms showed themselves. The hemostasis was most perfect in this case. He reported this case to emphasize his belief that hysterectomies should not be advised so indiscriminately. He acknowledged that he could not keep his mortality of total abdominal hysterectomies below 10 or 12 per cent., and for that reason he did not believe in advising patients to submit to operations of this kind unless the indications were very clear. It was the condition of the cervix itself which caused him to do the operation, for it seemed to be bordering on malignancy.

Dr. ARNOLD STURMDORF said that Dr. Balleray's mortality would never be lowered if he continued to wait. He said he could recall two cases in which secondary hemorrhage occurred after special precautions had been taken to prevent it, but he had been fortunate in stopping it before the patients were removed from the operating room. The slipping of the ligatures was not due so much to faulty tying, but to the edematous condition of the tissues at the time of ligation. The severance of the tissues caused a reduction in the mass and slipping of the ligatures. The blood vessels at the roof of the vagina were too small to be caught, and at times the rigidity of the tissues prevented their being caught. He said that two cases had been reported where adrenalin had been given, but death resulted from secondary hemorrhage in spite of it.

Dr. Balleray said the slipping of the ligatures was, in all probability, caused by the lessening in bulk of the tissues following incisions into them. With regard to operating more often upon fibroid cases, he thought that possibly he might get a smaller mortality, but he did not feel that he was warranted in operating upon such small fibroids because so many of these patients went along without any trouble at all; whereas, if he had operated upon them he would have subjected them to a certain risk. In the case he reported he said there was no doubt at all about the diagnosis of fibroids. He had seen tumors of this nature disappear after pregnancy when, at the time of delivery, they were large enough to obstruct delivery. In 1886 he read a paper before the Medical Society of the State of New York, in which he detailed several such cases.

Ruptured Cyst of Ovary from Twisted Pedicle; Hydrosalpinx on the Other Side.—Dr. S. MARX presented this specimen, which was of peculiar interest in showing how little one knew of what was going on within the abdomen until it was opened. The patient from whom the specimen was removed was 25 or 26 years old, who had had, five or six years previous, a very difficult labor and severe laceration. The laceration was operated upon six months after delivery, but it was followed shortly after by a prolapse of the second degree. The pessary treatment was tried, but she could not stand the discomfort. When Dr. Marx saw the patient there was an intense pain in both groins, and an examination revealed a prolapse of the uterus, and this organ was absolutely fixed and he wondered how a pessary could have been worn at all. He advised an operation. Examination showed a tumefaction about the size of the closed fist to the right of the uterus. When the patient was admitted to the hospital she had a normal pulse and temperature. The operation was an elective one. When the patient was examined under the anesthetic no tumor presented, and he took it for granted that a wrong diagnosis had been made, but he decided to open the abdomen anyway because of the firm fixation of the uterus. In the abdominal cavity he found a mass of blood and also a gangrenous cyst of the ovary which had ruptured into the abdominal cavity; the coppery-colored mass was this gangrenous tumor due to twisting of its pedicle. An examination of the other side revealed a hydrosalpinx. The gangrenous tissue was sewn up, and the patient, in spite of this procedure, made a rapid and uneventful recovery. Dr. Marx said this case proved how little one knew of what was going on in the abdomen until it was opened and inspected.

Is Craniotomy on a Living Child Ever Justifiable?—Dr. S. MARX read this paper. He said that this subject resolved itself into a discussion on craniotomy versus cesarean section, or symphyseotomy. Other things being equal, the religious question always weighed strongly, and more often than not absolutely determined the result; the writer always favored the mother as compared to the unknown fetus. This finality had been arrived at even in the face of the wonderful results of modern surgery. His experience had forced him to the belief that only in rare cases could we consider a cesarean section in the woman many hours in labor, after manifold attempts to deliver, in the presence of a suffering fetus as more conservative than a skillfully performed craniotomy. The sphere for craniotomy was limited, but the limitations ought to be extended, always holding that the life of the dangerously ill mother was of greater value than that of the suffering and possibly badly maimed child. The absolute contraindication for the performance of perforation was offered in pelves absolutely contracted from either bone approximation or the presence of a tumor mass. If the patient was near term an elective cesarean section would be the method of choice. Too often such a condition was not known until the woman had been many hours in labor. This occurrence could be obviated by timely care and attention to the pelvic construction of every gravid woman.

Any prolonged difficult life-saving operation on the fetus was contraindicated when the fetus was known to be suffering profoundly, as was shown by well-known physical signs. After a baby had, by severe handling, had its tender skull and brain probably vitally injured, its advent dead was preferable to a life of suffering or idiocy. This calamity could be avoided in a number of cases by early discovery that a malposition or a pelvic contraction existed. A contracted pelvis of the profound type was always more readily discovered than a simple occipito-posterior position. Here under this category he preferred the perforators. The perforators were also absolutely indicated in cases of known vital deformity, such as huge hydrocephalic and other monsters. As to absolute indications regarding the mother, he said that the wishes of the parents and of the immediate family ought to be satisfied. Where dire and sudden accidents arose which threatened the life of the mother, and where the child could not be extricated except after prolonged efforts which would tend to extinguish fetal life, that unless a rapid forceps, version or extraction could be done, our duty ought always to be the performance of a perforation. He embraced only such grave complications as pulmonary embolus, severe accidental hemorrhage, eclampsia, etc. The destructive operation was absolutely necessary in cases of grave exhaustion, when the woman had been the victim of a prolonged fruitless labor with powerful efforts to deliver under prolonged anesthesia, and who would be unable to stand a cesarean section. He thought that better instruction, skill, and patience on the part of the accoucheur would do more to anticipate these calamities and prevent them than myriads of warnings uttered after the complications had occurred.

The skilled and perfect accoucheur could, by adopting various means and measures, reduce the necessity for the performance of the destructive fetal operations to a minimum. The early recognition of fetal exhaustion, the careful watch for threatening and impending maternal dissolution, were sacred and initial duties of the conscientious man. Operating too early without indications was as criminal as operating too late. Timely interference in the presence of clear indications, of normal presentations, knowing whether or not there was a disproportion between the fetal head and material structures, were all the purest quintessence of common sense. Recognizing early vicious presentations, and their timely correction, was but one of the manifold duties of the physician. The various positions could often be utilized for ready and easy delivery as the lateral prone, the Trendelenburg, and the Walcher; with the latter he had had the greatest satisfaction. The physician ought to decide, when the question is left to him, in favor of a major operation when the child was in good condition, or approximately so, and when the mother was not septic and able to stand the shock of such an operation. If there was the slightest doubt as to the outcome, we should favor perforation of the living child. Unless cesarean section could be made reasonably safe, he unhesitatingly preferred craniotomy. While cesarean section was safe in skilled hands, perforation was less dangerous in unskilled hands. The question was most difficult to decide in those cases in which the pelvic contraction was of the minor type. If not recognized they formed a series of dystociæ that tested the skill of a careful observer. These could be overcome in many women by the early performance of version, the after-coming head helped through the pelvis by the Walcher position and firm suprapubic pressure. When version was impossible through early rupture of the waters, the tentative use of typical or atypical forceps, using the extension position, might be of value. The application must not be too long or too powerful. If the woman and child were then in good condition, and this was found to be unsuccessful, and the patient was in such environment that the favorable outcome of an operation was reasonably certain, then only would a cesarean section be allowable. He said that experience in his own work led him to believe that the field for perforations and the allied operations was widening, and that for cesarean section was narrowing.

Dr. **Egbert H. Grandin** said that this question had been brought up very frequently, and had uniformly been answered as it had been by Dr. Marx. He said he did not see how it could be answered otherwise than it had been ten or fifteen years ago. At the bedside one was brought in contact with so many prejudices, sometimes of a religious character, but always in favor of the life that had the greatest right to exist. In private practice one was certainly rarely allowed to do in those border-line cases what one should like to do, *i. e.* avoid the destroying of the fetus. Often the fetus must be destroyed. He said the discussion was not dealing with those absolute pelvic contractions, or with tumors in the lower uterine segment, or those cases wherein cesarean section was necessitated; but on those border-line cases—cases in which no man could say positively that forceps or version would enable one to avoid both cesarean section and embryotomy. If obstetrics was an exact science, then we could say positively that embryotomy on a living child was never justifiable. He said he had been invited once to witness a cesarean section, bu before the doctor reached the hospital the woman had delivered herself. He said that if we had to wait until versio had been tried, until forceps had been applied, and unti the woman had more or less exhausted herself, as well a the fetus, and then perform a cesarean section, it mea the death warrant of both mother and child. In 1890 h said he had read a paper before the American Gynecologic Society in the course of which he reported two instanc of cesarean section, the operation having been done in bot from an elective standpoint, with maternal and fetal r covery, and he then made the statement that the time w not far distant when we would cease to be called upon destroy a living fetus. To-day if called upon to decide t question whether we would subject the mother to the da gers of a cesarean section, because we could not alwa get a man trained sufficiently in the performance of th operation, even though this operation might be the easie of all. If a man knew *how* to suture the uterus, th operation, in his opinion, became a very easy one. Embr otomy and craniotomy in the hands of an expert usual carried no death rate in these border-line cases; but th was not so in the hands of those who were not exper Craniotomy and basiotripsy might become the gravest operations by the injury done the woman. To-day I Grandin said we must be satisfied in informing the husba that we can get a living child if a cesarean section allowed, which would only subject the woman to a one-h per cent. death rate. Yet most husbands would say th embryotomy should be performed.

Dr. **Malcolm McLean** said that, after years of perience in this work he felt as Dr. Grandin did. Wh brought face to face with these questions we should co sider them from a scientific standpoint, and ask oursel what was the proper thing to do under such conditions have been placed under the name of "border-line" cases. Therefore he accepted what Dr. Grandin and the reader of the paper had stated, and that was the position he had held for years. Still, he said his repugnance against the operation of embryotomy was so strong that he felt it was only right that he should express his personal experience, and that was that he had never yet done this operation. That did not mean that he had dodged his duty to his patients, but that he had taken pains to circumvent so undesirable an operation; he had had unusual luck in his cases. Scientifically speaking, he said that he could imagine cases—cases brought to his notice after other methods had been tried—where he could not have an early choice in the matter, where the mother was in such a condition that she could not stand the operation of cesarean section; under these circumstances, when he was confronted with the question of a living child or a living mother, he would have to subject these facts to the husband, or parents, or friends in such a way as to throw the responsibility upon them of preventing him from doing what he considered a scientific operation. When confronted with such questions he believed the life of the child should give way to the life of the mother. These cases he believed to be rarer than one would infer from the discussion and paper; he did not believe that many cases would present themselves to us if it was taken into account that we could avoid such an operation. He had seen the operation done under conditions when it was so unnecessary—and in good hands, too—that he had held himself back and tried in every way to see if he had done everything that should be done in every case. Therefore, he said he had never been obliged to do the operation, because such cases had never presented themselves to him.

Dr. **Austin Flint, Jr.**, said he came prepared to take the ground that embryotomy did have a place in obstetrics, although he believed that it was an operation that would be done less and less, because of a better understanding of conditions existing earlier in these cases. The whole question he believed had to do with the diagnosis; to-day one did not seem to be able to tell whether a particular head would come through a particular pelvis. Under certain conditions it certainly did seem better to perforate the head rather than to wait for the child to die. These questions that come up, he said, must be studied and a decision made from the personal equation of the man, from a religious standpoint and other standpoints. It must be at times performed, although with great reluctance. The ability to make an early diagnosis and submit the patient to the cesarean section early he believed to be the better procedure in these cases.

Dr. J. O. **Polak** said that it was unfair to place the operation of craniotomy against any elective operation, because this was, in truth, an operation of emergency. In tenement-house practice one met with these cases, and craniotomy was theoretically antagonistic; still it must be done. He said he was much interested in the cases called accident cases; here craniotomy had been of great service to him. For instance, take a case of eclampsia, with a fetus that was just viable, with the woman in a very serious condition, dilatation of the parts not being satisfactory; one not infrequently could reduce the size of the head and facilitate delivery by doing a craniotomy. He said that all could conceive those border-line cases where the woman's life could be saved by reducing the size of the passenger. If a diagnosis of these cases could be made early, and an attempt made, by moulding, etc., to force the individual head to fit the individual pelvis, he believed there would be no necessity for doing embryotomy. The cases in which we were called upon to decide between craniotomy and cesarean section, as a rule, were infected cases, where the forceps had been tried, or some internal manipulation, and these were the worst possible cases.

Dr. J. D. **Voorhees** made a more vigorous plea for the cutting operation, although he agreed in the main with what had been said. Craniotomy on the living child had its place, especially in such cases of pregnancy complicated with acute pelvic disease, with toxemia, placenta previa, chronic endocarditis, etc., where the mother's life was in jeopardy. Craniotomy was justifiable in cases of monstrosities or hydrocephalus. Take, for instance, a case where the mother was in good condition, but the child in a very poor condition; the forceps had been applied and the child showed signs of asphyxiation; in such a case the child no doubt would be sacrificed if delivery by the ordinary route was attempted. Again, take a case with a considerable degree of contraction, where the forceps had been applied but nothing accomplished; under proper surroundings cesarean section should be performed. But if the mother was in poor condition with a tonic uterus, and the child dead or moribund, craniotomy should be the operation of choice. Where both mother and child are in good condition, under proper surroundings, when the question came up between craniotomy and cesarean section, if cesarean section was decided upon then the greatest objection came, as a rule, from the patient or from the relatives, and consent might not be obtained for a cutting operation upon the mother. The difficulties in diagnosis were emphasized. Cesarean section he considered to be an easy operation, but it should be performed early. He referred to Dr. Cragin's operation upon two private patients at the Sloan Maternity; both made a smooth convalescence. As time went on he believed that cesarean section would be done more frequently, and, in some cases, patients themselves will request that it be done.

Dr. **George L. Brodhead** said he was in perfect accord with Dr. Marx's remarks. All agreed as to the relative and the absolute indications, and the question really came down to a choice of method in those cases which presented relative indications for craniotomy or cesarean section. In those cases in which the question came up he said that, at the beginning of labor, as a rule, no one had the faintest idea that either operation would have to be done. They hoped to get the child out by forceps or version, and the idea of a craniotomy being called for never entered their minds. The head then would not descend, and forceps were applied, but without success; then perhaps version was performed; then it would be discovered that delivery would have to be accomplished by other methods. By this time the child's heart would be found to be very feeble, and it was in these cases that embryotomy was to be chosen rather than cesarean section. The majority of these patients presented themselves too late for cesarean section to be performed successfully.

Dr. **George H. Balleray** said there were cases in which there was an absolute indication for cesarean section, and others in which this was not so clear. In those cases in which attempts to deliver by forceps, version, etc., had been tried, and the infant's life was in jeopardy, then craniotomy was indicated. In the hands of men who were not experts in abdominal surgery craniotomy had better be attempted. He did not believe cesarean section was as easy as some supposed, and it should not be attempted by the tyro. He believed, however, the time would come when craniotomy on the living child would not be indicated as often as it was to-day.

Dr. S. **Marx** said that he regarded cesarean section one of the simplest operations in abdominal surgery, and that he would rather do this operation than do a perforation or even a difficult forceps delivery, because no strength or time was wasted, and the only danger was from sepsis. Dr. Polak had informed him that in 15 cases of cesarean section the amount of blood lost in each case was less than would have occurred during a normal labor; these cases occurred at the Long Island Hospital. He said there were four men present who were instructors in obstetrics in colleges; if these men would instruct their students more in diagnosis the problem would be solved. He believed there was more bad midwifery in the City of New York than any other city; and this was, in all probability, due to the fact that there were so many physicians here, or else because women were so prolific. He said that Dr. Voorhees was inclined to favor cesarean section as opposed to craniotomy; but he called attention to the fact that all did not have the advantages the Sloane Maternity offered in the way of skilled assistants, etc.

Pathological Society of Philadelphia.

At a stated meeting, held February 23, Dr. C. **Foulkrod** presented specimens of (a) "Diverticulum of the Fallopian Tube," (b) "Tuberculous Ulcer of the Tongue," (c) "Sarcoma from the Back of a Patient Sixty-six Years Old." Dr. **Randle C. Rosenberger** presented a communication entitled "Homogenized Cultures of Tubercle-bacilli." He described the variations in morphology observed under such conditions, and stated that he had been unable to detect motility. Dr. D. H. **Bergey** read a paper entitled "The Influence of Pasteurization on the Chemical and Physical Qualities of Milk." He had found that milk heated for 15 or 20 minutes to a temperature of 68° C. had its content of lactic-acid bacilli largely diminished, while those of the subtilis group persisted in undiminished if not increased number. Although such milk became sour less readily it acquired a disagreeable odor. Dr. M. E. **Pennington** read a paper entitled "A Comparison of Pasteurized and Raw Milk." She described the conditions found in a number of pasteurizing plants in Philadelphia, and pointed out how different the conditions present in many of these are from those found in the laboratory in which the process of pasteurization is carried out. Bacteriological examinations showed that while pasteurized milk contained fewer bacteria at the outset than untreated milk, microorganisms multiplied far more rapidly in the former than in the latter when of reasonable purity. Dr. J. **Evans** and Dr. **Cope** presented a communication entitled "Does Milk Possess Germicidal Properties?" Some observations that they had made seemed to answer this question in the negative, certain microorganisms apparently exerting an antagonistic influence upon others. In the discussion Dr. A. C. **Abbott** stated that the only conclusion to be drawn from the evidence in the case was that pasteurized milk is not to be commended as an article of food for children, but that much more is to be accomplished by taking steps to secure a supply of milk in as high a state of purity as possible. Dr. D. L. **Edsall** pointed out that milk subjected to pasteurization undergoes deleterious changes affecting not only its physical and chemical qualities, but also its digestive and nutritive properties. Dr. C. A. **Fife** discussed at some length the chemical changes that take place in milk as a result of the process of pasteurization.

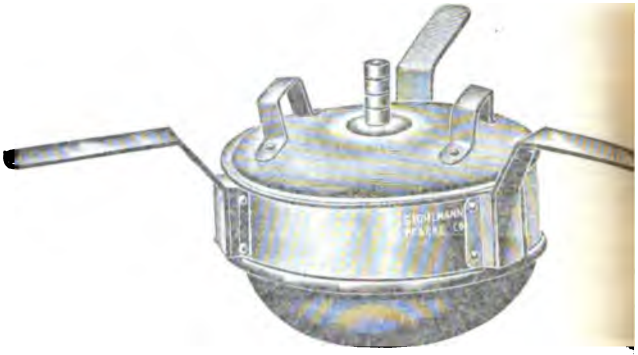
The Prophylaxis of Venereal Diseases.—Dr. Prince A. Morrow, writing in the *Journal of the American Medical Association* for March 4, says that the extent of venereal diseases in married life is far greater than is commonly supposed. The chief social danger comes from the destructive effects on the health and on the productive energy of the family. Regulation of prostitution according to the European methods he considers practically ineffective, as it applies only to one sex. We might as well attempt to prevent the importation of plague by excluding only the infected women. The method of prophylaxis in which he puts the most confidence is education, both of youths and of the public generally. The public conscience must be awakened. The present indifference, based on ignorance, and the popular notion that these diseases are simply consequences of vice, must be done away with. In his opinion, a special society, including in its membership educators, clergy, jurists, and sociologists, as well as medical men and public-spirited individuals generally, should undertake this work. It should be a permanent organization, exerting a continuous active force against this prevalent evil. He believes that with organized and intelligent effort many of the apparently insurmountable difficulties of this question eventually may be overcome.

A NEW STOOL SIEVE AND ITS METHOD OF USE.

By DUDLEY D. ROBERTS, M.D.,

BROOKLYN, N. Y.

The writer, having found the various forms of stool-sieve, previously described, very impracticable for office use, has had one constructed that he has found very satisfactory. The lower part of the apparatus, as shown in the cut, is a two-and-a-half-inch band of tinned copper, to the bottom of which copper sieve No. 40 or 60 is fastened in the form of a bowl. This part is suspended in the bowl of the water-closet by the three arms, and the seat is then shut down, that the patient may comfortably defecate directly into the sieve. To catch complete portions of thin stools, a bowled copper plate may be placed over the sieve. The lid has a perforated plate on its under side which distributes the water in fine streams over the specimen. A rubber pipe is fastened to the pipe seen projecting through the lid, and water is thus conveyed from a nearby faucet. For greater convenience the water can be obtained from a faucet introduced in the water pipe leading to the water-closet tank. This is a matter of small cost, and has no detrimental effect on the supply to the tank.



When the apparatus is used the stools leave no objectionable odor about the office laboratory, as is the case when other forms of stool sieve are employed. It is also an advantage to have the dejections received directly in this manner, saving transportation by the patient and transference from one vessel to another by the examiner. The cleansing of the sieve is rendered easy by detaching the supporting arms and placing it inverted in the water-closet bowl so that a stream of water may be directly applied.

84 Remsen Street.

The Clinical Effects of Surgical Anesthesia and Operations Upon Anemic Patients.—Henry T. Hutchins give the following summary of his investigations: Sixty wome each showing a hemoglobin percentage of 50 or less, hav received a general anesthetic for operative purposes, th duration of the anesthesia varying from 20 minutes to 3 hours. The anesthetic used was ether alone or the nitrou oxide-ether sequence in every case but one, none of t patients having received chloroform. Fifty-six of the six cases had uneventful recoveries. There were four fata ties. Severe heart lesions complicated two of these; in t third the patient had already bled till her hemoglobin re istered 15 per cent., and in the fourth case the anesthe had been given for 2½ hours before the patient showed a signs of immediate collapse. Two cases only died on t table under the anesthetic. The worst shocked patient all had a hemoglobin percentage of 50; her operation w an ordinary suspension of the uterus and repair of rela vaginal outlet, an hour and seven minutes being consu by the operations. The patients as a rule have taken anesthetic well. There has been no respiratory dist noted, and in neither of the cases dying on the table respiratory failure primarily the cause of death. Reco from the anesthetic and the following convalescence satisfactory in a great majority of cases. In no case it thought that the persistence of the anemia after opera was in any way prolonged by the giving of the anesth Preliminary tonic treatment proved of value in raising hemoglobin percentage in the six cases in which it tried.—*Bulletin of the Johns Hopkins Hospital.*

Books Received.

STUDIES IN GENERAL PHYSIOLOGY. By JACQUES LOEB. The Decennial Publications, Second Series, Vol. XV., Parts 1 and 2. 8vo, 1-422 and 423-782 pages, illustrated, muslin. The University of Chicago Press, Chicago. Price, $7.50 net.

THE TREATMENT OF NERVOUS DISEASES. By Dr. J. J. GRAHAM BROWN, F.R.C.P.E., F.R.S.E. 8vo, 464 pages, muslin. William Green & Sons, Edinburgh and London.

LEHRBUCH DER SPECIELLEN CHIRURGIE FÜR AERZTE UND STUDIERENDE. Von Dr. FRANZ KOENIG. Eighth Edition, Volume 3. 8vo, 972 pages, illustrated, paper. August Hirschwald, Berlin.

THE OPTHALMIC YEAR-BOOK. A Digest of the Literature of Opthalmology, with Index of Publications for the Year 1903. By Dr. EDWARD JACKSON, A.M. 8vo, 260 pages, illustrated, muslin. The Herrick Book and Stationery Co., Denver, Colo., 1904.

THE EFFECT OF TROPICAL LIGHT ON WHITE MEN. By MAJOR CHAS. E. WOODRUFF, A.M., M.D. 8vo, 358 pages, muslin. Rebman Company, New York.

THE LIFE OF FLORENCE NIGHTINGALE. By SARAH A. TOOLEY. 8vo, 344 pages, illustrated, muslin. The Macmillan Company, New York.

A TREATISE ON UROLOGICAL AND VENEREAL DISEASES. By Dr. BUKK G. CARLETON. 8vo, 795 pages, illustrated, muslin. Boericke & Tafel, Philadelphia. Price, $5.00

THE MODERN MASTOID OPERATION. By Dr. FREDERICK WHITING, A.M. 4to, 353 pages, illustrated, three-quarter morocco. P. Blakiston's Son & Co., Philadelphia. Price, $6.00 net.

THE NAKED-EYE ANATOMY OF THE HUMAN TEETH. By Dr. THOS. E. CONSTANT.. 8vo, 194 pages, illustrated, muslin. John Wright & Co., Bristol, England. Price, 7s. 6d.

DIE ANÄSTHESIE IN DER AERZTLICHEN PRAXIS. Von Dr. MAX MARTIN. 8vo, 35 pages, paper. J. F. Lehmann, Munchen, Germany.

BEITRAGE ZUR KLINIK DER TUBERKULOSE. Herausgegeben von Dr. LUDOLPH BRAUER. Band 3. Heft 3. 8vo, 179-240 pages, illustrated paper. A. Stuber. Wurzburg, Germany.

STUDIES IN THE PSYCHOLOGY OF SEX—SEXUAL SELECTION Man. By HAVELOCK ELLIS. 8vo, 270 pages, muslin. A. Davis Co., Philadelphia. Price, $2.00 net.

Eye, EAR, NOSE AND THROAT NURSING. By A. EDWARD s, A.M., M.D., and BEAMAN DOUGLASS, M.D. 8vo, 318 muslin, illustrated. F. A. Davis Co., Philadelphia. e $1.25 net.

PRACTICAL PEDIATRICS. A MANUAL OF THE MEDICAL AND ICAL DISEASES OF INFANCY AND CHILDHOOD. By Dr. E. ETZER. Authorized translation, with numerous additions and notes, by HERMAN B. SHEFFIELD, M.D. 8vo, 544 es, muslin. F. A. Davis & Co., Philadelphia. Price, 00 net.

LE DANGER DE LA MORT APPARENTE SUR LES CHAMPS DE ILLE. Par le Dr. ICARD. 12mo, 147 pages, paper. A. ine, Paris.

LE TRAITEMENT DE L'HYPERTROPHIE SENILE DE LA PRO- E. Par Le Dr. A. GUEPIN. 12mo, 141 pages, paper. Alcan, Paris.

E KOHLENSÄUREANSAMMLUNG IN UNSEREM KÖRPER. BEITRAG ZUM VERSTANDNISS DES WESENS INNERER NKHEITEN. Von Dr. HEINRICH LAHMANN. 12mo, 32 s, illustrated, paper. A. Zimmer, Stuttgart, Germany.

E WIRKUNGEN VON ARZNEIMITTELN UND GIFTEN AUF AUGE. Von Dr. L. LEWIN und Dr. H. GUILLERY. Band o, 1,046 pages, illustrated, paper. August Hirschwald, lin.

ES INDICATIONS DES INTERVENTIONS CHIRURGICALES DANS X MALADIES INTERNES. Par le Professeur Dr. HER- N SCHLESINGER. Première Partie. 12mo, 286 pages, r. Vigot Frères, Paris.

ESURRECTION DU COEUR ISOLÉ, LE MASSAGE DU COEUR. le Dr. MAURICE D'HALLUIN. 8vo, 187 pages, illus- d, paper. Vigot Frères, Paris.

'ANESTHÉSIE LOCALE POUR L'EXTRACTION DES DENTS. le Dr. SAUVEZ. 8vo, 188 pages, muslin. Vigot Frères. s.

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E DOCTOR'S RECREATION SERIES. A BOOK ABOUT SICIANS. By JOHN CORDY JEFFERSON. 8vo, 516 pages, trated, muslin. The Saalfield Publishing Co., New k.

A MANUAL OF ELECTRO-STATIC MODES OF APPLICATION, THERAPEUTICS, RADIOGRAPHY AND RADIOTHERAPY. By WILLIAM BENHAM SNOW, M.D. Third Edition. 8vo, 302 pages, illustrated, muslin. A. L. Chatterton & Co., New York. Price, $3.00.

A PRACTICAL TREATISE ON NERVOUS EXHAUSTION, ITS SYMPTOMS, NATURE, SEQUENCES, TREATMENT. By GEORGE M. BEARD, A.M., M.D. Edited, with notes, and additions, by A. D. Rockwell, A.M., M.D. Fifth edition. 8vo, 288 pages, muslin. E. B. Treat & Company, New York. Price, $2.00.

BACTERIOLOGY AND SURGICAL TECHNIC FOR NURSES. By EMILY M. A. STONEY. Second edition. Thoroughly revised and enlarged. By Frederic Richardson Griffith, M.D. 8vo, 278 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $1.50 net.

ATLAS AND EPITOME OF OPERATIVE OPHTHALMOLOGY. By Prof. Dr. O. HAAB. Authorized translation from the German. Edited by G. E. de Schweinitz, A.M., M.D. 8vo, 377 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $3.50 net.

INTERNATIONAL CLINICS. A QUARTERLY OF ILLUSTRATED CLINICAL LECTURES AND ESPECIALLY PREPARED ORIGINAL ARTICLES. By various authors. Vol. IV. Fourteenth Series, 1905. 8vo, 314 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

THE AFTER-TREATMENT OF OPERATIONS. A Manual for Practitioners and House Surgeons. By Dr. P. LOCKHART MUMMERY, F.R.C.S., B.A., M.B., B.C. Second Edition. 12mo, 240 pages, illustrated, muslin. William Wood & Company, New York. Price, $2.25 net.

GUIDE TO THE EXAMINATION OF THE THROAT, NOSE, AND EAR. For Senior Students and Junior Practitioners. By WILLIAM LAMB, M.D., C.M., M.R.C.P. 12mo, 152 pages, illustrated, muslin. William Wood & Company, New York. Price, $1.75 net.

TEXTBOOK OF INSANITY, BASED ON CLINICAL OBSERVATIONS. By Dr. R. VON KRAFFT-EBING. Authorized translation from the last German Edition. By CHARLES GILBERT CHADDOCK, M.D. 8vo, 638 pages, muslin. F. A. Davis Company, Philadelphia. Price, $4.00 net.

PRINCIPLES OF PHYSIOLOGICAL PSYCHOLOGY. By WILHELM WUNDT. Translated from the Fifth German Edition. By EDWARD BRADFORD TITCHENER. Vol. 1. 8vo, 347 pages, illustrated, muslin. Swan Sonnenschein & Company, Ltd., London, and the Macmillan Company, New York. Price, $3.00.

BEITRAGE ZUR KLINSCHEN MEDIZIN. FESTSCHRIFT HERRN GEHEIMRAT PROFESSOR SENATOR ZUR FEIER SEINES SIEBENZIGSTEN GEBURTSTAGES GEWIDMET. 8vo, 461 pages, paper. August Hirschwald, Berlin.

THE SURGICAL TREATMENT OF FACIAL NEURALGIA. By J. HUTCHINSON, JUN., F.R.C.S. 8vo, 151 pages, illustrated, muslin. William Wood & Company, New York. Price $2.50 net.

THE CHANNELS OF INFECTION IN TUBERCULOSIS. THE WEBER-PARKES' PRIZE ESSAY, 1903. By HUGH WALSHAM, M.A., M.D.CANTAB., F.R.C.P. 8vo, 150 pages, illustrated, muslin. William Wood & Company, New York. Price $3 net.

CLIMATES AND HEALTH IN HOT COUNTRIES AND THE OUTLINES OF TROPICAL CLIMATOLOGY. By Lieut.-Col. G. M. GILES, M.B., F.R.C.S. 8vo, pp. 1-184, 1-109, illustrated, muslin. William Wood & Company, New York. Price $3.00 net.

THE MEDICAL EXAMINATION FOR LIFE INSURANCE AND ITS ASSOCIATED CLINICAL METHODS. By CHAS. LYMAN GREENE, M.D. 8vo, 466 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price $4.00 net.

Treatment of Tetanus by Epidural Injections of Antitetanic Serum.—G. Mornac reports a case of tetanus treated by epidural injections of antitetanic serum. Although the patient died, the writer believes that the rapid course of the intoxication and the tardiness of intervention were to blame for the fatality. Instead of discouraging the continuance of this treatment, the history of this case should be only an impetus to the application of this method in new cases that are presented. But the treatment should be given in the early stages of the disease. The writer declares that it is his profound conviction that further trials will demonstrate that the epidural injection is an easy and rational method, and is superior to all others when the portal of entry of the microorganism is a wound of the lower extremities.—*La Presse Médicale*, February 11, 1905.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 4, 1905.

	Cases.	Deaths.
Measles	252	6
Diphtheria and Croup	276	30
Scarlet Fever	248	22
Smallpox	3	....
Chickenpox	98	....
Tuberculosis	390	188
Typhoid Fever	42	10
Cerebrospinal Meningitis	....	60
Typhus Fever	....	....
Yellow Fever	....	....
Cholera	....	....
Totals	1,309	316

The Treatment of Chronic Renal Disease.—Sir John W. Moore gives as the prime causes in the production of chronic parenchymatous nephritis, intemperance and exposure to cold and wet. The cases of chronic interstitial nephritis are usually the result of chronic plumbism in house painters and plumbers, while alcoholism also plays its part. Treatment of chronic kidney disease should proceed on three main lines, viz., dietetic, eliminative, and cardiac. The kidneys should be kept flushed by soft water. Nitrogenous food should be given sparingly, but the patient must not be allowed to suffer the pangs of starvation or waste for want of it. Milk is well borne in most cases, as are the lighter animal broths. When patients dislike a "slop-diet," white meats and white fish may be allowed. Copious draughts of soft water will assist elimination through the kidneys. Special attention must also be paid to the skin, bowels, and lungs. The open air treatment is indispensable in dealing effectively with chronic renal disease. Overexertion should be avoided, however.

The physical state of the heart and circulation is the paramount factor in the prognosis of chronic renal disease. The indications for treatment are to strengthen and aid the left ventricle in its work, to relieve tension in the right ventricle, and to bring high arterial tension down toward the normal. Digitalis is the best cardiac tonic. If an iodide is given with it, the objection of increased arterial tension caused by the digitalis alone may be met. If the drug is given with effervescent citrate of caffeine, it will not nauseate. A full dose of a saline laxative will relieve the pressure on the right ventricle. Arterial tension, if very high, must be gradually reduced by laxatives, the various nitrites, the iodides, and a restricted diet. The writer speaks, in closing, of the administration of macerated pork kidneys. Excellent results have been claimed for this method of treatment, but the writer has had no very definite or satisfactory experience with it. He urges physicians never to despair in a case of chronic nephritis, for recovery is not impossible.—*The Dublin Journal of Medical Science.*

The Occurrence of Myelocytes.—Schindler has made a large series of blood counts in different infectious diseases, and finds that myelocytes are to be found in the circulation in many common maladies. Among these are pneumonia, scarlatina, diphtheria, erysipelas, meningitis, polyarthritis, and general sepsis. The presence of these cells in the circulating blood may be of great or little import, according to circumstances. A few myelocytes appearing at the height of a leucocytosis, and disappearing together with its subsidence, have little significance, and indicate simply temporary overactivity of the bone marrow. The myelocytes give an unfavorable prognosis, however, when they are found in the blood of patients whose leucocytosis is diminishing, while the infection is continuing with unabated violence, as in this case the bone marrow is evidently becoming exhausted in consequence of the demands that have been made upon it.—*Zeitschrift f. Klinische Medicin.*

Treatment of Certain Dermatoses by Radium.—Da
after having employed radium in the treatment of a se
of cutaneous lesions, reports the results of his experie
Up to the present time, he states, radium has been tr
successful in three affections only: lupus vulgaris, pe
epithelioma, and the vascular nævus. Besides, this tr
ment is of indubitable value only in limited forms of t
affections. For extensive lesions, it is in reality in
to the *x*-ray, which is more easily applied to a large
face. Its use is preferable in certain cavities (the l
and nasal fossæ) because they are not easily accessi
the *x*-ray. It can be said, then, in a word, that if perha
future is for radium, the present is without doubt fo
x-ray. Jacquet adds that the new methods of treatme
diotherapy and phototherapy, are excellent, and ofte
marvelous results, but on this account the older m
ought not to be scorned, for they in their turn gave g
sults.—*Gazette des Hopitaux Civils et Militaires*, Fe
14, 1905.

Health Reports.—The following cases of smallpo
low fever, cholera, and plague, have been reported t
Surgeon General, Public Health and Marine Hospital
vice, during the period from February 26 to March 3,

SMALLPOX—UNITED STATES.

		CASES.	D
Florida, Jacksonville	Feb. 18–25	2	
Illinois, Chicago	Feb. 18–25	15	
Danville	Feb. 18–25	4	
Galesburg	Feb. 18–25	1	
Kentucky, Louisville	Feb. 16–23	3	
Louisiana, New Orleans	Feb. 18–25	14	
		Five cases in	
Massachusetts, Boston	Feb. 18–25	1	
Michigan, at 62 places	Feb. 4–11	Present.	
Missouri, St. Louis	Feb. 18–25	38	
Nebraska, Omaha	Feb. 18–25	1	
New York, New York	Feb. 18–25	5	
Pennsyvania, Johnstown	Feb. 18–25	1	
South Carolina, Greenville	Feb. 11–25	5	
Tennessee, Memphis	Feb. 18–25	20	
Nashville	Feb. 18–25	2	

SMALLPOX—FOREIGN.

Argentina, Buenos Ayres	Jan. 1–29	102	
Brazil, Nictheroy	Dec. 1–31	..	
Para	Jan. 28–Feb. 11	..	
Pernambuco	Jan. 1–15	..	
China, Shanghai	Jan. 7–21	21 Fo	
Ecuador, Colta	Feb. 9	(Pr	
Columbe	Feb. 9	(Pr	
Guamote	Feb. 9	(Pr	
Guayaquil	Jan. 31–Feb. 7	..	
France, Paris	Feb. 4–11	23	
Great Britain, Hull	Jan. 28–Feb. 4	7	
Leeds	Feb. 4–11	12	
London	Feb. 4–11	1	
New Castle on Tyne	Feb. 4–11	6	
South Shields	Feb. 4–11	2	
West Hartlepool	Feb. 4–11	3	
India, Bombay	Jan. 24–31	..	
Calcutta	Jan. 21–28	..	
Karachi	Jan. 22–29	1	
Madras	Jan. 21–27	..	
Italy, Catania	Jan. 26–Feb. 9	..	
Palermo	Jan. 28–Feb. 11	43	
Norway, Christiania	Jan. 28–Feb. 11	6	
Russia, Moscow	Jan. 28–Feb. 4	5	
Odessa	Feb. 4–11	2	
Straits Settlements, Singapore	Jan. 7–14	..	
Switzerland, Geneva	Jan. 21–Feb. 4	2	
Turkey, Constantinople	Jan. 30–Feb. 6	..	
West Indies, Grenada	Jan. 26–Feb. 9	8	

YELLOW FEVER.

Brazil, Manaos	Jan. 25–Feb. 8	3	
Para	Jan. 28–Feb. 11	..	
Ecuador, Guayaquil	Jan. 31–Feb. 7	..	
Mexico, Coatzacoalcos	Feb. 12–18	1	
Panama, Panama	Jan. 1–Feb. 14	27	

CHOLERA.

India, Calcutta	Jan. 21–28	..	1
Russia	Jan. 16–23	6	
Turkey in Asia, Van	Jan. 9–24	59	
	To Jan. 24, 1200 cases, 500 d Estimated.		

PLAGUE.

Africa (Portugese); Lorenço Marquez	Jan. 17	5 (Suspect,	
Port Florence (British)	Jan. 5–12	9	
Arabia, Aden	Jan. 21–28	154	1
Week ended	Jan. 21	113 (Corr by Aden plague author	
Argentina, Buenos Ayres	Jan. 28	9 (Susp	
Brazil, Nictheroy	Dec. 1–31	..	
Para	Jan. 28–Feb. 11	..	
Egypt, Suez	Jan. 21–28	3	
India, General	Jan. 14–31	33,083	28,1
Bombay	Jan. 24–31	..	4
Calcutta	Jan. 21–28	..	
Karachi	Jan. 22–29	60	
iam, Bangkok	Dec. 22–Jan. 3	2	
le ments, Singapore	Dec. 31–Jan. 14	..	

Medical Record

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Original Articles.

RESULTS OF FIFTEEN HUNDRED OPERATIONS FOR THE RADICAL CURE OF HERNIA IN CHILDREN, PERFORMED AT THE HOSPITAL FOR RUPTURED AND CRIPPLED BETWEEN 1891 AND 1904.*

BY WILLIAM T. BULL, M.D.,
ATTENDING SURGEON TO HOSPITAL FOR RUPTURED AND CRIPPLED.
AND
WILLIAM B. COLEY, M.D.,
ASSOCIATE SURGEON TO HOSPITAL FOR RUPTURED AND CRIPPLED.
NEW YORK.

FROM 1890 to 1904 there were treated in the outpatient department of the Hospital for Ruptured and Crippled, 53,686 patients with inguinal and femoral hernia. Of these 50,961 were inguinal and 2,725 femoral. More than one-third of these patients, 15,375, were children under the age of 14 years.

From December, 1891, to October, 1904, 1,500 operations have been performed at the Hospital for Ruptured and Crippled for the radical cure of hernia. With the exception of 20 operations, all have been in children under the age of 14 years. The fact that these cases have been selected from more than 15,000 under treatment during this period, is sufficient evidence that we have not operated indiscriminately pon all cases. The operative cases represent the orst cases of rupture, the largest, and those of gest duration, and in most instances a truss had n tried and failed.

It has been our custom to treat all our cases of nia in children, with certain exceptions to be ted, for a period—usually one or two years—with truss, before advising operation. If at the end of s period no improvement is observed and the rupre frequently comes down, an operation is advised. The operation is advised, furthermore, when the folwing conditions exist, without any reference to uss treatment:

1. Cases of strangulated hernia, or cases in which rangulation has occurred or reduction has been fected by taxis.
2. Cases of hernia with reducible hydrocele, or id in the hernial sac.
3. Cases of irreducible hernia (rare in children).
4. Cases of femoral hernia, which are practically curable by truss treatment.

In cases under four years of age we seldom adcate operation, since the chances of a cure by truss atment are far greater in young infants.

The question of how large a percentage of cases hernia in children can be cured by mechanical eans, is a most important one. When we began erating for hernia in children, in 1890, at the Hospital for Ruptured and Crippled, it was frequently stated that all cases of hernia in children could be cured by truss treatment. The falsity of this assumption is shown by the fact that in a study of 15,000 cases of hernia in adults, a large percentage gave a history of hernia in infancy or childhood. It is also highly probable that many more cases really had a hernia during infancy, which was apparently cured by a truss and the existence of which they had long forgotten. At present many surgeons advise operation upon infants without trial of truss treatment.

Personally we believe that under the age of four years a very considerable number of cases of inguinal hernia and nearly all cases of umbilical hernia can be cured by truss treatment. Hence the advisability of giving mechanical treatment a fair trial before resorting to operation.

Corner,[1] in his recent lecture on the pathology and treatment of hernia in children, states that he believes that cases of hernia in infants and children that are cured by truss are practically always of the acquired variety, and he doubts if a case of congenital hernia is ever cured by truss. If this be true, it is most important to know the relative proportion of cases of hernia in children that are acquired and that are congenital. In our own series of 1,500 operations we have made a special effort to settle this point.

In 709 cases of inguinal hernia, in the male, in children operated upon at the Hospital for Ruptured and Crippled, the history definitely states the type of the sac. A congenital sac, *i. e.* a sac communicating with the tunica vaginalis, was found in 284 cases, while in 425 cases the sac was of the acquired type, having no communication with the tunica vaginalis. This is directly contrary to the opinion held by most surgical writers, but up to the present time there have been no statistics of hernia in children sufficiently large to determine this point. It is probable that in the great majority of cases of so called acquired sac, there is a preformed sac, existing since birth, though not communicating with the abdominal cavity.

The results of operation having proven that the question of mortality has been practically eliminated and that results are so uniformly successful, we have of late adopted the plan of advising operation in most cases of hernia in children past the age of four years, unless the hernia is very small. This is especially true in dispensary cases in which it is very difficult to get the truss properly looked after at home, to say nothing of the trouble and expense of the parents in bringing a child from a distant part of the city to the dispensary regularly for the one or two years necessary to effect a cure.

In deciding the question of operation in children, it is important that we should know the proportion of cases curable by truss treatment. This is a very difficult problem to settle, (1) because the children so easily drift away; (2) because no one, thus far, has taken the same trouble and pains to trace the cures from truss treatment, that have been taken in following up cases of radical cure.

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*Read at the meeting of the New York State Medical sociation, October, 1904.

Our own experience shows that many cases give a history of relapse after apparent cure with a truss. In spite of this, it is but fair to state that about two-thirds of infants under the age of two or three years are apparently cured by truss treatment. After four years of age the curative value of a truss is much diminished, and the time required to effect a cure, much increased.

Of the 1,500 operations for different varieties of hernia that have been performed at the Hospital for Ruptured and Crippled during the period mentioned,* 1,435 were for inguinal hernia, 39 for femoral, 13 for umbilical, 8 for ventral, 2 for congenital hernia of the umbilical cord, 2 for epigastric, and 1 for lumbar hernia. Of this number, 13 were strangulated and 1,487 were not strangulated.

There is a general impression among surgeons, that the radical cure of hernia in children is a far simpler affair than in adults, and the opinion is freely expressed that good results can be obtained in children by almost any method.

Our own results in children, though a trifle superior, differ but little from those obtained in adults operated upon by the same method. We believe that operation in children is more difficult than in adults, although if skilfully done by a proper method, it may yield as good or even better results than in adults. In children the hernial sac is as thin as tissue paper, and to avoid tearing the sac or injuring the slender cord, requires far more delicate dissection than in the adult. The results of operation in children obtained by the methods in vogue prior to the introduction of Bassini's operation, were even more unfavorable than in adults, as is shown by 20 cases in children operated upon at the Hospital for Ruptured and Crippled prior to 1890 by the methods of Socin and Czerny, 50 per cent. of which relapsed within less than one year after operation. At the Johns Hopkins Hospital, of six operations for hernia in children performed by McBurney's method, two (33 per cent.) were followed by relapse.

The writers, who believe that any method will suffice to effect a radical cure in children, have, as a rule, operated upon, or observed, but few cases. Hilgreiner, who has recently published the results of 828 operations for hernia at Wolfler's Clinic at Prague, reports only 50 cases in children, and of these only 14 were traced beyond one year.

Inguinal Hernia in the Female (251 operations in 217 patients).—The methods employed in our operations for inguinal hernia in the female, have been practically identical with Bassini's in the male, barring the transplantation of the cord. The sac is first dissected from the round ligament well beyond its neck, a step which is somewhat more difficult than the separation of the sac from the cord in the male. Then the round ligament is allowed to drop back into the lower angle of the wound, beneath the deeper layer of sutures. In a small number of cases, one of the writers has excised the round ligament along with the sac. The wound is closed in three layers with kangaroo tendon, exactly as in inguinal hernia in the male. Thus far not a single relapse has been observed following these 251 operations.

These results, while they go far to prove that it is not necessary to transplant the round ligament in operations for the radical cure of hernia in the female, by no means prove the uselessness of transplanting the cord in the male, for the reason that the cord is considerably larger than the round ligament, particularly just above the symphysis pubis, where it emerges from the external ring.

Methods of Operation.—*Inguinal Hernia.*—The great majority of operations for inguinal hernia were performed according to Bassini's method, with the substitution of absorbable suture, namely, kangaroo tendon, for silk, used by Bassini. In addition to this, in most cases an extra suture was placed above the cord to prevent any widening of the new internal ring in an upward direction. The technique in brief is as follows:

After the sac has been tied off well beyond the neck at a point where it has begun to widen out into the general peritoneal cavity, the deep layer of sutures are placed as follows: With a small tape the cord is held up, and the first suture is placed so that it just touches the lower border of the cord when the latter is brought vertically to the plane of the abdomen; three to four more through the internal oblique and Poupart's ligament will suffice to close the canal to the symphysis pubis. Then the suture above the cord (Fig. 1) is inserted. The incision in the aponeurosis is then closed from above downward by a small continuous suture of kangaroo tendon, and the skin with catgut. No drainage is used, and the wound is dressed very carefully with sterile dry gauze and cotton and a spica bandage. A plaster spica is used in children under 14 years of age. The wound is dressed on the seventh day, and the pa-tients are kept in bed two weeks, and allowed to g out in two and a half to three weeks, wearing a muslin spica bandage until four weeks have elapsed, after which time no support is worn.

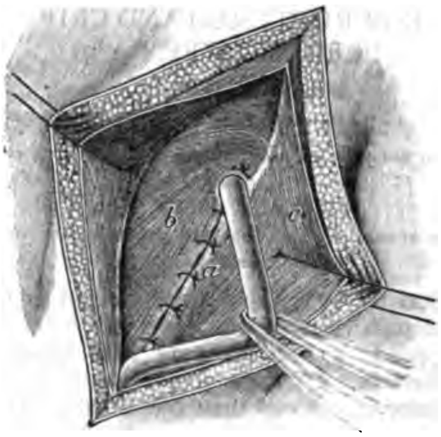

Fig. 1.—Bassini's operation (deep sutures) showing extra suture above the cord (Coley).

As early as 1892, we employed in a limited number of cases a method identical with Bassini's, without the step of transplanting the cord. Since thi time 125 cases have been operated upon by thi method at the Hospital for Ruptured and Crippled In many cases of double hernia, the typical Bassin operation was done on one side, and the same opera tion without the transplantation of the cord, on th other, in order to fairly test the value of the tw procedures. This method has been recently brough out under various names and has been advocated a superior to Bassini's method. In our own experienc there has been a larger percentage of recurrences i the cases in which the cord was not transplante than in those in which the typical Bassini metho was employed. However, the relative number c cases operated upon bv the two methods has bee too unequal to warrant a fair comparison.

In the present series of cases we have never e cised any of the veins of the cord, and the results would seem to prove that such a step, considered of much importance by some operators, is unnecessary, at least in children.

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* Of these 1,500 operations, Dr. Bull performed 270, Dr. Coley 815, Dr. Walker 361, and the assistant surgeons 54, of which Dr. Bullard performed 37 and Dr. Satterwhite 12.

In our operations upon adults we have likewise refrained from excising the veins, with almost equally good results as regards freedom from relapse.

If the cord is transplanted outside of the aponeurosis of the external oblique, according to Halsted's original method, in which the internal ring is protected only by the superficial fascia and the skin, it is quite evident that a recurrence would be less likely to occur with the cord reduced to a minimum size by excision of the veins. This seems to have been proved by Bloodgood's statistics of the operations at the Johns Hopkins Hospital. When, however, the cord is transplanted according to the Bassini method, in which, in addition to the skin and superficial fascia, the strong fascia of the aponeurosis of the external oblique serve as protection for the internal ring; the need for excision of the veins is not so apparent. Furthermore, the atrophy of the testis, which has been noted by many observers after excision of the veins, would seem sufficient reason for not adopting this procedure, provided equally good results can be obtained without it.

In 125 cases the cord was not transplanted, but was brought out at the lower angle of the wound. The other steps of the operation were the same as those in Bassini's method, with the exception that in two of the earliest cases, in 1891, the Czerny method was used, and the aponeurosis of the external oblique was not cut. This method, that is, the Bassini method without the transplantation of the cord, has been so strongly advocated in recent years, and is at present believed by so many to be equal to the typical Bassini method, that a comparison of our results following the two methods in children will be of interest. This method is known in Germany as Woelfler's operation without the "Verlagerung," or transplantation of the rectus muscle, but the earliest cases reported by Woelfler himself, at the Prague Clinic (vide Hilgenreiner[2]) were of 1895. In America it has been frequently called the Ferguson method, and was described by Ferguson in 1899. Yet the first cases in which one of the writers employed this method at the Hospital for Ruptured and Crippled occurred in 1892, and were reported in the *Annals of Surgery* for April, 1895.

Femoral Hernia.—Femoral hernia is said to be very rare in children, yet we have operated upon 39 cases of femoral hernia at the Hospital for Ruptured and Crippled, of which 28 were in children under the age of 14, and one, a double one, occurred in a child two years of age. Of 2,179 cases of femoral hernia observed at the Hospital for Ruptured and Crippled since 1890, 69 occurred in children under 14 years of age, or a little over three per cent. In one case, a girl of seven, there was a right femoral hernia and a double inguinal. All were operated upon at the same time, and there has been no recurrence after five years. Thirteen cases were in children under the age of ten years.

The method employed in most cases has been that of high ligation of the hernial sac, with a purse-string suture of kangaroo tendon, bringing the floor of the canal in contact with the roof.

There has not been a single relapse observed up to the present time, and thirteen cases have been traced for from two to eight years.

The technique of the so-called "purse-string method," as employed in our own cases, is briefly as follows: Thorough freeing of the sac well beyond the neck; high ligation of the sac and closure of the canal by means of a purse-string suture of chromicized kangaroo tendon. The suture is introduced through Poupart's ligament or the inner portion of the roof of the canal, or crural arch, from where it passes downward into the pectineal muscle, or floor of the canal, then outward through the fascia lata overlying the femoral vein and upward through Poupart's ligament or roof of the canal, emerging about one-fourth of an inch from the point of introduction. On tying the suture, the floor of the canal is brought into apposition with the roof, and the femoral opening is completely obliterated. The superficial fascia may then be closed with catgut or fine tendon, and the skin either with catgut or silk. This method of closing the femoral canal is much simpler than Bassini's, and, from the results obtained, we are inclined to give it the preference. The idea of closing the femoral canal by a purse-string suture was, we believe, originally suggested by Cushing of Boston, but his method of introducing it differs considerably from our own.

We believe it of utmost importance, in all operations for femoral hernia, to thoroughly free the canal of all extraperitoneal fat.

As regards the period of convalescence, the time is generally somewhat shorter than in inguinal hernia. Patients are usually allowed to sit up on the tenth day, and to go home at the end of the twelfth or fourteenth day.

Hernia of Cecum, Cecum and Appendix, Appendix and Sigmoid.—In 34 cases the cecum, or appendix, or both, were found in the hernial sac. In 12 cases the cecum was found alone, and in 8 of these cases the hernia was of the "sliding" type, or hernia "par glissement" of the French writers, with no posterior wall to the sac. In nine cases the appendix was found alone in the sac, and in one case, a boy of seven years, a large appendix was found adherent to the sac of a large inguinal hernia. In thirteen cases the cecum and appendix were both found in

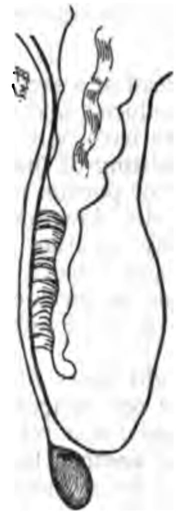

Fig. 2.—Hernia of the Cecum and Appendix.

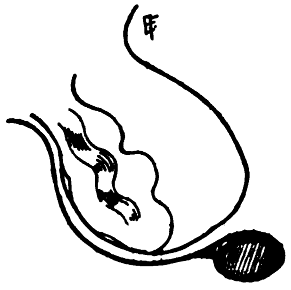

Fig. 3.—Sliding Hernia of the Cecum.

the sac, and in three of these instances operation was performed for strangulation.

In most cases the appendix was removed when found, especially if adherent, and while at first we had some doubts about the advisability of removing a normal appendix when found in a hernial sac, we now believe it wise to do this. It adds little to the gravity of the operation, and avoids the possibility of a future attack of appendicitis.

There were two cases of sigmoid hernia, one of them strangulated. Sigmoid hernia is very rare in children.

The operation for the radical cure of cecal or sigmoid hernia differs in no respect from ordinary technique, except in the case of sliding hernia. Here we have an entirely new problem, and not an easy one to solve. Instead of a sac, the contents of which can be entirely reduced and the neck of the sac closed high up, we have only a partial sac, the anterior portion consisting of the usual peritoneal layers, but the posterior portion made up of the cecum itself, which has slid downward into the canal or scrotum. We may separate the cecum from the tissues behind it and force it upwards for a short distance, but having no "neck of the sac" to close, as in ordinary cases, it is far more difficult to prevent a relapse.

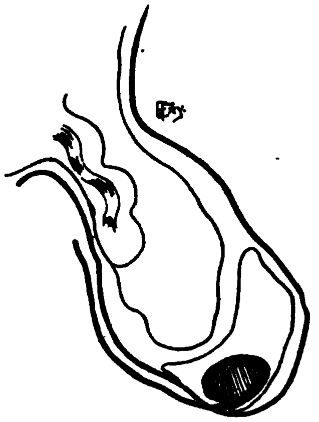

Fig. 4.—Sliding Hernia of the Cecum with Hydrocele of the Tunica Vaginalis.

In our own eight cases of sliding cecal hernia there has been but one relapse, and in this case the operation was done for a relapse following a primary operation at another hospital. The original wound had healed by granulation, and the second operation was difficult and prolonged.

The method we have employed in these cases has been to free the cecum as thoroughly as possible, suture the upper portion of the sac, and close the canal by Bassini's method, with or without the transplantation of the cord.

Of the 34 cases observed, 13 occurred in patients under the age of five years, 3 occurred in patients under the age of one year. (In these three cases the operation was done for strangulation.) Only one case was observed between the ages of 10 and 14 years.

Hernia Associated with Undescended Testis.—In 85 cases an undescended or partially descended testis complicated the operation. The proper treatment of this condition has not yet been authoritatively settled, on account of absence of sufficient data. No single operator except Broca has reported more than a small series of cases, the after-history of which has been imperfectly traced.

While some surgeons advocate truss treatment in all cases of undescended testis with hernia, in children, and others advise operation in every case, even in infants, we have taken a middle ground. Our experience with truss treatment in a very large number of cases has proved very unsatisfactory. Nature's efforts to force the testis out of the canal are thwarted, and the more or less constant pressure of the testis in this canal, prevents any cure of the hernia. The objection so often mentioned, viz., the danger of the truss causing malignant disease, sarcoma of the testis, from pressure, need not be considered.

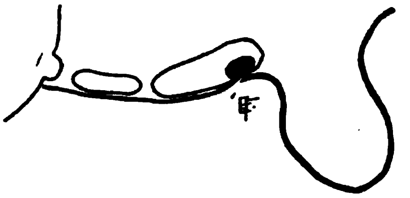

Fig. 5.—Undescended Testis, with Double Obliteration of the Vaginal Process of the Peritoneum.

McAdam Eccles, in his elaborate study of the undescended testis, states that of 48,000 cases of hernia, with 854 cases of undescended testis, not a single example of malignant disease was noted, and this opinion is confirmed by our own experience, based upon the observation of over 60,000 cases of hernia treated at the Hospital for Ruptured and Crippled since 1890.

We have thus far advised against operation in infants and young children up to the age of eight or ten years, unless the hernia was of large size, the reason for this being that the testis often descends of itself if left alone and no truss is applied. The rupture is not likely to become strangulated, as the testis prevents the intestine from getting outside the external ring, which we have shown to be the cause of strangulation in children. Inasmuch as an operation to cure the hernia is nearly always necessary, even after the testis has come down, we do not wait as long as formerly before operating. If the testis is outside of or can be forced outside of the external ring, we can usually free the cord sufficiently to permit bringing it down into the scrotum by operation.

In our early cases we attempted to anchor the testis either to the scrotum or to metal frames outside of the scrotum, but we soon abandoned such attempts, as the testis almost invariably retracted to the region of the external ring. Originally Bassini's method was employed, but in recent years we have given up transplanting the cord, thereby gaining an appreciable lengthening of the cord and securing the testis a lower position in the scrotum.

While it is of great importance to free the cord thoroughly, sacrificing some of the veins, if need be, and cutting away the fascia about the veins, we think the step advised by Bevan, of separating the veins high up in the iliac fossa by blunt dissection with the index finger, likely to be attended with some risk of severe hemorrhage. It is very important to so close the tissue at the external ring that the testis cannot re-enter the canal, even if it should retract thus far.

While we have not observed any case of relapse of the hernia in this series of cases, in a considerable number of cases, especially the earlier ones, the testis has retracted to the external ring, when it was removed without giving rise to any trouble. In some cases the testis has gone on developing in size and has remained in the scrotum, differing little from the normal testicle. In the majority of cases it has remained more or less atrophied, and the question of removing the undescended testis in operations for the radical cure of hernia is still unsettled.

We have always believed it wise to preserve the organ, even if it should never develop to be of functional value, and the careful investigations of Eccles and others go far to prove that a testis, though it be of no functional value, may have great influence upon the development of the child, especially as to points pertaining to characteristics of sex.

Direct Hernia in Children.—We have not observed a single case of direct hernia in children.

Interstitial Hernia.—Of the rarest variety, properitoneal hernia proper, in which the sac lies beneath the transversalis fascia, no case has been observed; of the other two varieties, first, the most common, viz., in which the sac lies directly beneath the aponeurosis of the external oblique, we have seen 77 cases. In this class we have to include most of the cases of hernia associated with undescended testis. Of the third variety, "inguino-superficial," as styled by the German writers, we have operated upon seven cases in children. In this class of cases the sac, after emerging from the external ring, passes upward and rests upon the outer surface of the external oblique, aponeurosis. We believe it to be much more common than is generally supposed. Moschcowitz[3] states that only seventeen cases have been reported. One of the writers has operated upon ten cases, including adults.

Strangulated Hernia in Children.—Thirteen operations were performed for strangulated hernia upon children between the ages of 13 days and 15 years. Five patients were under the age of one year and seven under the age of two years. There was only one case of strangulation between the ages of 3½ years and 14 years, showing that strangulation is much more common during the first two years of life than during the next decade. In one case, in a boy of 15, the strangulation was a partial enterocele, or Richter's variety.

The duration of the strangulation ranged between 12 and 48 hours.

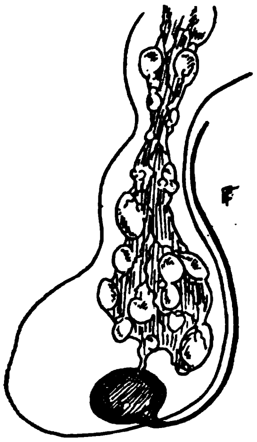

Fig. 6.—Multiple Cysts of the Omentum.

There was no mortality in the entire series of thirteen cases, though in two cases recovery was not expected. In one case a temperature of 107°, with a pulse rate of 180, developed shortly after operation in an infant eight months old. This high temperature persisted through most of the following day, and the child was kept in a continuous bath of water at a temperature of 98°. The child made an uninterrupted recovery, and the wound healed per primam, as was the case in all of the other patients.

Most writers upon strangulated hernia in infants have stated that the neck of the sac was the cause of the strangulation in the majority of the cases. Our series of cases showed in every instance that the strangulation was the result of constriction by the tight external ring, and as soon as the aponeurosis of the external oblique had been divided there was no difficulty in reducing the hernia. The error in attributing the strangulation to the neck of the sac is probably due to the fact that in the earlier cases of hernia in infants there was little attempt at careful dissection, and seldom any effort made to effect a radical cure. The sac and aponeurosis were simply divided at the same time, and it is not surprising that the mistake should have occurred.

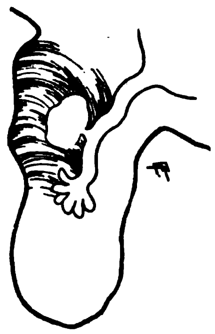

Fig 7.—Hernia of the Tube and Ovary Adherent to the Sac. (Two cases observed by the writers.)

While fecal impaction was regarded by the ancient writers as one of the important factors in the production of strangulated hernia, most modern authorities believe it has no casual relationship. In one of our cases fecal impaction was apparently the chief cause of the strangulation.

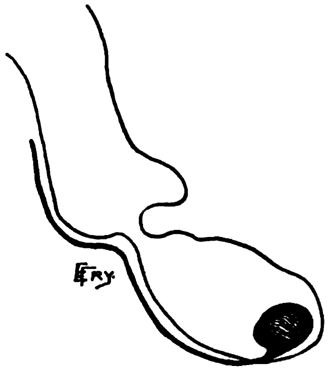

Fig. 8.—Hourglass Sac.

Tuberculous Hernia, or Tuberculosis of the Hernial Sac.—We have observed two cases of tuberculosis of the hernial sac in children at the Hospital for Ruptured and Crippled; the writers have furthermore observed two cases in adults, one a femoral and one an inguinal hernia.

The subject has recently been treated by Sacquépée and Melliés[4]. These authors report two cases, both in adults, in one of which the diagnosis was confirmed by microscopical examination. They were able to collect from medical literature 52 cases. In 22 of these 52 cases the age of the patients was under ten years.

Of 39 cases operated upon, three died of the operation, two died during the first year of intestinal tuberculosis, and one two years later, of tuberculous meningitis. In several cases the patients were well three, four, and five years after operation.

Hilgenreiner[2] reports four cases of tuberculosis of the hernial sac in a series of 828 cases, or three in 770 patients operated upon. The condition is undoubtedly a rare one. Lewisohn was able to collect but 58 such cases from the literature, to which he added four of his own.

Umbilical, Ventral, and Epigastric Hernia.—Two cases of epigastric hernia, 10 cases of umbilical hernia, and 2 cases of ventral hernia, 2 cases of congenital hernia of the umbilical cord, 2 cases following operation for acute appendicitis, 2 cases of hernia of the tube and ovary were operated upon; also a very rare case of multilocular cyst of the omentum and 1 case of lumbar hernia, were treated by operation. In the few cases of umbilical hernia in which operation was indicated we have found that closure of the wound in three layers, without any overlapping, has been sufficient to effect a cure. In the adult cases we believe that the method of overlapping, as described by Blake and Mayo, is probably the best.

Thus far we have observed no recurrence in this group of cases.

Practically all cases of umbilical hernia in children under the ages of 12-14 years may be cured by mechanical means.

The method we employ consists in applying a two-inch strip of zinc oxide rubber adhesive plaster, which entirely encircles the abdomen and holds in place a small pad, usually made of a wooden button mold, one inch in diameter and covered with adhesive plaster. This is changed once every one or two weeks. The period required for a cure varies with the size of the opening, but ordinary cases are cured in about a year.

Study of Relapsed Cases.—Of the 1,500 operations for the radical cure of hernia at the Hospital for Ruptured and Crippled since December, 1890, there have been six relapses after 1,076 Bassini's operation, and five in 125 in which the cord was not transplanted.

Relapses After Bassini's Operation.

CASE I.—J. H., male, 6½ years old. Bassini's operation, substituting kangaroo tendon for silk in the buried sutures done in October, 1894. Primary wound healing. Slight relapse one year later.

CASE II.—J. W., male, nine years old. Operated upon by Bassini's method in August, 1894. Slight relapse two years later. Truss applied for a time; then left off. Examination 1903, nine years later, shows only a slight impulse on coughing.

CASE III.—B. B., aged six years. Right inguinal hernia. Operated upon June 12, 1903. Wound healed by primary union. On July 15 the patient had a severe attack of whooping cough, during which time he applied no support to the recently healed wound of the inguinal canal. A recurrence was noticed on August 8.

CASE IV.—H. K., aged twelve years. Operation for right inguinal hernia, congenital type, Nov. 2, 1900. Bassini method. A slight relapse was noted in November, 1902, two years after operation.

CASE V.—E. S., male, aged six years. Right inguinal hernia. Operation Nov., 1897. Bassini, kangaroo tendon. Relapse two months after operation.

CASE VI.—W. F., male, aged 8 years. Left inguinal hernia. Operation, 1899. Bassini's method, kangaroo tendon; collodion dressing. Slight relapse. September, 1900, truss for a time. Examination June 2, 1903. Very slight protrusion; truss reapplied.

Relapses in Cases in which the Cord Was Not Transplanted.

CASE I.—H. O., aged eight years. Operation Dec. 12, 1891. Cord not transplanted. Relapse three months after operation.

CASE II.—C. R., thirteen years old. Very large right inguinal hernia. Operation Dec. 28, 1891; cord not transplanted; silk used for the deep buried sutures. Wound suppurated and most of the deep sutures came out. Relapse within three months after operation.

CASE III.—B. S., aged twelve years. Right inguinal hernia. Operation Jan., 1892; cord not transplanted; silk used for the buried sutures. The wound healed by primary union, but a few weeks later a sinus formed, and a few silk sutures were extruded. Relapse followed a few months later. Patient was re-operated upon by Bassini's method and was entirely well ten years afterwards.

CASE IV.—F. H., ten years of age. Operation in February, 1892; cord not transplanted; chromicized catgut for buried sutures. Patient remained well for three years, when a slight relapse occurred.

CASE V.—E. B., aged six years. Operation February, 1901; cord not transplanted; sliding cecal hernia. Relapse three months after operation.

A closer study of these relapses is of some interest. It appears that in four of the five relapses following operation without transplantation of the cord the operation was performed in 1891-2, or more than twelve years ago. In two of these cases silk was used for the buried sutures, with subsequent sinus formation, which weakened the canal and was, undoubtedly, an important factor in causing the relapse. In the fifth case, which relapsed after operation in 1901, we had to deal with a sliding cecal hernia, a form of rupture a radical cure of which is admitted to be almost impossible of attainment with any method of operation. Still, five relapses in a series of 125 cases in which the cord was not transplanted is certainly a much higher percentage than that in the cases in which the cord was transplanted.

Coming to the cases of inguinal hernia operated upon by Bassini's method, with the substitution of kangaroo tendon for silk for the buried sutures, we have 1,311 operations, with six relapses. Two of these relapses were very slight, one of them showing only a moderate impulse on coughing nine years after operation, and one was due to a severe attack of whooping cough coming on four weeks after operation.

Further observations confirm us in the opinion that the majority of relapses after any operation for inguinal hernia occur during the first six months after operation, and about 90 per cent. of the entire number occur during the first year. This opinion is based upon 504 cases of relapses after radical cure operations observed in the out-patient department at the Hospital for Ruptured and Crippled during the past fourteen years, and recently collected by one of the writers. Of these 504 cases, 83 per cent. occurred during the first six months, and over 90 per cent. during the first year.

This opinion receives further support from a series of 145 cases collected and reported by Pott, who found that 71.66 per cent. occurred during th first six months, and 91 per cent. during the fi year.

Wound Healing.

The following table shows the number of cas that healed by primary union and with suppurati according to each year from 1891 to 1905:

Year.	No. of Cases.	Supp'r-ations.	Year;	No. of Cases.	Sup- atio
1891	2	1	1899	129	4
1892	44	1	1900	149	3
1893	34	2	1901	153	8
1894	68	2	1902	128	3
1895	68	3	1903	210	1
1896	52	1	1904 (to March 3, 1905)	291	5
1897	73	7			
1898	99	6			
			14 years	1424	47

A careful bacteriological study of some fragme of skin taken from the field of operation just pr to the making of the incision was made by Dr.

M. Jeffries, the pathologist to the hospital, in 290 cases, with the following result:

Total number of skin cultures	290
Number of instances in which growth was obtained	27
Per cent. not sterile	9.31+
Streptococcus obtained, number of times	7
" " per cent.	2.41+
" alone—number of times	4
" and a diplococcus—number of times	2
" " tetrad " "	1
Micrococcus tetragenous " "	10
A diplococcus	6
Tetrad and bacillus	1
Bacillus alone	2
Stapyhlococcus and a bacillus	1

Of the total number of 1,424 operations, suppuration occurred in only 47, or 3.3 per cent. Of these it was superficial and very slight in 35 cases, and involved the deep tissues in 12. The use of rubber cots for the operator and rubber gloves for the assistants was beung by one of the writers in December, 1899. In 1900 there were only two cases of suppuration in 149 operations. In one of these cases rubber cots were not worn by the operator or assistants, and in the other case, a portion of the skin removed from the operative field just before operation showed a pure culture of streptococcus. The day after the operation the temperature rose to 104°, pulse to 160. The wound was opened up and showed deep suppuration. Cultures made from the pus showed pure cultures of streptococcus, proving with little doubt that the infection was due to imperfect cleansing of the skin. In the following year, 1901, there were eight cases of suppuration; in five of these gloves were not worn; two of the cases were operated upon by the house surgeon, and, although rubber gloves were worn, the time of operation was prolonged nearly an hour, and there was much bruising of the tissues. The other case was operated upon by one of the writers, who wore gloves; the suppuration was slight and superficial. In 1902 there were three suppurations in 128 cases; in 1903 210 operations, with only one slight suppuration.

Dividing the cases into two periods, namely, before and after the introduction of rubber gloves as a routine measure, we find 567 cases operated upon before the use of rubber gloves, with suppuration in 25, or 4.4 per cent., and 933 operations performed since the use of rubber gloves, with suppuration in only 20 cases, or 2.1 per cent.

Suture Material.—The question of suture material for the buried sutures in the operation for the radical cure of hernia we regard as a most important one. We have since 1891 used an absorbable suture—kangaroo tendon—chromicized sufficiently to resist absorption for about four to six weeks. The disadvantages of using non-absorbable material, *e.g.* silk, silver wire, silkworm gut, for the buried sutures we have frequently and strongly emphasized. We have also shown by repeated observation at the Hospital for Ruptured and Crippled that buried non-absorbable sutures frequently cause abscesses, with the formation of sluggish sinuses, that usually persist until the offending sutures have been removed by the surgeon or extruded by nature. More than thirty such cases have come under our personal observation, and in most of these cases the original wound healed by primary union. In some instances the sinus did not develop until three years after operation. In the majority of these cases recurrence developed as a result of the long-continued suppuration, leaving a condition most difficult to treat by means of a truss, and one offering little prospect of a cure from further operation.

If any additional evidence were needed to prove that the use of buried non-absorbable sutures, especially in operations for the radical cure of hernia, has no sound basis from either a clinical or a pathological standpoint, we would refer to the statements made by Sir William Macewen,[6] in his recent address in Surgery, delivered before the British Medical Association in 1904. He says:

"At the present moment many investigators content themselves by aiming at a sterilized material for sutures and ligatures. Asepticity is by many considered a sole requirement of a ligature otherwise mechanically suitable, but asepticity is only one of the requirements; a further requirement which the ligature should possess is that it will remain in the tissues for a time sufficient to effect its purpose, and which will then be capable of rapid elimination. The same desiderata are for sutures.

A material capable of maintaining the tissues in contact sufficiently long to enable the tissues to proliferate and to effect a living union of the parts is required, and after this has been accomplished the suture material ought to become eliminated without disturbance of the parts, so that when the mission of the suture has been accomplished, it should no longer remain in the tissues, a useless, dead material, capable of producing irritation, but should permit itself to be speedily removed.

"Some surgeons have introduced wire sutures, in the belief that they would be able to bring together and maintain permanently in apposition tendinous and aponeurotic structures in inguinal hernia."

The futility of this latter hope may be judged from his own personal experience with five cases in which gold wire was used by other surgeons, and which subsequently came under his personal observation. Three of these cases came to him for a recurrence of the hernia, and in two cases for strangulation.

Our own experience furnishes cases almost as striking as those cited by Macewen. In one particular case, a patient 55 years of age, was operated upon in January. A sinus persisted until May, when a portion of the wire was removed. He continued to make almost daily visits to the outdoor department of a hospital until December, when the remaining sutures were removed, and by which time a well-marked recurrence had taken place which, in a few months, became several times as large as the original hernia; it was covered by thin cicatricial tissue, which made it absolutely impossible to wear a truss; furthermore, in such a condition as this, nothing whatever could be offered by another operation, and thus a man of 55 years, otherwise in good health, was incapacitated for the rest of his life for doing any manual labor, to say nothing of the pain and discomfort associated with such a condition.

If a careful report of the after-histories of all the cases in which non-absorbable sutures were used were made, we have no doubt the observations of Macewen and ourselves would be many times duplicated, and would go far in the direction of leading surgeons to abandon the use of such sutures in operations for the radical cure of hernia.

Mortality.—There were four deaths in this series of 1,500 operations, or a mortality less than 3-10 of one per cent. An analysis of the cases of deaths shows that:

CASE I.—A child of eight years. Operation was done for right inguinal hernia in 1893. Patient died of double ether pneumonia on fourth day. Autopsy showed no trouble with wound.

CASE II.—I. M., male, aged five years. Operated upon for left inguinal hernia Jan. 11, 1895. Cord was not found; the sac was large and friable, and the time of the operation was much prolonged, more than an hour. A high temperature developed the same evening (104°) and pulse rose to 140. The wound was opened up the following day, but the patient grew rapidly worse, and died thirty-seven hours after operation. Autopsy showed pus in the peritoneal cavity and death to have been due to acute septic peritonitis.

Case III.—A. B., male, aged six years. Operation, 1895. Right inguinal hernia the size of an orange, not controlled by a truss, and complicated with cervical Pott's disease of the spine. The child's general condition was poor, and he took the ether very badly. The following day the temperature rose to 105°-106°, and the pulse was very rapid and feeble. The wound was opened up and drained on the third day. Some pus was found. The child gradually failed and died on the twelfth day. Autopsy showed pericarditis and apex pneumonia.

Case IV.—This case was not operated upon by the writers, but by one of the assistants, and as it was one of his early operations, the time of operation was somewhat prolonged. The patient, a boy aged six years, was operated upon June 13, 1903, for left inguinal hernia of moderate size. Bassini's method was employed, and rubber gloves were used by the assistants and operator. A high temperature developed the night following the operation and continued the next day. The wound was opened and an extensive filtration of the tissues found, with spreading cellulitis. In spite of free incision, irrigation and wet dressing, he continued to grow worse, and died on the fourth day of acute sepsis.

One of the writers has operated upon 800 consecutive cases without a single death.

One of the four deaths we have recorded was in a child much weakened by advanced Pott's disease of the spine, and in our present judgment operation should not have been attempted. The two deaths from acute sepsis we must class as theoretically preventable. One occurred before the use of rubber gloves, but in both cases the time of operation was nearly one hour, instead of the usual ten to fifteen minutes, and hence there was not only much greater chance for air infection, but the bruising of the tissues caused by the prolonged handling prepared a most favorable nidus for infection from any source.

Final Results.

Sound	12-13 years..	1 case	Sound	4- 5 years..	72 cases
	11-12 " ..	3 "		3- 4 " ..	95 "
	10-11 " ..	2 "		2- 3 " ..	115 "
	9-10 " ..	12 "		1- 2 " ..	180 "
	8- 9 " ..	15 "		6 mos. to 1 yr.	50 "
	7- 8 " ..	15 "			
	6- 7 " ..	24 "			
	5- 6 " ..	67 "			

651 well six to twelve months.
601 well one to twelve years.

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Japanese Red Cross Hospital Ships.—A correspondent of *The Times* of London, gives an interesting account of the arrangements made by the Japanese Red Cross Society in the matter of hospital ships. The society has arranged to build its own ships to its own requirements, and to sell them to a steamship company with the proviso that they shall be at the service of the society when required, for a stated rental whilst in use. There are many other clauses in the scheme, which appears to be a practical one, and to have worked well.

ACNE AND ITS TREATMENT.*

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Acne is probably the most common of all diseases of the skin. It is true that statistics do not show this. According to them, eczema is the most common dermatosis. The reason for this is that the latter disease is very pruritic, and renders the patient so uncomfortable that he seeks medical advice; while a mild case of acne gives no discomfort, and a bad case is merely disfiguring. Unfortunately, there is an idea in the mind of the laity that nothing can be done for pimples, and that, anyway, the youth will grow out of them. I am sorry to say that this idea is encouraged by some physicians who have been unsuccessful in curing their acne cases. It is true that the disease is often very stubborn, and that relapses are frequently suffered, but the majority of cases can be greatly benefited in a short time, and very many of them cured promptly. One thing treatment does in all cases, it prevents the scarring that often occurs when the lesions are allowed to undergo evolution of themselves, or reduces it to a minimum. Moreover, even if treatment does not entirely cure, it certainly benefits, so that the patient is able to go into society without being an object of remark, or to obtain a position in the business or domestic world. That relapses occur is due to the frailty of man and the irksomeness of following out the rules for diet, exercise, and hygiene the physician is bound to lay down.

There is no need for me to describe the *clinical features* of acne. They are familiar to you. What I shall say applies to acne vulgaris alone, and not to other diseases to which the term acne has been applied, such as acne rosacea, acne frontalis, acne medicamentosa, and the like. The picture I want you to have before your mind's eye is the following: A young man or woman whose nose and forehead look and feel greasy, and whose face is studded over with comedones, white or red papules, small pustules alone, or interspersed with larger pustules and dull red nodules. When the nodules are in large number the face feels lumpy. On the scalp there is usually a varying amount of dandruff. T same lesions that are seen on the face may also oc on the back, chest, and tops of the shoulders, a the skin over the breast bone and between the sho der blades is often greasy to the sight and touch.

If we know *the cause* of a disease we are gre helped in our efforts at curing it. So let us first and discover the cause or causes of acne.

The great predisposing cause of acne is you In about eighty per cent. of my private cases disease began between the fourteenth and sixte years. It is during this period that the skin, the rest of the body, undergoes rapid developm and the sebaceous glands take on great activity shown by the greasy skin and the dandruff. I lieve that this seborrheal condition is an essen predisposing cause of acne, and that it is very ceptional for acne to occur without it.

Errors of diet and hygiene are frequent in period of life, having in their train digestive di ders and constipation, and, as a consequence, ane chlorosis, and the like. Young people are pron eat too much or too fast, and to eat unwisely, a which favor digestive disorders. I find these di ders in seventy per cent. of my private cases, stipation being the most common. These ten cause congestion of the skin of the face, impair its proper nutrition, and aggravate the seborrheal condition. Not only do they do this in youth, but also sometimes in later life, thus accounting in some measure for the persistence of acne into the third and fourth decade of life.

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*Read at a meeting of the New York Academy of M cine, February 16, 1905.

In women and girls menstrual disorders act in similar fashion, causing congestion of the face and increase of the seborrheal condition. I am convinced that their rôle in the production of acne is much less important than is generally supposed. In only eleven per cent. of my female patients were they noted, a proportion no greater, I believe, than would be found among a similar number of young women who had not acne. It must be borne in mind that the occasional "pimple" that in so many mature women is a forerunner of the menstrual period is not a true acne, but a purely local infection of the follicle mouth.

The importance of the seborrheal condition of the skin as the basis for the development of acne is shown by the fact that as it decreases, as it does about the twenty-second year of life, the acne tends to get well. There are certain skins that are peculiarly prone to acne. They are coarse in texture, with a multitude of wide open pores, evidences of a sluggishness in their vascular circulation. Such a skin is very greasy to the sight and touch, as it furnishes an excellent soil for infection by the microorganisms that are found in acne.

The exciting cause of acne is probably a microorganism. While I believe in the parasitic origin of acne, I speak of it as "probable" because it is not yet absolutely proven. The three leading exponents of the parasitic origin of acne are Sabouraud of Paris, Unna of Hamburg, and Gilchrist of Baltimore.

Sabouraud would explain the occurrence of acne as due primarily to the infection of the skin with the microbacillus which, when young, is punctiform and ovoid and less than 1-1,000 mm. in diameter. When full grown it is elongated, sigmoid, and resembles slightly the tubercle bacillus. These bacilli sometimes occur in chains. They form cocoons in the mouths of the follicles and stop them up, forming the comedones. When these become infected with the spores of Malassez or by staphylococcus albus we have acne lesions. The spores of Malassez he regards as the same as the bottle bacilli of Unna. They may be spherical in form, 2 μ to 7 μ in their long diameter, without mycelia, and occur discretely; or elongated or gourd shaped, with one spherical one upon another larger one; or budding, which are the spherical forms with buds. Whether the acne lesion is superficial or deep depends upon the depth to which the infection has gone.

Unna teaches that the acne bacillus is the cause of the disease, and describes it as from ⅝ to ¾ in its longest diameter.

Gilchrist believes that *Bacillus acnes*, discovered by him in 1899, is the cause of acne. He found it in smears from 240 pustules. In cultures taken from 145 lesions, 52 yielded pure cultures. It is a short, thick bacillus, in cultures becoming longer and thicker. The bacilli occur in groups, and in old cultures branching forms are seen. It is pathogenic in mice and guinea pigs. He states that to the naked eye a pure culture of Sabouraud's microbacillus looks like his (Gilchrist's) *Bacillus acnes*.

It seems hardly possible to escape the conclusion that acne vulgaris is of parasitic origin and due to a special form of microorganism. It would seem that Sabouraud and Gilchrist will soon be in accord, and that the bacillus acnes will be established as the exciting cause of acne. Besides the special microorganism, all observers have found the ordinary staphylococci in the pustular lesions of the disease.

That a special form of microorganism will produce acne between the ages of, say, twelve and twenty-four, and not before or afterwards, at first sight may seem opposed to the claim that it is the cause of the disease. Such action is not unique. It is a well-known clinical fact that ringworm of the scalp, which is due to the trichophyton fungus, and is a disease seen practically only in children, disappears of itself as the patient reaches the age of sixteen or seventeen. Some change, of a nature which escapes our knowledge, has taken place in the make-up of the scalp that renders it an unfit habitat for the fungus. And so it is in acne. When the skin has become fully developed, or the individual has attained to a certain degree of vigor, the microorganism no longer finds a proper soil for its growth. This matter of soil and infecting organism is now accepted in many diseases. It is probable that we have in our mouths more or less constantly pathogenic germs, that but wait some modification of the soil to produce disease. We therefore can easily accept the doctrine in acne. It seems to me that the parasitic theory of the origin of acne fits in with the facts better than any other theory does. The same disorders of digestion and assimilation that were supposed to be the causes of acne are met with constantly in the years after twenty-five and thirty, and are unattended by acne.

In the light of the etiology of acne as given above, we find out indications for *treatment* to be as follows: (1) Improve the condition of the skin, so that it will no longer be a suitable culture ground for the bacillus. (2) Empty the follicles of the skin of the colonies of bacilli. (3) Keep the skin constantly aseptic, so that any bacilli that escape on it will be killed, and no new infection of the skin will be possible.

The first indication, namely, to improve the condition of the skin, is met along the lines of general medicine. In taking charge of a patient with acne we should forget for the moment that there is any disease of the skin, and study him as a patient who is not in perfect health. Constipation, anemia, plethora, dyspepsia, lithemia, menstrual disorders, whichever or whatever we find must be relieved if we expect to effect a permanent cure of the disease. Diet, exercise, baths, attention to hygiene, and, lastly, drugs, are our means for combating the disorders we meet. There is no specific for acne. In most of the so-called "complexion cures" arsenic is the drug used. At times it may prove useful, but only in the very sluggish cases. In most cases it will do more harm than good.

The acne patient should keep good hours, take cold plunge baths if well borne, be out of doors as much as possible engaged in some active and agreeable exercise, and live on a plain, nutritious diet, without sweets or pastries, or foods fried in fat. The young man should forswear tobacco, and the young woman tight lacing.

The second indication, namely, to empty the follicles of the colonies of bacilli, is best met by the use of mechanical means. Three instruments are of service—the curette, the acne lancet, and the comedo expressor. If the number of acne lesions is great and the patient will permit, the most rapid way of meeting the indication is to put the skin on the stretch and go over it rough-shod with the curette, tearing off the tops of the pustules and comedones. After the curettage the face is to be bathed with a solution of boric acid, or bichloride of mercury, or peroxide of hydrogen, or the like. The curettage must be repeated two or three times a week, tearing away the crusts from the previous operation and the tops of new lesions. No treatment is necessary between the operations excepting keeping the skin aseptic, as will be spoken of later. The curette should be a large, ring-shaped one, with dull edge. Reversed and pressed on the comedones, it forms an excellent comedo expressor. Before curettage, all deep lesions should be opened, as described later. Many patients object to this verv vigorous method of treatment. For such, and for those who have only a few lesions, we should resort to the acne lancet and the comedo expressor. The acne lancet is an instrument triangular in shape, with two cutting edges and a shoulder above. Such an instrument can be rapidly plunged into the pustules, as the shoulder prevents its going too far in so as to do damage. It should always be used, and not an ordinary lancet, as it makes a clean incision that leaves no scar. I have seen some skins very badly damaged by the use of an ordinary lancet.

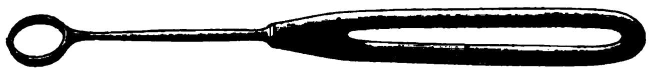
Fig. 1.—Curette.

Fig. 2.—Acne Lancet.

Comedo expressors are made of various shapes. The one I prefer resembles a cheese scoop, and has a rounded shoulder, so that it will not wound the skin. It is pressed steadily on one side of the comedo, which will come out into the bowl. Before using it the skin should be softened by the application of warm water, with or without boric acid. Or the ring curette, reversed, as spoken of above, may be used.

Fig. 3.—Comedo Expressor.

After all the comedones are expressed, the acne lancet is used to open all the pustules. The contents of the pustules should be squeezed out after they have been opened. Deep lesions, the so-called indurated acne, which are small cutaneous abscesses, are to be opened and their contents squeezed out. This should be done even before they are "ripe." If they are squeezed between the fingers at this time one part of them will turn white, and it is into this point that the lancet is to be thrust. After they are opened, a little absorbent cotton should be wound on the sharpened end of a piece of wood, dipped in pure carbolic acid, and inserted into the cavity. This will prevent their refilling, which otherwise they are quite sure to do. After the face is gone over in this way it is to be washed off with some antiseptic solution, as after curettage. On the days between the operating days the skin should be rendered aseptic, as is described later.

Another method of meeting this indication is by pinching up the skin and rolling it between the thumb and fingers. I have often heard my friend, Dr. George H. Fox, compare this to working tacks out of a piece of leather. It is to be advised for patients who cannot be seen often enough for the other operations. I have not seen it spread the disease, as some say they have.

The third indication, to keep the skin aseptic, is met by the use of drugs. This form of treatment may be called the chemical method, to distinguish it from the former, or surgical method. The drugs may be exhibited in the form of lotions, ointments, and soaps. As we speciallv desire to free the skin of fat, which favors the infection, ointments do not seem to me to be proper vehicles, and I never use them. Moreover, they are not so agreeable to use as lotions. The chemicals that are of service in acne are sulphur, resorcin, mercury, and salicylic acid.

During my many years of experience in the treatment of acne I have tried many experiments, and have learned to place most reliance upon sulphur, and have found that the best way to use it is in the form of the old and tried Lotio Alba, the formula for which is: Zinc sulphate and potassium sulphuret, of each, ʒi-ii; rose water, q.s. ad. ℥iv. This is to be shaken up before using. It is rendered still more efficacious by the addition of a drachm or more of precipitated sulphur to the four ounces of the mixture.

Resorcin, twenty per cent. in water or alcohol, is often useful. It is to be dabbed on morning and night until it makes the skin red, dry, and glazed, as if varnished. Then the skin is to be bathed with an oxide of zinc lotion, or anointed with cold cream until the reaction subsides, after which the resorcin is to be used again.

A favorite preparation of mine that meets the indications is: Salicylic acid, gr. xl; calamine, gr. xx; zinc oxide, ʒss; glycerin, ʒii; lime water, ʒvi; rose water, ad. ℥iv. This, being about the color of the skin, can be kept constantly applied. Unless made by an expert chemist it is prone to become unusable in a few days, an insoluble salicylate of zinc being formed.

During more than a year I have used with the greatest satisfaction a soap containing sulphur, and known as Kreuznach Soap No. 2. This is made from the waters of the Kreuznach springs, in Germany, long celebrated in the treatment of certain diseases of the skin. It should first be used as an ordinary toilet soap night and morning, the lather being washed off. When the tolerance of the skin is ascertained the lather should be left on for a few hours in the evening, and later it should remain on all night. At first it smarts a good deal, but later it is well borne. Nothing has given me better results, either by itself or in combination with surgical methods, especially the latter.

So many trustworthy physicians have reported such excellent results from the use of the Röntgen rays in the treatment of acne, it would seem as if in them we had a most ready, rapid, and reliable cure of that disease. It seems to me that their use should be limited to intractable cases, especially as they occur in patients with sluggish skins, and to the disease as it occurs on the trunk. I have not yet met with a case of acne of the face in private practice in which I felt justified in recommending this treatment, because it is capable of doing harm. Not only may a most undesirable *x*-ray burn be produced, but careful operators have reported the production of an atrophic, abnormally dry and smooth skin. When they are used, it is advised that a moderately hard tube should be used; that the patient should be seated eight to ten inches from the target; that the exposures should last from three to six minutes, and that the sittings should be at intervals of three or four days for ten days to two weeks. No more than a slight erythema should be caused by the rays.

15 East Twenty-ninth Street.

Premature Death of a Would-be Suicide.—"Died while trying to commit suicide" was the verdict of a coroner's jury in London the other day and it was in accordance with the testimony. The excitement of getting a knife and preparing to kill herself was fatal to the would-be suicide, a despondent young woman, who had a weak heart.

THE LIMITATIONS OF THE VALUE OF NITROGLYCERIN AS A THERAPEUTIC AGENT.*

By H. P. LOOMIS, M.D.,
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It is difficult to explain why certain drugs have come into such general use unless it is a question of fashion as in other things, nor are we ever right in assuming that their popularity assures their value, much less their permanency. The study of the physiological action of drugs, first upon animals and then upon man, furnishes of course the only scientific and reliable method we have, of predicting future usefulness in the treatment of disease; still it is before the result of clinical experience alone that a drug must take or lose its place in the world's pharmacopeia.

Ever since the introduction of amyl nitrite to the profession by Lauder Brunton in 1867, the nitrites have occupied an established place in our materia medica. This is no doubt due to a great extent to the remarkable effect produced by the inhalation of amyl nitrite upon many patients in the anguish of angina pectoris and the relief obtained. Dr. Brunton, who discovered this drug and inferred its therapeutic effect from a study of its physiological action, certainly conferred a boon upon a hitherto almost helpless class of patients.

Of the three nitrites, amyl nitrite, nitrite of sodium, and nitroglycerin, the latter is to-day the most universally used, most probably because the cases which it is supposed to benefit are much more common than are cases of angina pectoris.

I have made inquiries lately of three of the largest dispensing pharmacists in this city, and they all tell me that prescriptions calling for nitroglycerin have greatly increased during the past two years, and that more of the drug is being used to-day than ever before. The wholesale houses also confirm this statement, so I think I may be warranted in saying that nitroglycerin is in quite extensive use to-day by the physicians in New York. It may be interesting to note that many of the largest dispensing druggists obtain their supply of nitroglycerin in a 10 per cent. alcoholic solution from the same source —a wholesale manufacturing house devoted exclusively to preparing homeopathic drugs. By inquiring I found that nitroglycerin is more generally prescribed here in New York in the form of tablets, although some still use the spiritus glonoini. Both of these preparations are considered pharmaceutically to be perfectly reliable and to keep well.

All these nitrites act in the same way and it is probable that this similarity of action depends upon the nitrous element in each of the preparations. The most characteristic action of these drugs is supposed to be their effect upon the vascular system, namely, their power to relax the whole arterial system and greatly reduce arterial pressure; they are supposed to produce this effect as the result of direct action upon the muscles within the arterial walls.

It has been observed under their use that the frequency of the heart's action is increased, but this has been explained by the sudden fall of blood pressure from dilatation of the vessels and not by any direct effect upon the heart itself. The intrinsic changes in the circulation increasing the supply of blood to the respiratory centers in the medulla stimulate them, and as a result the respirations are increased.

Of the three nitrites, nitroglycerin is considered to be the most powerful, its alleviating effects more prolonged, and to be better suited for internal use, Nitrite of amyl is more rapid in effect, more transient, and better suited to external use by inhalation. Nitrite of sodium is considered by some to be more permanent in its effects but less stable than either of the other two. The symptoms which nitroglycerin causes in a healthy man in full doses are pulsation in the head, sometimes over the entire body, with giddiness and constriction or fullness of the head, generally amounting to a severe headache. If the person keeps quiet these symptoms are slight, but they are greatly increased by motion, and especially by stooping. The person does not feel sick, nor is there any mental confusion. After about a half-hour he generally begins to feel drowsy. From the beginning the heart action is rapid, the pulse being increased about 20 beats, and the arterial pressure lessened. The headache is the prominent symptom, and it often lasts until next day. It is a common symptom among the workmen in nitroglycerin works. These are the effects seen upon a healthy man who is susceptible to its influence. When the drug is given in diseased conditions where it is indicated none of these symptoms is developed, and it is remarkable what large doses such people take. I have often seen them take 1-10 grain every hour for a long time. The question that interests us as physicians is, does the drug in diseased conditions produce the one characteristic effect— of which practical advantage can be taken, namely, the dilatation of the arteries?

The statement that nitroglycerin causes dilatation of the arteries and reduces arterial pressure, has been handed down as a proven fact for a number of years in the various text books on materia medica and therapeutics. I will try to show you from a number of experiments I have made on dogs how difficult it is to prove this. One is impressed with the fact that the majority of writers have not tested this statement themselves, but have reiterated what the old writers have said, and taken for granted it is true. The result is that many members of the profession, especially the younger, have come to have implicit faith in this drug and use it in every case where the arteries are over-contracted, as seen in so many cases of general arterial sclerosis, Bright's disease, and failing heart. No doubt the fallaciousness of the time-honored custom of estimating the blood pressure by palpating the pulse, is in a large measure responsible for its estimated results in disease. How erroneous our former judgments were in this respect, the use of the sphygmomanometer by any one for a short time will be convincing. From my clinical observations I have questioned for a number of years whether nitroglycerin would do what was claimed for it, and it was with the endeavor to settle this point in my own mind that I have made some clinical tests this winter.

I have drawn my conclusions of its effects upon arteries by accurate and repeated readings of Riva-Rocci's sphymomanometer (using Cook's modification as adapted at the Johns Hopkins Hospital). The sphygmomanometer is the only practical method we possess of estimating the amount of arterial tension and changes in arterial pressure. For comparative readings in the same individual it is perfectly accurate. For the tests I selected cases which would generally be considered ideal ones for the use of nitroglycerin—cases in which arterial tension and high arterial pressure were the prominent factors and were the direct cause of most of the symptoms. In these cases nitroglycerin was given in large doses, over a long period of time and frequently; the latter because it has been claimed by many pharmacologists that its action while pronounced does not continue long, and to get permanent results the dose must be repeated often. In some cases to obviate the danger of incomplete absorption, the nitroglycerin was given hypodermically. The arterial pressure was taken by the sphygmomanometer before the nitroglycerin was given and during its use, in many cases hourly. The results were very different from what we would expect.

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*Read at a meeting of the N. Y. Academy of Medicine, February 2, 1905.

Let me ask your attention for a moment to the clinical results of the use of nitroglycerin in one or two cases. I need not go into the detail of its use in other cases, the results were practically the same.

Case I.—A man 46 years of age presented himself at Bellevue Hospital last October with the classical symptoms of the cirrhotic kidney, general arterial fibrosis, and a strong hypertrophied heart. free from murmurs and myocardial changes. He had only been sick as he claimed for a few days and had been working up to the day of admission. Upon being questioned, he acknowledged that for over a year he had had very severe headache and noticed that he was not as strong as he used to be. An acute swelling of the feet brought him to the hospital. Repeated examination of the urine always showed it to be of low specific gravity (below 1010) and to contain only a trace of albumin and a few casts. The amount of urine was large, being never less than 66 ounces per day. The arterial tension at the time of admission was very high, the sphygmomanometer registered 260 mm. of mercury pressure (145 mm. is, as you know, considered normal). The patient was put to bed and on an exclusive milk diet. His bowels were thoroughly acted on by calomel followed by a saline. The only medicine given was 20 grains of acetate of potassium every 4 hours. This plan of treatment was carried out for two weeks, and the arterial pressure was reduced so that the sphygmomanometer read 225 mm. pressure. This diminished tension was reached at the end of the first five days and showed no practical change during the next ten, so the case as far as the arterial tension went was at a standstill. Nitroglycerin was now commenced and given in doses of 1-50 grain in the form of the spiritus glonoini every hour during the day and every 3 hours at night. This was continued for 48 hours; 24 doses were given in 2 days. At the time of commencing the nitroglycerin the blood pressure was 225 mm.; at the end of 48 hours the sphygmomanometer registered 235 mm. As no effect was noted on the blood pressure the nitroglycerin was continued another 48 hours, and the patient received 16 doses each 24 hours. The blood pressure then registered 245 mm., or higher than it did when the nitroglycerin was commenced. Nitroglycerin was continued for 6 days longer, 1-50 grain given every hour during the day and three doses at night, and at the end of that time the instrument registered 230 mm., a reduction of only 15 points. To see if some effect on the blood pressure could not be obtained, nitroglycerin was now given hypodermically every 20 minutes for 18 doses, and the blood pressure was only reduced from 230 mm. to 223. These large doses of the drug produced no unpleasant effects, the pulse was not increased nor the headache perceptibly changed, nor was any effect on the arterial tension appreciable. Let me ask your attention for a moment to another case in which I used nitroglycerin.

Case II.—A painter, 38 years of age, entered Bellevue Hospital, complaining of dyspnea, some swelling of his feet, weakness, headache, and impairment of eyesight. On examination the diagnosis of chronic Bright's disease was made. The acute exacerbation from which he suffered was brought about by a cold, contracted a week previous. The heart was rapid and overacting, enlarged to the left, but no murmurs were detected. The pulse was incompressible and of high tension, the Riva-Rocci apparatus indicating 226 mm. of mercury pressure. He was put on an exclusive milk diet and calomel was given to move his bowels. No other medicine was given until at the end of the 48 hours, when nitroglycerin, 1-50 grain hypodermically, was commenced, and given every hour night and day. The blood pressure was taken every hour except at night. At the beginning, the pressure registered 226 mm., and at the end of 24 hours 243 mm. At the end of the second 24 hours, the nitroglycerin being continued hypodermically every hour, the blood pressure registered 235 mm. The net result after the continued use of nitroglycerin for 48 hours, showed no changes in the arteries or diminution in the blood pressure, but in fact a rise from 226 to 235. No change was observed in the headaches nor in the amount of urine secreted, which was averaging about 24 ounces each 24 hours. Nitroglycerin was now stopped and nitrite of sodium, gr. v by mouth, was given every hour, night and day, for 24 hours, at the end of which time the blood pressure had fallen from 235 mm. to 203 mm. The headache has improved and the urine increased by 6 ounces. After this the nitrite of sodium was continued in 5-grain doses every 4 hours, combined with 5 grains of chloral and diuretics. After the nitroglycerin was stopped the patient was put on diuretics and made a rapid recovery, and by the end of a week was free from symptoms and ready to leave the hospital.

It is needless for me to burden you with the details of other cases. The results obtained in these two cases are typical of those obtained in a number of similar cases in which I tested nitroglycerin. In none of them was any appreciable effect produced upon the blood pressure as tested by the sphygmomanometer, or upon the arterial tension as gauge by the character of the pulse. That there might be n question as to the efficiency of the nitroglyceri used, I did not confine myself to that furnished by th hospital, but obtained freshly made preparations fro other reliable sources; with all, the results were th same. To see what the effect of nitroglycerin woul be upon healthy arteries and upon the blood pressu of a normal individual, I took a man in perfe health, an Irishman, 40 years of age, employe about the hospital, and gave him 1-50 grain of nitr glycerin every hour, for eight doses. Only afte receiving the last dose did he complain of an physiological effects, and that was a slight headach that persisted for two hours. When the nitroglyceri was commenced his blood pressure registere 142 mm. (normal) and after the last dose 150 m —a rise instead of a fall. His pulse remained th same.

I have tried nitroglycerin on a number of health individuals and have observed that people va greatly in their susceptibility to its influences. great many are not affected at all, even by large a repeated doses, especially people in the lower wal of life, and of phlegmatic temperament. Up highstrung, nervous individuals, it is very apt show its effects in congestive headaches. I ha also noted a peculiar effect in the way the drug taken. On some people a tablet of 1-100 grain the stomach will produce no effect, but let that sam individual dissolve a 1-100 grain tablet in the mou and the physiological effect of the drug will be notable.

To ascertain the effects of nitroglycerin upon the blood pressure in animals, I experimented, assisted by Dr. Robert Hatcher of the pharmacological laboratory of Cornell University, upon two anesthetized dogs. The float of a mercury manometer was connected by a cannula directly with the carotid artery so as to register the pulse rate and blood pressure on a revolving drum. Nitroglycerin was given hypodermically 1 mg. per kg. of weight and its effects noted. Larger doses were then given and effects noted, and finally the nitroglycerin was injected directly into the jugular vein. I might tabulate the following as the result of the experiments:

1. An ordinary dose of nitroglycerin, namely, that corresponding to 1-100 gr. in a man, did not affect the blood pressure at all.

2. To get a marked drop in blood pressure, an amount of nitroglycerin which would be excessive in a man must be given to the dog, one that would correspond to 1-3 to 1 grain to a man of 150 lbs. weight.

3. The heart action was weakened by every full dose given, as shown by the lessened excursion of the pointer on the drum.

4. Nitroglycerin injected into the jugular vein of a dog in amount equal to two grains to an adult man, caused the blood pressure to fall rapidly and markedly, and the heart at the same time was excessively weakened.

5. The fall in blood pressure from nitroglycerin was comparatively transient and entirely over in about five minutes, but the weakness of the heart continued.

6. An oncometer placed upon the kidney showed a prompt and marked diminution of that organ occurring simultaneously with the fall in blood pressure. This would seem to prove conclusively that it was not dilatation of the arteries that affected the readings.

I am aware that the conclusions which I would offer as the results of my clinical observations are different from generally accepted effects supposed to be obtained by the administration of nitroglycerin in arteriosclerosis, namely, a dilatation of the arteries, a lowering of the blood pressure, a widening of the blood paths, and a lessening of the work of the heart. At the same time I am aware from questioning a number of hospital clinicians, that there is a growing tendency to doubt the usefulness of this drug, and I have found from inquiries that its use in the metropolitan hospitals is very much less than it was.

I think we can all recall in our private practices cases that appeared to be markedly benefited by taking 1-100 grain nitroglycerin tablets, and when continued for a time the arterial tension appeared to be less and certainly some of the symptoms, such as headaches, was relieved. I think if we will analyze these cases we will find that it was only in the very earliest stages of high arterial tension that nitroglycerin produced these clinical results, and even here we must not lose sight of the fact that some of the beneficial effects seen during the use of nitroglycerin on private patients who know what they are taking may be mental. There is a great deal in the name, nitroglycerin. The point which I want to make is that when arteriofibrosis is thoroughly established one might as well try to dilate an iron tube by atmospheric pressure as one of these tense arteries by nitroglycerin. In many cases of angina pectoris I have seen permanent benefit from nitroglycerin. It is superior to amyl nitrite in affecting the underlying condition, for with the latter drug often the relief is only transient, but with the former it is permanent. Nitroglycerin is too slow to relieve the pain of a paroxysm; here we use amyl nitrite and it should be reserved for these occasions. Nitroglycerin being more continuous in its action may be given at stated intervals, say, every three hours. The regular administration greatly lessens the frequency of the attacks. Nitroglycerin has been used for a long time to relieve migrainous headache. My experience has been that sometimes it is very efficacious, but just as often it fails. I know of no way to decide in any given case except to try it; it certainly is more apt to be effective after forty than before. It should be given at least 1-100 grain every hour immediately the headache begins.

As a result of these clinical and laboratory observations I would offer the following conclusions:

1. The usual dose of nitroglycerin (1-100 grain) is too small to produce any effect in pathological conditions; 1-50 grain is a minimum dose.

2. It is a perfectly safe drug to use. Even in the large and repeated doses used I have never seen any ill effects.

3. High arterial pressure in man is not perceptibly affected by it, nor is dilatation of the blood-vessels apparent.

4. Its effects are very transient as shown by the experiments on the dogs, and the ordinary dose of 1-100 grain every 4 hours could not possibly have any effect on the arteries.

5. Nitroglycerin is said to increase the quantity of urine in chronic Bright's disease, but after keeping accurate records of the daily amount of urine passed, I was never able to satisfy myself that any increase seen was due to this drug.

6. I believe that in conditions due to arterial spasm so called, such as angina pectoris, migraine, and asthma, nitroglycerin may be of benefit, in full doses often repeated, but not in arterial sclerosis where the arteries themselves are more or less changed.

Before closing I would like to mention a drug, which in my experience has given most satisfactory results, in relaxing the arteries and diminishing blood pressure in arterial sclerosis. I refer to chloral hydrate, given in five-grain doses every four hours night and day. The effects are extraordinarily uniform. The sphygmomanometer will generally show a marked fall of pressure in twenty-four hours, and the distressing symptom of headache will generally be controlled. At the New York Hospital during my service and as well as that of my colleagues, Dr. Peabody and Dr. Lambert, nitroglycerin has been entirely discarded in arterial sclerosis and chloral hydrate has taken its place.

PSYCHOLOGICAL AIDS; OR THE PRACTICAL USE OF WELL-KNOWN LAWS OF THE MIND.

By EUGENE COLEMAN SAVIDGE, M.D.,
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LIFE has been defined as "the sum total of forces that resist death." And death always wins in the end. Medical men are fighting a sure victor. However easy the struggle to-day, behind it, sooner or later, is the sure defeat. While the full complement of force is not always needed, it is nevertheless important to keep it instantly available against the outmeasuring foe.

I believe we can add to our resources by cataloguing these well-known laws of the mind. That we may find therein an intangible quality which makes one man's calomel or digitalis better than another man's. And that the greatest materialist of the laboratory himself, who would most warmly resent such a statement, will be the first to give us the material scale by which can be expressed in volumetric terms this distinct difference.

I have elsewhere written, and by no means fancifully, about putting "a meter on the power for healing in the human mind," by indicating in mechanical terms, respectively, the measure of the destruction, and of the saving of the red-blood corpuscles by anxiety and by relief from anxiety. This is one of the nearest scientific possibilities. For though they are the practical basis of life itself, it is common knowledge how quickly these red-blood corpuscles are destroyed by anxiety or fear. Thus the very citadel of a man's vitality is exposed to an attack from an intangible thought. Conversely, can there be physical addition to this citadel—by stopping the loss. When comes to the bedside the best available exponent of wisdom, honesty and skill—which the medical man should always symbolize to his patient—a certain anxiety is quelled.* A certain cause of red blood corpuscle destruction is removed. There is, therefore, physical, measurable addition at the very foundation of life. The optimistic therapeutist will therefore get a better blood count than the resigned and somber pathologist.

It is in this sense that an eye-glance or an unweighable thought does weighable things, and makes one man's digitalis better than another man's. It explains why the professional assertiveness of the high-class man has a value. We see this every day, when the mere assent of the famous consultant adds efficiency to measures already in effect. Medical men will freely confess that as their position grows their old formulæ do better work; that the prescription, once written for a dollar, rises correspondingly in effect when its cost is ten dollars. The leading medical man of a town, like the leading hatter, might dispense the identical quality obtainable elsewhere, and still give more—namely, the consciousness, lasting and soothing, that the best has been had. This law of the mind is as strong as the necessity underlying the insistence on reverence for matters sacred, the respect for the flag, for the court, for decorum in the presence of good women.

Apparent, then, is the error that tariff rules apply to professional service. I try to rebuke this misconception in the shrewd ones of the world as I meet them yearly going abroad for cheap professional work. A wealthy man, within my knowledge, paid for a lithopaxy in a small German town about the price of a New York consultation, and then felicitated himself upon having circumvented the profession. As a result, his commercial estimate of professional things—a definite tariff for a visible service applied for—kept him out of observation until too late for help, and I believe it cost him ten years of useful life. The same rule applies to those who in disguise seek stolen opinions through the dispensaries, or who pose under their station in the consulting room. The bearing of correlative matters is left out of account; they lose instead of gain.

Therefore the honor accorded the physician, the respect demanded by him, make the digitalis of honor stronger than that of indifference.

The most inviting field for our subject, however, is in the field of chronic troubles, and in the almost virgin domain of Synthetical Medicine, to which I shall recur later. Chronic troubles are the harvest of the charlatan. Here thrive all the "cures"—movement, electricity, herb, water, Kneipp, Dowie, relic, faith, osteopath, and Mother Eddy. And the medical man who lets his prejudice blind him to the fragments of misapplied truths held by these cults is simply adding to the spread of what he most opposes. For each brings into play, more by ignorance than by design, these subtle laws of the mind which medical men are the most apt to neglect or distrust. Medicine was formerly a monopoly of the occult, the esoteric, the priest and "medicine man"; and modern medicine grew out of the reaction from the ancient deceptions and abuses. This very fact impels the medical man all the more to distrust all that cannot be touched, shown, or measured. Realizing the narrow line between "fake" and the proper use of certain powers within our grasp, can medical men get any practical help from the realm of psychology? Most certainly.

Vitality is what we want in fighting death. Is it an over-claim to say that the greatest vitality is found where the alertness of the nervous system is the greatest? Witness the Hebrew race. Note that in the shipwrecks, disasters, and Arctic expeditions of history it has been the men of brain—sustained by energy, hope, and interest—who have outlived those of less alert nervous structure. If this be so, what follows? Enhancing the alertness of the nervous system increases vitality—which is our aim.

Compare the vividness and freshness of impressions in youth with the duller states of consciousness in age. Hear a child observing the surface matters of a new scene. Compare the relatively young impressions of an adult in new surroundings with those of the same adult in routine environment. Take a man's morning walk to his office, and see how quickly he notices a new sign put out over night. He is old to everything else on that walk, but young to the new sign. He has more "vitality" with reference to the new sign than to any like object in the routine. Monotony, therefore, is the old age of youth. Change, "the joy of the dissimilar," is youth in old age. Indeed, change is the very basis of consciousness itself.

Herbert Spencer says: "It is admitted on all hands that without change consciousness is impossible; consciousness ceases when change in consciousness ceases. . . . Change, as known by us, is the unlikeness of a present state of consciousness to a past state."

In change, therefore, we have an almost weighable vitality to add to our patients. The mental processes of the adult—introspection, retrospection, and logical deduction—use different parts of the mind from those used by the child, who is noting the difference on the surface of things. Whatever attracts the peripheral attention, therefore, rests the adult processes and employs the child processes, drawing the blood from the great nerve centers as surely as though it were pumped. We can thus cup the brain, and empty the great throbbing bags of blood in the central vessels, by putting one under the influence of new surroundings, new architecture, new customs, with their surface-attention demands. Even the most unwilling or downright of individuals is susceptible under this process. Are we not thereby practically administering a decoction of youth when we cause the introspective adult to turn his eyes outward upon the surface of things, as does the child?

Endless examples illustrate this truth. Note the necessity of the highly-evolved race or individual for stimulation in the peripheral areas. As the lower order can never understand the next higher order, this necessity is not understood by the duller of nerve structure. Scan the faces in the stream of travel, at the opera, at the play. See how the highly evolved cluster in the cities, and consider the constant drag cityward of the bright minds from the provinces. Compare the relative aging of individuals, respectively, under monotony and under peripheral changes readily at hand. Even race horses are said to be improved by hanging toys over their stalls to train more highly the nervous system, and so enhance endurance.

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* See comparative pulse tracings in plates reported by Dr. C. E. QUIMBY, in the *Journal of the American Medical Association*, March 15, 1902; and also remarks upon the effect of "the varied forms of life's mental annoyances" in organic heart troubles, as illustrated by pulse tracings.

If change be the basis of consciousness, and if more "consciousness" increases vitality, what of monotony? Monotony, after the certain point necessary to fix all training, lessens vitality. That continuous impressions will finally wear out susceptibility is one of the best known laws of the nervous system. Stimulate a frog's leg with your battery and you get a reaction; again, and once more a reaction—until finally there is no response. Rest, and try again, and once more you have susceptibility. There has been a temporary death to perceptions. Thus even so stable an element, apparently, as primary color takes on its complementary aspect by too much gazing.

But even before the constantly-used functions tire out the unused, auxiliary ones fail.. A. M. Bloch (*Revue Scientifique,* June 6, 1903) has shown that it is not the used muscles that tire earliest under incessant labor; but, paradoxical as it may seem, *the muscular groups that remain still are first tired, while those that contract and relax constantly, even in incessant toil, accomplish their task with much greater ease.* The significance of this is great. The gold-beater may not get tired first in his biceps, but in the back and loins. The young soldier after a march is tired in back and neck, not in his legs. The oarsman suffers first in calves and insteps; and so on, through the list. The dominant fatigue is in the *accessory* groups. The analogy in the nervous system holds true. One grows "stale" to the environment; the routine faculties are the last to show fatigue; the "unused props of the soul" are the first to tire; the apathy begins in the auxiliary faculties.

Hence certain great laws of the nervous system stand out. In order to make of them entities with handles for quick use, they might be put this way: (*a*) The law of novelty; (*b*) the law of monotony; (*c*) the law of peripheral change; (*d*) the law of central stability.

The Law of Novelty.—There is more vitality in the attraction and repulsion of the new, because there is greater consciousness of difference. No human being is exempt from this law. It frees nerve cells from their tension. It is a draught of youth. Jove, laughing at lovers' vows, was thinking of this law and its opposite. This explains the success of the interregnum plan of treatment for chronic troubles, and why the new doctor is always great—for a time.

One goes down one's own staircase automatically, with one's spinal cord. There is neither memory nor reason in this automatic reflex action. A strange staircase, requiring perception, is therefore a tonic because an exercise of a higher center than the spinal cord—bringing into action the part of the being where lies the source of vitality.

The Law of Monotony.—No one is exempt from it. It is of the greatest necessity. It fixes all training. "It is what the soldier does after his first year." It passes rational actions into automatic or instinctive actions. One grows into its mould and form, in a manner not far removed from vegetable life.

Monotony has a therapeutic value as well as novelty, for there are times when the superactivity of a nervous system requires the quieting hand of sameness. But its over-effect is rut, vegetation, age, and then death; and this is best met by frankly fronting the fact and meeting is requirements when proper.

The Law of Peripheral Change.—Surface impressions release tension on the deep centers. They should be changed as often as reasonable for the designed purpose of getting the vitality hidden therein. Freshness, vividness, youth, effective longevity lie here. A man is old the moment he ceases to do new things, to diminish his mobility. Rut, therefore, lessens mobility; consequently intelligence, consequently vitality.

Men willingly exercise a biceps, or a calf muscle, to keep it in condition; but forget there is a fading mental capacity—the susceptibility to all those mental impressions that are born under certain stimulus. Is it not distinctly allowing a known narrowing of the area of consciousness, hence a dwindling of that entity on which vitality depends?

The Law of Central Stability.—This law lies at the basis of conviction, honor, loyalty, character. It is the theologian's law. It is the holding on, in the storm of passion or the paralysis of discouragement, to the purpose laid in reason's calm.

These central basal elements are all the more firmly known and held by separating them sharply from the unimportant peripheral matters. Provincial fidelity to the locality—almost to the building lot—does not mean a firmer devotion to one's basal ideals; indeed, it is often exactly the contrary, as is witnessed by the large number of "shut-ins"—farmers' wives, and the like—who go insane, *i. e.,* lose their central stability. The dynamics under this law should always be available to the medical man.

Before coming to practical recommendations, the following illustrations bearing upon the subject are cited:

The cough that nothing will cure in the city gets well when the patient goes to the country, and vice versa.

The "dyspepsia" of the clerk and letter-carrier are the same; but a short change of each to the work of the other would cure both.

Outdoor life invigorates those shut in, but workers in the open air have their own vicissitudes. It is the change which works most of the miracle.

Often one can eat better out of the usual time and place, and after sleepless nights it seems easy to sleep anywhere but in bed and at night.

The tune, the flower, that at first was delight, in time becomes odious. There is unsuspected beauty in "the old songs" after long enough interval.

Thus frequent repetition destroys the significance of a poem or prayer; but there is a joy of the hackneyed through the medium of a foreign tongue. Even cant, translated, acquires its pristine value.

Note the difficulty of conversation at family gatherings. One strange face at the hearth immediately adds a wider range of interests.

The associational fibers of the brain are stimulated by a return to the scenes of one's youth. Memories thought dead are made alive. There is more mind at such a moment.

The effect of mind on nutrition is seen by the immediate failure of nutrition when a paralysis cuts a muscle off from its higher connection. The blood supply is not cut off; it is a nerve matter. Conversely, trainers make you put your mind on the muscle you want to build up. A mind-directed contraction builds more than an automatic spinal cord contraction.

The quivering restlessness—sometimes healthy, sometimes diseased—of the most successful of the world, shifting from clime to clime, illustrates the law that the degree of mobility is related to the degree of nervous development.

The sphynx-like problem, inscrutable at night, smiles its Eureka in the morning. One is then holding, as by brevet, a higher mental rank, seeing phases as non-existent the night before as the scent followed by the bloodhound is to man.

In extreme fatigue there is desired no poem, nor music, nor prayer, nor plan, nor line of beauty, nor initiative concept—illustrating that in an exhaustion of vitality the latest and highest faculties are gone. This is a demotion of nerve rank; one has then less of mind; one is again a private in the psychological ranks. One still has one's automatic reflexes, as has the lout; but not much more.

And, finally, who has not seen that condition of tension in tired man or woman, in whom each additional degree of nerve exhaustion but arouses a greater super-conscientiousness, pushing morbidly to more effort, to greater tension, at more rapid pace, making it impossible for any but an extraneous will to say: "Stop, look, listen." And what are the reasons for not arresting such short-circuiting of the nervous system? A poorly applied economy, a false sense of duty, and scant idea of comparative values.

I have seen a wife deliberately get pneumonia because her husband had it, morbidly fancying she was devoted in so doing, when she was only endangering his convalescence. I have seen a mother with nervous system tapped constantly by the child over whom she yearned, resent as infidelity the advice to help her child by getting herself into condition. I have seen husband, wife, business partner let self-effacement, self-denial, deference for others; constant, futile activity beyond the fatigue line, simply condemn the partner for whom the efforts were made to union with an automatic reflex, instead of a self-determinating being of proper mental rank. And yet it is as dangerous as heresy to say the reasonable thing in such cases; to preach that unselfishness which gratifies a morbidness is the most costly selfishness; and that guarding one's effectiveness for the supreme use when needed is following the example of the Founder of Christianity, who conserved life for thirty-three years for the one ultimate self-sacrifice. Despite similar warnings valuable, career-producing lives have been lost because these minor, almost morbid, unselfishnesses have been indulged at the expense of the greater comparative value.

Great vital force in this neglected life-waste is therefore available to medical men for practical use. But one must see the opportunity as well as know the law. The field of chronic troubles is thoroughly known. But the greatest opportunity lies in a field almost virgin to the profession. This field of *Synthetical Medicine*, tentatively so called by the writer, is therefore interpolated here.

Synthetical medicine, upon which the writer has done pioneer writing for the last decade, is as distinctive in domain as Preventive Medicine. Preventive medicine includes all the comprehensive measures of hygiene, vaccination, antisepsis, quarantine, and military medical supervision—now focussed to as fine a point as shooting a soldier on campaign who drinks unapproved water—which have conserved human life everywhere to figures beyond computation. A return to conditions of a century ago would bring an appalling rise in mortality. Yet the work is nearly all recent.

Synthetical medicine, on the other hand, deals with the individual instead of the community. It is restricted to those who are self-guiding and provident, who study to get the best from their brain-pan full of protoplasm; it is hopeless with the rabble. It assumes to recognize and postpone that eventual trouble, be it in heart, liver, kidney or blood-vessel, which a grouping and study of present conditions will often show years before it takes its classified text-book form. That this can be done by capable medical men is my most earnest conviction. If so, the immense importance of the subject to community, medical economics and life insurance is at once apparent. Study the necrology of the last decade, even in this one country, and consider what an average of five years more to each of these elect of civilization would have meant for the family, community, and race. A man like Pasteur is more valuable to France than many regiments of soldiers.

Synthetical medicine, therefore, saving the waste of the most valuable kind of life—the lives of those who are contributing to their age—will yield the highest medical rewards of the future, and restore to medical men the revenue robbed from them by their own success in preventive medicine.

It is in the synthetical department of medicine that the laws of the mind are the most important. A trainer is deemed necessary for the fistic encounter or the football field. Every man who is his own lawyer has a fool for a client. Medical men are proverbially the worst patients. Yet every human being feels qualified to direct his intricate mental and physical mechanism through the strains of life. Given a youth his endowment of health; what will he do with it? Is it not like trusting a fortune in cash to the jejune for investment?

Therefore, as the athlete gets "stale" to his exercise, so does the individual to every relation in life. The tired man has submerged his higher faculties; he has reduced himself to his primitive automatic reflexes; he is to that degree an incompetent. How few keep proper susceptibilities toward their own family, home, or business? How much easier to criticise capably another man's environment than our own. One is a smaller mental man toward the familiar than facing the new. It is here the greatest life-wastes occur; here is the greatest opportunity for "the extraneous will"; for the best results in chronic conditions, and the training for effective longevity.

"Travel," as a remedy, has been crystallized almost to the rubber-stamp degree. Even the funny papers caricature the doctor as advising his patient to give up all his business and go somewhere else. As potent psychology as travel is, it is often useless to prescribe it; as, for example, to one whose grief is financial. Yet the law of "peripheral change" can be applied at home.

The big trees, fruits, animals and men of California show what differences favoring environment will make. So also the physical supremacy of the present generation of Americans over the last. The man with "brains" and the man without them are like creatures from different planets; yet far enough back in the ancestral line an environmental difference started them apart. Medical men, therefore—the physical directors of humanity—realizing this power, and seeing where to apply it, can make, artificially, so to speak, the genial climate right where a man's duty holds him.

Once the methods are understood, the conditions become self-suggestive. One instinctively attacks the larger affairs of life when holding one's highest mental rank. But, leaving aside the new subject of synthetical medicine, and all that is implied in training for effective longevity, what practical help can our subject give the physician? Assume a case of supreme nerve prostraton from financial or domestic grief in which drugs fail. The following sample expedients are based upon these well-known laws of the mind:

First: Separate the patient from the scene of his troubles as far as possible—even if necessary to order new temporary sleeping and business quarters.

Second: Restrict all discussion of troubles to the morning hours. Absolutely forbid reference thereto at night.

Third: Occupy him with his periphery, by ordering Turkish bath, massage, shave, hair-cut, manicure, and have him arrayed in his best garb, etc.

Fourth: Interpose some one, disinterested in his sore thought, between him and his conjugal or business partner.

Fifth: Seek gentle exercise for his atrophied auxiliary faculties. These faculties, not directly connected with life-serving functions, seem hopelessly fatigued and rudimentary. All the play impulses, such as sports and games, are of this class. And play seems the most impossible, inhuman suggestion to the patient, feeling, as he does, his greatest withering in just these faculties; he still has his routine reflexes. Send such a patient, whose reason may be tottering, with an equable friend to insist on peripheral attention, and the gentle exercise of his neglected faculties. Prescribe some childish contest, like the following: That the one-syllable business signs will exceed the two-syllable signs on the route about town, or the number of gilt exceed the silver. Or, in the country, make a contest on the relation of budding or autumnal change to the species of plant or tree, or with relation to the points of the compass. Or, again, I have prescribed the problem of Houdin—to compete in naming the contents of a window in passing, then returning to verify it. The more trivial the contest the more successful, sometimes, in drawing blood from the deep centers to the surface.

Sixth: Apply the power in the law of central stability. Bring to the front the patient's basal elements of character. Suppose a strong medical man had put this "central law" behind Napoleon, when early in his disasters he sat for days drawing meaningless circles on paper; or, when ill from self-poisoning at Fontainebleau, he allowed his higher faculties to escape him. What might not have done the basal elements of that character? This was a physician's opportunity to change history. These are Napoleon's later words: "It is only by daring that one does anything worth the doing. It is only from the feeling of good fortune that one ever dares. Misfortune crushes and blasts the mind, and thenceforth one does nothing well." (Compare Virgil "They are able because they seem to themselves to be able.")

The great law of central purpose and conviction under a bruised nervous system may sometimes equal in power the "feeling of good fortune"; and who can apply this law but the medical man?

Endless similar plans will yield the lost vitality in these nerve wastes; and vitality is what we want. "Do you exercise?" must often be amended to "Do you exercise your periphery?"—at the risk of startling some who never discuss delicate matters.

And this impels me to caution against the use of psychological jargon with those whose thoughts run in theological crystals. For some good souls think a steadfast faith includes a steadfast climate and periphery, and that it is disloyal and wicked to confess fatigue to prayer, husband, child, or home. And, while psychologists are debating the difference between impressions and sensations, vivid and faint, an immoral meaning may be read into the algebraic formula. It may be thought that you have recommended a frequent change of religion and conjugal partners.

There is, nevertheless, much life at the time of its greatest value in these powers when properly applied.

No. 66 West Fiftieth Street.

REPORT OF A CASE OF VAGINAL CESAREAN SECTION WITH RECOVERY.*

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LECTURER ON GYNECOLOGY IN THE NEW YORK POLYCLINIC.

Owing to the improved technique and rigid asepsis, cesarean section has of late been performed with increasing frequency and the indications have broadened considerably. Still there are certain objections to the abdominal cesarean section—the uterine scar may open in subsequent labors, there may be omental and intestinal adhesions, or hernia may result. Then of course there is more danger of sepsis, and in some cases of uncontrollable hemorrhage the uterus must be sacrificed to save the patient's life. Aside from these considerations, the patients and their relatives object to the operation, especially in this country, if done in the classical way.

Vaginal cesarean section requires that the bony pelvis be not too greatly contracted; and one should not attempt to do it with the conjugata vera below 8 cm. The technique is as follows: The patient is anesthetized and disinfected as for vaginal hysterectomy, the cervix is grasped with two vulsellum forceps and steadied, and a longitudinal incision is made in the anterior vaginal wall from 2 to 3 cm. below the meatus urinarius and extended as far as the external os. The bladder is then peeled off from the cervix and lower uterine segment, and an incision is made in the median line from the external os up to the peritoneal reflection, but the peritoneal cavity is not opened. The two vulsellum forceps have meanwhile been removed, and two stout sutures are introduced to steady the uterus, one on each side of the anterior incision. An incision is also made in the posterior vaginal wall about 3 cm. from the external os, and Douglas' cul-de-sac is peeled from the posterior wall of the lower uterine segment without opening the peritoneal cavity. The cervix is then incised posteriorly, from the external os, usually about 4 cm. in length. The membranes will then be seen to protrude, a foot is grasped, version is performed, and the child is extracted. One may also apply forceps and deliver in that manner, but version is preferred because the extraction is more easily accomplished. After delivery the cord is cut short and a large pad is introduced to keep the field clear for repairing the uterine wall. The placenta is expressed or manually removed. This latter method of procedure is recommended if there is much bleeding. The incisions in the uterus should be closed by interrupted sutures, and the vaginal wall closed by continuous sutures.

Mrs. D. aged 36, last menstruation 7½ months ago. She was subjected to operation in one of the large hospitals in this city some time ago, which resulted in cicatricial stenosis of the cervix. The patient had been in labor two days, with a slight flow of blood, and although there was intense pain there was no progress. The examination revealed the uterus four fingers above the umbilicus; the head was engaged in the pelvic brim, the small parts could be felt to the right above, but no fetal heart sounds could be heard. Internal examination revealed a broad, smooth surface with no semblance of cervix. All landmarks were destroyed such as pitting and depressions, which we generally feel when examining for the os.

The patient's temperature was 104°, pulse 130, and as she was evidently suffering from septic absorption and in a serious condition it was decided to empty the uterus at once. Vaginal cesarean section was selected, as the abdominal operation would expose the peritoneum to infection, and by the vaginal route drainage could be more easily carried out.

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*Read at a meeting of the East Side Physicians' Association, New York City, October 18, 1904.

The patient was anesthetized and disinfected. As all anatomical relations were destroyed, and there was great danger of injuring the bladder, a small tenaculum was introduced and the dissection was very carefully made; the peritoneum was reflected off a larger area than usual on account of the amputation of the cervix. The peritoneum was stripped off the bladder anteriorly. The uterus and Douglas' pouch were separated posteriorly in like manner. The uterus was incised anteriorly and posteriorly in the median line from the os externum to the peritoneal reflection, then the membranes were ruptured, and the child, which was dead, was delivered with the forceps. The placenta was expressed, and the uterus irrigated with salt solution, then packed with a 5 per cent. iodoform gauze, which was changed from time to time to prevent a recurrence of the stenosis. The patient's temperature dropped to 103° and the pulse to 116 in four hours, and they continued to drop so that after three days she had normal temperature and pulse. Convalescence was rapid and patient was out of bed in two weeks.

The indications for vaginal cesarean section are:

(1) Abnormalities of the cervix uteri as carcinoma, myoma, rigidity, and stenosis.

(2) Conditions in which the mother is in extremis.

(3) Conditions in which the mother has disease serious to life, as lung, heart, or kidney affections.

(4) Accidental hemorrhage with closed cervix.

The third indication is operative only when the cervix is closed and not dilatable, and we do not wish the patient to suffer from a long labor when there are severe heart or kidney lesions.

Vaginal cesarean section has a wide scope in cases of eclampsia, when the patient is water-logged, when she suffers from persistent headache, nausea, vomiting, rapid heart action, and amaurosis, and when there is no doubt that the uterus can be emptied in from 10 to 20 minutes, thereby saving great strain on organs already diseased and crippled. In cases of heart lesions, we can spare the patient many hours' suffering by performing vaginal cesarean section.

In cases of placenta prævia with rigidity, the supravaginal portion of the cervix not being dilatable, the operation should be done, as many a life has been sacrificed by temporizing with tampons and version. Time and experience will undoubtedly teach us many more indications for the performance of this operation, and I hope by bringing this method of procedure before your notice to induce its adoption for the saving of live and shortening the suffering of many cases that come under your care.

Sudden and Unexpected Death in Children, from a Surgical Point of View.—A. H. Tubby discusses this subject from the standpoint of "unexpectedly sudden death," first speaking of circulatory conditions. Hemophilia neonatorum is met with in the earliest days of life. Umbilical hemorrhage may be due to syphilis, pyemia, or lesions of the bile-ducts and liver. Some infants succumb shortly after birth to persistent hemorrhage from the umbilicus and intestinal canal. True hemophilia, so often noted in children, often gives rise to fatal consequences. Even a slight blow on the head has been the cause of a hemorrhage on the surface of the brain, or into the substance of the medulla, which is necessarily fatal. Death may be due to an ulcer in the stomach or duodenum, or to tuberculous ulcers in the jejunum. A possible cause of hemorrhage from the genital organs in newly-born children is the presence of a calculus. In older children a profuse flow of blood is sometimes due to sloughing of the pharynx and tonsils, a complication of scarlet fever of a very severe type. Noma may end in the same way. Fatal hemorrhage in connection with and after operation is preventable, and if it occurs must cause the surgeon keen anguish. Thrombosis and embolism are responsible for some tragic deaths. Especially is this true in relation to the injection of nævi with perchloride of iron and other substances, or during electrolysis. Many cases which are put down to shock should be more rightly ascribed to hemorrhage. But under shock should be considered cold, exposure, undue delay in operating, emptying cavities filled with fluid too rapidly, and washing out cavities. The effects of cold and exposure are especially seen in operations for intussusception, intestinal obstruction, and laminectomy. In emptying too rapidly the pleural cavity filled with fluid or pus, the shock is often profound. The writer believes that it is better to abstain from washing out the pleural cavity. Under toxic conditions, he considers chemical poisons and irritants, and toxic poisons. Of the former, carbolic acid and iodoform are in the most common use. In certain cases of appendicitis, sudden death sometimes occurs which is difficult to explain. In some of these cases it seems that a particularly active poison, with a cumulative effect, develops, and kills the patient. When the writer suspects such a condition, he freely plies the patient with strychnine, digitalis, and alcohol. Uremic poisoning is the cause of unexpected death after operations quite safe in themselves. Under "infective conditions" are grouped: tubercle, tetanus, acute edema of the tissues of the neck, acute malignant edema, and pyemia. There are records of cases in which operation has been done for the removal of a tuberculous lesion, and which was followed within two or three days by acute tuberculosis or tuberculous meningitis. The writer believes that this untoward event is most likely to occur in operations on bone and the scraping of tuberculous glands. Tetanus of newly-born children, due to lack of cleanliness in dressing the cord, is now almost a dream of the past. Pyemia in children is often rapidly and unusually fatal. Various mechanical conditions may be the cause of sudden death. The immediate results of the entrance of foreign bodies into the air-passages depend upon the size and nature of the foreign body. Papillomata of the larynx may attain such a size as to cause sudden asphyxia. Sometimes serious difficulty occurs in inducing children to do without the tracheotomy tube. In certain cases the presence of a large thyroid and persistent thymus lead to fatal results; so does the displacement of a cervical vertebra. The escape of cerebrospinal fluid during certain operations is sometimes followed by death. The writer concludes by suggesting certain rare and unusual causes of sudden death. One of these is the sucking of air into veins in operation upon the neck for the removal of tuberculous glands. Reference is also made to the dangers of acute peritonitis arising from an inflammation of a retained testis in the abdomen, the presence of salpingitis, associated with gonorrhea, in young children, and the sudden inflammation, suppuration, and bursting of a dermoid cyst.—*The British Journal of Children's Diseases.*

The Bacteriology of the Egyptian Deserts.—Engel made a series of determinations on various bacteriological questions in the neighborhood of Heluan. It was found that tubercle bacilli in sputum were killed on six hours' exposure to the sunlight, typhoid bacilli in one and a half hours, and staphylococci in two and a half hours. The average number of germs in 100 liters of air was only 28, a proportion comparable only to that of the polar regions and on the high seas. None of the germs were pathogenic to animals, and those cultivated from the soil were also harmless. The author considers the general meteorological and other conditions of the Egyptian deserts especially suitable for rheumatics, nephritics and gouty and tuberculous patients.—*Zeitschrift für klinische Medizin.*

MEDICAL RECORD.

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THE TOXIC EFFECTS OF FORMALDEHYD.

ALTHOUGH formaldehyd is not largely used medicinally, being employed principally as a disinfectant and preservative, it is nevertheless important to appreciate that whether inhaled, ingested by the stomach, or injected beneath the skin or into the blood vessels, the agent is capable of exerting distinctly injurious effects and causing irritative and even inflammatory and degenerative changes in various tissues of the body. This knowledge is particularly significant as supporting the position taken by those who deprecate the use for purposes of food-preservation of agents of the class to which formaldehyd belongs. With the view of reaching a definitive opinion in the matter, Dr. Martin H. Fischer (*Journal of Experimental Medicine,* February, 1905) has made a series of experimental observations, as a result of which he found that the inhalation of formaldehyd vapor, even in small quantities, is followed by the development of bronchitis and pneumonia, the latter being due to the inhalation, and not to secondary infection. Formalin—40 per cent. formaldehyd—belongs to that rare group of poisons that, when swallowed, are capable of causing sudden death. The introduction of formalin into the stomach is followed by the development of gastritis varying greatly in character. The duodenum and the upper portion of the jejunum may also be involved in the inflammatory process. Intraperitoneal injections of formalin cause peritonitis of fibrinohemorrhagic character. A definite reaction takes place when a dilution as high as 1 to 1,000 is employed.

Formalin exerts a destructive action upon all of the viscera contained in the peritoneal cavity—pancreas, liver, peritoneal fat, oviducts, etc.—with which it comes in contact, and it excites inflammation of these viscera. In guinea-pigs the lethal dose of formalin injected into the peritoneum is approximately 2 c.c. of a 1 to 1,000 solution for every gram of body weight. Injection of formalin into the lungs is followed by pneumonia and bronchitis. The inflammation that develops in the sequence of subcutaneous injection of formalin is characterized by intense exudation. Injection of formalin into the muscles causes myositis; into the anterior chamber of the eye, the accumulation of an exudate containing leucocytes and fibrin. Instillation of formalin into the conjunctival sac is followed by iritis, the intensity of which may be sufficient to cause destruction of the eye.

However introduced into the body, formalin is absorbed, and is then capable of inducing lesions in the parenchymatous organs. The changes in the liver following the absorption of formalin consist in a mild or severe degree of cloudy swelling, accompanied by vacuolation of the protoplasm, alterations in the nuclei, leucocytic infiltration, and, possibly, focal necrosis. Similar changes follow the inhalation of formaldehyd. Injection of formalin or inhalation of the vapors of formaldehyd causes cloudy swelling of the parenchyma of the kidney, possibly with focal necrosis. Pneumonia and bronchitis develop in all animals after injection of formalin.

The leucocytic infiltration following the introduction of formalin into an organ has the following general characteristics: Eosinophiles appear first, next other polynuclear leucocytes, finally large and small leucocytes. Similar phenomena occur in the trachea, bronchi, and lungs of animals subjected to inhalations of formaldehyd. Formalin exercises, directly or indirectly, a chemotactic influence upon the leucocytes. The tissues that are not infiltrated with leucocytes following injection of formalin are those that have been so injured by the chemical that no inflammatory reaction can take place. Animals subjected to chronic poisoning as a result of intraperitoneal injection develop fibrinous peritonitis, in conjunction with marked eosinophilia. The changes in the kidneys and the liver consist of cloudy swelling, fatty degeneration, focal necrosis, and leucocytic infiltration.

RECENT INVESTIGATIONS REGARDING TUBERCULOSIS.

THE first annual report of the Henry Phipps Institute, which has been recently issued, gives some interesting and valuable facts concerning tuberculosis.

Nearly one-half of all the patients registered at the Phipps Institute Hospital were foreign born. The foreign-born males exceeded the foreign-born females by about 19 per cent. More than one-half of the patients were between twenty and forty years of age. As to their social condition, two facts stand out conspicuously, one the number of married people, and the other the number of widowed. Forty per cent. of those who applied for assistance were married, and nearly nine per cent. were widowed.

Respecting the occupations of applicants, some very interesting points present themselves. The occupation from which the highest number came for treatment to the Phipps Institute during the year covered by the report was housework. The total number of women applicants was 851, and the number of houseworkers was 360. The other female occupations most numerously represented were, in respective order, factory hands, 47; weavers, 32; seamstresses, 33; laundry workers, 14; shop employees, 12, and nurses, 7. The male occupation at the head of the list is that of laborer, with 101. Tailors numbered 59; clerks, 43; cigarmakers, 30; salesmen, 13; printers, 14, and shoemakers, 12.

Another group is that in which alcohol plays a part. To this list belongs the occupation of driver, with 42; that of waiter, with 21; bartender, with 14; plumber, with 10, and cook, with 10. According to the figures in the report, however, the percentage of alcoholics among consumptives and among the relatives of consumptives does not seem to differ very much from that of non-consumptives and relatives of non-consumptives. Another group is that in which occupation exposes to inhalation of irritating substances given off in manufacturing processes. To this group belong the occupation of mill-hand, with 64; machinist, with 35; weaver, with 32; ironworker, with 21; upholsterer, with 9.

With regard to those diseases generally termed predisposing to consumption, figures would seem to indicate that pleurisy most frequently precedes tuberculosis, pneumonia next, and typhoid fever last. So far as could be determined, exposure to contagion is, perhaps, the most prominent factor in the spread of tuberculosis. That is to say, the home plays an important part in the origin and dissemination of consumption.

The efforts made to determine the part of the lungs in which the disease began met with the following results: The side which had the most extensive lesion was recorded as the side on which the disease began. Although the records on this point cannot be regarded as wholly reliable, yet they strongly support the universally accepted view that the right lung is most frequently the first affected. A large percentage of the patients gave a history of hemoptysis, explained by the fact that the patients were drawn from the working classes, and consequently were liable to overexertion.

Regarding the duration of the disease, 1,460 cases were investigated, of which number 656 had suffered for less than two years, 485 for from two to five years, 171 for from five to ten years, and 148 for over ten years.

The results of treatment were as follows: Number of cases improved, 537; number of cases unimproved, 583; number of cases results not recorded, 884; number of cases terminated in death, 153.

One of the chief objects of the Institute is the prevention of tuberculosis, to which end all the dispensary patients are taught and drilled in preventive measures, and at regular intervals a patient is visited in his home by a pupil nurse and is given instruction and assistance as he may need for prevention of the spread of the disease. The removal of patients to the hospital from overcrowded, poverty-stricken homes, tends to prevent the spread of the disease, for such individuals are, under the conditions, active centers of infection.

Scientific research is one of the purposes of the Institute, and all means pointing to the study of tuberculosis are being adopted, and will, in the course of time, be carried out. The educational work of the Institute is also a prominent feature, and at the commencement of its first year an international lecture course was arranged. These lectures are published as a part of the first report. The lecturers were Drs. E. L. Trudeau of Saranac; Wm. Osler of Baltimore; G. Simms Woodhead of Cambridge, England; Hermann M. Biggs of New York; and Edoardo Maragliano of Italy, the latter represented by proxy.

The opening of the Phipps Institute was an event of the first importance, and its beginning has been auspicious. Pulmonary tuberculosis must be fought in the poor parts of large cities, and to carry on the warfare with any hope of success, the home and dispensary treatment must be initiated. This is the first and most essential step. The Phipps Institute has shown the way in this country, and it is not too much to say that every city of any size in this country should have one or more institutions of a similar character.

INSPECTING THE NEIGHBOR'S BACK YARD.

Every once in a while, when copy runs short, news is scarce, or some friend of the editor has an axe to grind or a sewer to dig, a newspaper sends a commission to some other city or country to look into its sanitary shortcomings and report on the same. These smelling committees are seldom, except by the merest accident, composed of men who know anything of the subjects of their investigation —but so much the better, for they are then without prejudice and their surprise and indignation at finding the conditions not perfect are not lessened by the knowledge that they never can be absolutely perfect, or by an acquaintance with similar or worse conditions at home.

One of these commissions—a committee of one, we believe—has for some months been taking notes of matters in this country for the edification of the readers of one of our English contemporaries. The commission—or, rather, commissioner—went first to St. Louis and disapproved of the World's Fair that happened to be going on at the time, and then wandered up to Chicago, which he didn't like at all. He was frightened the evening of his arrival by the dark streets and the tales he had heard of the hold-ups which, he was told, constituted one of the leading industries of that city; and the next day, before recovering his equanimity, he was taken to see the pride of the town—the stock yards. He didn't like them any better than he did the Pike at St. Louis, and sent a fearsome account of his visit to the journal which employed him. He says the health of the world is at the mercy of the unsanitary conditions prevailing there, and cries out for the erection of municipal slaughter houses to replace those owned and run by the trust. His state of mind is shown by the following passages selected from among many of similar tenor: "The whole nation should rise and insist upon the sweeping out of those truly Augean stables known as the Chicago stock yards." "The conditions of the Chicago packing industry affect the health of the entire world." "The conditions prevailing within this giant industry are almost inconceivable." "The larger death rate prevailing within the stock yards district is due to the conditions of employment and not to the dwellings of the workers." And so on.

We will leave the refutation of these denunciatory charges to the health authorities of Chicago, if they think it worth while, or to the packers. We have no doubt the Chicago stock yards are not as clean as a church or a theater, but what the commissioner expected to accomplish by such sensational and hysterical overstatements we fail to see. He probably had to justify his mission.

A somewhat similar comedy is being enacted in Cuba by some medical men—we would not dare call them sanitarians—sent there by one of the daily papers of this city. This commission is not unanimous as to the presence of yellow fever at Santiago, but one of the members is unanimous with himself in the belief that Havana ought to be a plague spot instead of a city with a death-rate that should put to shame many of the most flourishing cities of the North. "Grave peril to life in Havana's foul sanitary condition," "How a fair surface covers a multitude of diseases," "Reeks with foul odors, and its whole subsoil is a feeding place for deadly germs," "The beautiful seashore that is a breeding place for death," etc. *ad nauseam* are the headlines that epitomize the sensational and absurd letters of this "sanitary commissioner." A little over two months ago the annual meeting of the American Public Health Association, a society of real sanitarians of Canada, Mexico, and the United States, was held in this "pest hole" with a phenomenally low death rate. The meeting was held there in response to the invitation of Dr. Carlos Finlay, Dr. Juán Guitéras, and other Cuban sanitary authorities, who did not shrink from exposing "Havana's foul sanitary condition" to these experts. That the conditions there were not perfect was evident to the visitors, but that a marvellous change had been effected in the few years since the island had been rescued from its age-long period of misrule was freely acknowledged by all. This was officially recognized in the following resolution: "The Association congratulates the civic authorities, the physicians, and the people of Havana in general upon the gratifying improvement made in its sanitary condition, and especially upon their work in freeing their beautiful city from any danger from that once dreaded scourge, yellow fever, by their persistent and skillful campaign against the yellow fever mosquito. We are especially gratified also that they do not propose to rest contented with what has been done, great as it is, but have already planned other sanitary improvements of great importance, including an efficient system of sewerage, which we wish them Godspeed in carrying out at the earliest practicable moment." This is the deliberate and sober expression of opinion of a body composed of practical, up-to-date sanitarians, the leaders in this science of North America, and it is a sufficient refutation of the sensational report of a "sanitary commissioner," whose horror may be genuine, but whose sanitary views are of the last century. The health of Havana is in the keeping of practical and experienced officials, who are hampered in their work—as are sanitary authorities everywhere—by the meagerness of the appropriations allowed by unsympathetic and ignorant politicians, but who have accomplished and are daily accomplishing wonders. Let the cities of this country, north and south, keep —or, rather, make—themselves clean, and we shall have nothing to fear from Havana so long as such men as Finlay and Guitéras and their efficient aids are there to protect us.

NEW YORK'S DISPENSARY SYSTEM.

ADVANCE sheets from the annual report of the Committee on Dispensaries of the State Board of Charities have just been received. The report contains matter of more than ordinary interest, when the fact is taken into consideration that the work of these dispensaries is more extensively carried on in this State than in any other part of the country, and that the dispensary system is more highly organized and developed here than in any other State. During the past year the Inspector of Dispensaries has made a special investigation as to the extent of compliance with the rules of the Board adopted pursuant to Chapter 368 of the laws of 1899, affecting the management of all licensed dispensaries. The result of this investigation goes to show that, as regards 24 of the 31 requirements of the dispensary rules, compliance is practically complete; that in four of those provisions compliance is fairly good, and that in three matters, viz., those requiring an investigation to be made as to the ability of doubtful applicants to pay for their treatment, the filing of results of these investigations, and the making of a minute, showing observance of the ordinances and orders of the Board of Health, compliance is somewhat lax. Almost all of the dispensaries seemed to be well managed. In only 34 of the 119 dispensaries examined was the work reported as being done superficially. Discrimination is exercised, more or less thoroughly, with regard to the admission of well-to-do applicants in all the dispensaries. In all but two of these institutions a matron is employed, while cleanliness and order are maintained in all but four. In only three dispensaries is the apothecary unlicensed or not a medical graduate, and the local ordinances of the Board of Health are strictly complied with. The report notes as an interesting fact that the facilities of but 28 dispensaries are used for the purpose of giving medical instruction, and in none of these is the treatment given the patient conditional upon his willingness to submit to an examination before a class. On the whole, it would appear that the dispensaries of New York State are in a satisfactory condition, considered from all standpoints.

ARMY AMBULANCES.

SIR FREDERICK TREVES in his testimony given before the British Royal Commission on the Boer war, especially condemned the English army ambulance. He went so far as to say that an English ambulance is hardly fit to transport the sick, for it is almost impossible for a well man to sit in it when it is moving rapidly. If one wants a wagon that can be driven at a trot over a series of walls, or practically over churchyards, and that will come out unbroken, the English ambulance will do it, but it is a rough affair. Major T. P. Jones, R. A. M. C., writing in the *Journal* of the corps for February, says, on the other hand, that the ambulance wagons used in the British army are most useful vehicles and well adapted for their purpose. Most writers on the subject, however, agree with Treves, and the objection that in these wagons comfort has been sacrificed to strength is considered valid. The American army ambulance cart, so well described by Munson in his work on "Military Hygiene," is undoubtedly the best in the world. It is light, strong and comfortable. Strength is, of course, an essential feature in such vehicles, but it is by no means the only essential feature. Of what practical use is an ambulance, which, although it does not itself break, so jolts and shakes its unfortunate passengers that it is death or loss of limb to those seriously wounded? It would undoubtedly be a wise step on the part of the British war authorities if they were to adopt the model of the American army ambulance.

SOMETHING ACCOMPLISHED AFTER FORTY.

IN his now celebrated valedictory address, in the section dealing with "the comparative uselessness of men above forty years of age," Osler said: "Take the sum of human achievement in action, in science, in art, in literature—subtract the work of the men above forty, and, while we should miss great treasures, even priceless treasures, we would practically be where we are to-day." Six years ago, when the late Major Walter Reed began the experiments by which he demonstrated to the satisfaction of the scientific world the correctness of Finlay's theory regarding the rôle of the mosquito in the propagation of yellow fever, he was forty-eight years old. Five years ago, when Major William C. Gorgas, acting upon this theory, drove yellow fever from Havana and freed the Southern States from its menace, he was forty-six years old. Without the achievement of these two "comparatively useless" men, would we practically be where we are to-day?

News of the Week.

New Requirements for Degrees at Columbia.—A most radical change in the programme of studies leading to the degrees of A.B. and B.S., to take effect July 1 of this year, has been announced by the secretary of Columbia University. Candidates for the degree of bachelor of science will not be required to offer any ancient language at entrance or to pursue the study of any ancient language in college. The effect of this step will be that men who wish to enter the school of applied science, law, or medicine may get both a college degree and a professional degree in six years. The standard of attainment of the degrees of A.B. and B.S. will not be fixed in terms of years of college residence, but in terms of work accomplished. A total number of 124 points—a point being given for the satisfactory completion of work requiring attendance of one hour a week for one half-year—will be the requisite for graduation. Students will be admitted to the freshman class hereafter in February as well as September. When 72 points of the 124 required for a scholastic degree have been won, students may under certain restrictions enter on the work of the School of Applied Science, the College of Physicians and Surgeons, the Teachers' College, or the School of Fine Arts, and receive the scholastic degree on completion of two years' work of the professional course.

Society of Medical Inspectors.—A society for the study and discussion of problems in hygiene and public health was organized by the medical inspectors of the Department of Health of the City of New York, at a meeting held at the Academy of Medicine on March 3, 1905. Inspectors in the various divisions of the department and in the various boroughs are eligible to membership in the new society, which will hold monthly meetings at which papers will be read and discussed by members, and addresses delivered by the higher officers of the department and other specially invited sanitarians of repute. Good fellowship will be promoted by means of annual dinners, etc. At the first meeting, which was well attended, Dr. Edward M. Thompson, Chairman of the Committee on Organization, presided. A constitution was adopted and the following were elected officers for the ensuing year: *President,* Dr. Augustus C. McGuire; *Vice-President,* Dr. Otto Jahn; *Secretary,* Dr. Edward M. Thompson; *Treasurer,* Dr. Leopold Marcus; *Executive Committee*: Drs. Joseph Baum (Chairman), Helen Knight, Samuel A. Buchenholz, Thomas A. Neafsey, and DeSantos Saxe.

Bills of Medical Interest Introduced in the Illinois Legislature.—Senate Bill No. 171, revising the present medical practice act, and providing for the regulation of regular, homeopathic, eclectic, physiomedical, and osteopathic practice, is being considered by the Committee on License and Miscellany. Senate Bill No. 225, for an act to establish a State Board of Examiners of Registered Nurses, and Senate Bill 226, for an act to regulate the practice of dental surgery, have been approved by the committees to which they were referred. A bill providing for the appointment on the State Board of Health of two regulars, one homeopathic, one eclectic, one physiomedical, and one osteopathic member, has been favorably reported on by the Committee on Judiciary Department and Practice. A bill has been introduced by a member of the Legislature, making it the duty of the State Board of Health to see that diphtheria antitoxin be kept in each county seat in the State for sale to physicians, and that supplies be furnished to the poor free of charge on the order of the overseer of the poor. This bill has received the endorsement of the State Board of Health.

The Plague.—In India during the week ending March 4, there were 34,000 deaths from bubonic plague; in 1903 the mortality from the disease was 850,000, and since the beginning of the present outbreak 3,000,000 persons have died from this cause. The infection recently spread to Burma, where it is making rapid strides. This season of the year always favors its spread. The Indian Government is making every effort to eradicate it, burning whole sections of towns and segregating the inhabitants. But, owing to the climate and the unsanitary condition of the outlying districts and native sections of the towns, it is difficult to cope with the epidemic, which breaks out continually at fresh points. The deaths are said to average 90 per cent. of those infected. In South America, also, the disease is reported to be increasing, a true epidemic having raged for some time in Pisagua, Chile. A recent telegram to *The Herald* says that, according to the Health Board reports, up to March 3 there have been 103 fatal cases of plague in that town. There is no serum, either curative or prophylactic, to be had, and no disinfectants, and the situation is regarded as extremely critical. Not more than five hundred inhabitants remain in the city. Twelve new cases were reported on March 10, of which five were fatal. There are 136 patients in the Lazaretto. Pisagua now has only one doctor attending the patients, two others being ill.

Cancer Views.—At a recent meeting of the Berliner medizinische Gesellschaft an animated discussion on the nature of cancer took place between von Leyden on one side and Orth and von Hansmann on the other. Leyden held that the neoplasms were of parasitic origin and claimed that this had been absolutely demonstrated. Orth and Hansmann, on the other hand, denied with equal positiveness that cancer was either parasitic or contagious. They further held that it occurred with no greater frequency now than in former years, the seeming increase in the number of cases being due simply to the fact that the disease is more easily recognized now. The same difference of opinion exists in this country between the Boston and the Buffalo investigators.

The Surgeon Lost His Glasses.—The Paris correspondent of *The Herald* says that an American woman was recently operated upon in Paris with startling results. She underwent a laparotomy in America, but her health was not improved and she was operated on a second time in Germany. Again she received little or no benefit, and finally she had an operation in Paris, where the surgon took out of the abdominal cavity a pair of gold-rimmed pince-nez. The patient has now recovered her health, and has instituted an investigation to determine whether the glasses should be returned to the American or the German surgeon. The German surgeon is in an embarrassing position in any case, for either he left the glasses in the abdomen or he failed to find them when he operated.

Street Cars and the Health Board in Cleveland.—Dr. Friedrich of the Health Department of Cleveland recently started a crusade against dirty street cars, and his deputies are busy inspecting the sanitary condition of the cars on the several lines. The health officer ordered that the cars be scrubbed at certain times and a standard of cleanliness necessary to health maintained. One day last week one of the lines was tied up for two hours because a motorman and conductor attempted to take out a street car that did not meet the standard of cleanliness which the city health officer is putting in force. It was stopped by agents of the board. The Health Board is now considering an ordinance to limit the number of passengers that each car shall be permitted to carry.

Dayton, Ohio, Health Report.—The report of the Health Department for 1904 is as follows: Total number of births, 2,012; total number of deaths, 1,308, the death rate being thirteen to the thousand of the population. The following were the contagious diseases reported to the Board: Smallpox, 176 cases, 22 deaths; measles, 278 cases, 1 death; scarlet fever, 64 cases, 3 deaths; diphtheria, 54 cases, 5 deaths; chickenpox, 49 cases, no deaths; typhoid fever, 27 cases, 17 deaths; tuberculosis, 176 deaths. The smallpox cases were unusually severe and death-rate high.

Precautions Against Yellow Fever on the Isthmus.—Gen. Davis, Governor of the Panama Canal zone, has notified the Secretary of War that he can dispense with nearly all of the marines on the isthmus, on account of the fear of an epidemic of yellow fever in the locality where the marines are stationed. The Secretary of the Navy has been called upon to order all of the marines North, except about one hundred. They will probably be sent to Guantanamo.

Cincinnati Academy of Medicine.—At a regular meeting on March 6, the following officers were elected for the ensuing year: *President,* Dr. Magnus Tate, Covington; *Vice-presidents,* Drs. Robert Carothers and Alfred Gaither; *Secretary,* Dr. Stephen Cone; *Treasurer,* Dr. A. G. Drury; *Censor,* Dr. E. G. Zinke; *Trustees,* Drs. Dandridge, Heady, and Isham. The installation of the new officers took place on the evening of March 13.

Tri-State Medical Association.—At the seventh annual session of the Tri-State Medical Association of the Carolinas and Virginia, held at Greensboro, N. C., on February 28, the following officers were elected: *President,* Dr. Hubert A. Royster of Raleigh, N. C.; *Vice-presidents,* Drs. Hugh M. Taylor of Richmond, for Virginia, C. J. W. Jervey of Greenville, for South Carolina, Albert Anderson of Wilson, for North Carolina; *Secreatry,* Dr. Rolfe E. Hughes of Laurens, S. C.; *Members of the Executive Council,* Drs. W. W. McKenzie of Salisbury, N. C., O. D. Wilson of Spartansburg, S. C., and G. D. Upsher of Richmond, Va. The next annual meeting will be held at White Stone Lithia Springs, S. C.

Infectious Disease Inquiry.—An appropriation of $35,000 has been made by the Board of Aldermen to permit Health Commissioner Darlington to make a census and inspection of the congested distrists for the purpose of obtaining data to aid in decreasing infectious diseases in tenements.

Incorporation of the American Medical Association.—The bill introduced in the late Congress to secure national incorporation of the American Medical Association, after being variously and unsatisfactorily amended in both the Senate and the House judiciary committees, failed of passage in any shape, owing to the press of what was regarded by Congress as more important business.

Dr. Wm. Muhlberg, professor of physiology at the Medical College of Ohio, has resigned because of ill health, and his resignation has been accepted.

Obituary Notes.—Dr. JAMES A. MOORE of New Haven died on March 11 of cerebrospinal meningitis. He was a graduate of the Yale Medical School in the class of 1894.

Dr. ALBERT B. PRESCOTT, the oldest professor in the University of Michigan, died on February 25 after a prolonged illness. He was born in New York State in 1832, and had been a member of the faculty of the University for forty years. He was the author of several standard works on organic chemistry and chemical analysis.

Dr. MICHAEL PETERS died at Owasso, Mich., on February 25, at the age of 35 years. He was a native of Canada, and was graduated from the Detroit Medical College in 1894.

Dr. GEORGE R. METCALF of St. Paul, Minn., died suddenly at Orvieto, Italy, on March 1. He was 57 years old, and was born at Brattleboro, Vt. He was graduated from Amherst College and then entered the Medical Department at Columbia University, graduating in 1874. Dr. Metcalf had practiced for many years in New York before going to St. Paul, twenty-four years ago.

Dr. HENRY F. BARNES died in Indianapolis on March 2 from the result of injuries received in a fall from a street car. He was born in Orleans, Ind., and was graduated from the Jefferson Medical College in 1854. From 1856 to 1862 he was assistant superintendent of the Indiana Central Hospital for the Insane. He served for a time as surgeon of volunteers during the Civil War, and for five years after the close of the war practised medicine in Louisville, Ky., subsequently moving to Indianapolis.

Dr. NORBORNE C. LEWIS of Lawrenceville, Va., died March 2 after a long illness, at the age of 56 years. He was a graduate of the New York University Medical School in the class of 1869.

Dr. J. AUSTIN MILLER, formerly of Oakland, Cal., died at Houston, Tex., on February 24, at the age of 47 years. He was a graduate of the Louisville, Ky., School of Medicine in the class of 1885.

Dr. SAMUEL MCGILL of Schuyler, Va., died on March 2 of acute nephritis. He was a graduate of the Medical Department of the University of Virginia in the class of 1864.

Dr. A. B. CRAIG died at Philadelphia on March 15 from epidemic cerebrospinal fever acquired through attendance upon a patient suffering from the same disease. Dr. Craig was 33 years old and was a graduate of the Jefferson Medical College.

Dr. THOMAS E. EDWARDS of Memphis died at Union City, Tenn., on February 27, after a prolonged illness. He was born near Union City, and was a graduate of the Medical Department of Vanderbilt University, Nashville, in 1882, and of the Medical Department of the University of Tennessee in 1883.

Dr. JAMES N. CASSIDY died at his home in Sharon Center, O., on March 3, at the age of 60 years. He was a graduate of the Medical Department of the University of Wooster, Cleveland, in the class of 1869.

Dr. JOSEPH SCHMITZ of this city died on March 8 at the age of 53 years. He was a graduate of the University of Würzburg in 1878.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

DR. KLEIN'S REPORT ON TYPHOID AND OYSTERS—HOSPITALS AND SCHOOLS, REPORT OF COMMITTEE—MITRAL STENOSIS AND MURMURS—ACCESSORY THYROID IN MOUTH—URETERO-LITHOTOMY—ANURIA FROM CALCULI—MIDWIVES BOARD—AFTER-CARE ASSOCIATION—UNIVERSITY—THE LATE DR. THOMSON OF GLASGOW.

LONDON, February 24, 1905.

A PRELIMINARY report respecting oysters and typhoid was issued yesterday, giving the results of experiments undertaken by Dr. Klein at the request of the Fishmongers' Company.

Six series of experiments were carried out to determine the behavior of the bacillus of typhoid in oysters, cockles, and mussels, when they were directly infected with a definite quantity of the microbe; or when they were kept 24 hours in sea water which had been previously infected with a definite quantity. Professor Klein concludes that oysters readily take up into their interior the bacillus, whether introduced into the shell or the surrounding sea water; those clean at starting rapidly clear themselves from the microbe if kept in clean sea water frequently changed. Kept out of water they clear themselves to a less extent and more slowly. Oysters from a polluted locality clear themselves much more slowly, even if kept in clean water, and much more slowly still if kept out of water. Prof. Klein considers that the process of cleaning cannot be merely passing out the bacillus, but must be largely due to a power in the oyster to devitalise the microbe. This was shown by experiments with those kept out of water, and is evident also from the rapidity with which the microbe disappeared from those kept in clean water compared with the small number found at the same time in the surrounding water. Infected oysters kept out of water until practically clean, if subjected to reinfection were less able to deal with the microbe, even if kept in clean water, than others similarly treated but kept in clean water all along. The *Bacillus coli* was found to be rapidly destroyed by the oyster; so that when present it must be derived from the surroundings. Oysters give no sign to the eye of being infected, except those from a polluted locality, which have been 11 days out of water.

Cockles readily embody the bacillus, the number trebling after being removed 5 days from infected water and kept in clean sand. Mussels appear to embody the microbe to a greater extent than oysters and cockles.

The report of the committee to inquire into the relations of hospitals and medical schools on behalf of the Prince of Wales as President of the King's Fund was issued last Saturday. It is just such a document as was to be expected. It will certainly fail to satisfy the antivivisection agitators, while it vindicates the hospitals from the most important charges made against them. As to the first question submitted, whether money given for the sick was given directly or indirectly towards the maintainance of education, the committee say it is impossible to answer, as in several cases the hospitals and schools were founded together, and both were the object of the founders' bounty, while in other cases the hospital was founded by the school; school buildings were provided by money subscribed for that purpose; in other cases sums had been contributed to hospitals after their foundation, part of which, to the knowledge of the donors, was applied to the school. No money given to King's College or University College hospitals in 1903 went to the schools. In Guys and the Royal Free hospitals the committee doubt whether the schools can be considered to derive benefit. The other hospitals made contributions either directly or indirectly. As to the second question, whether the hospitals receive any return for such benefits, the committee find that the body of students and practitioners educated in a hospital diffuses a wide interest in it, and tends to aid its finances, that the presence of the students watching their teacher keeps him on the alert, that the opportunity for teaching attracts the gratuitous services of the most eminent men in the profession, and the publicity of the work helps to maintain it at a high level.

It was urged before the committee that the great amount of work done by students constituted a pecuniary advantage to the hospitals, but they found expenses at hospitals with schools exceeded those without, on which account they are of opinion that there is no saving from the presence of students, and indeed they suggest that it is questionable whether there is not extravagance in some of the hospitals having schools attached. They do not doubt that a school tends to give the hospital a progressive character, though it also tends to place the administration under the control of the staff, and so to increase expense through the advances of medical and surgical science. No categorical reply is possible to the question whether hospitals receive an equivalent benefit from their schools for contributions made. The committee's conclusion is that the benefits are mutual and may fairly be set off one against the other. Finally the committee state that it is impossible to ascertain the intentions of the original founders, or the exact motives of subsequent donors, and the complexity of the relations between hospitals and schools renders it undesirable, even if possible, to open up their past transactions. But for the future the committee submit that the distinction between hospital and school in every case should be drawn so clearly that the general public may understand it, so that no question may arise as to the destination and application of money contributed, whether by the King's Fund or from any other source.

A case of soft-valve mitral stenosis without a murmur being heard during the two months the patient was in hospital, was reported to the Clinical Society by Dr. Ewart. The heart was shown, enlarged and flabby, the other valves competent. The mitral was orifice-narrowed, but there was hardly any induration. The term "soft-valve stenosis" described well enough a lesion in which the early fibrous changes did not develop into progressive thickening and induration. The action of a soft stenosed valve must differ from that of the rigid stenosis, particularly when, as in this case, the chordæ tendineæ and papillary muscles were free from stiffness, shortening, or fibrosis.

Dr. Seymour Taylor did not think the softness alone would account for absence of murmur, and suggested the absence of the proper auricular driving force. He thought mitral stenosis the most interesting of cardiac diseases. Its frequency, since Gairdner's paper, was generally recognized, but its mode of production was still unsettled. Valvulitis was generally due to rheumatism or chorea before puberty through which the valve did not keep pace in development with the rest of the heart. After puberty the consequence was commonly incompetence, rarely stenosis. Dr. P. Weber mentioned a case of hard stenosis with the ring partly calcified, in which the murmur disappeared for a time before death. Dr. Pasteur asked what change of rhythm or in the character of the first sound was suggestive of stenosis. Dr. W. E. Wynter thought the thinness and softness of the valve partly explained the absence of murmur. He had not met with mitral stenosis under 7, and rarely under 14 years of age. But he agreed that persistent infantile size of the ring gave rise to stenosis. The history of rheumatism was often difficult to obtain; arthritis might be absent in children. Perhaps in Dr. Ewart's case there had been one attack of a slight degree. Dr. Hawkins mentioned a case of sudden death from thrombosis of the abdominal aorta. Mitral stenosis was also found post-mortem, but no murmur had been noticed during a month's treatment in hospital. Dr. F. Taylor (President) agreed that the softness was not enough to account for absence of murmur, and he pointed out that the left auricle did not seem hypertrophied.

At the same meeting Mr. Percy Paton described a case of accessory thyroid in the right submaxillary triangle, which could be felt both inside and outside the mouth. The diagnosis was uncertain, but the patient (a girl of 16) was sure it was growing fast. On removal it was found to be composed of thyroid tissue. Mr. Spencer referred to the work of the late Professor His, and showed an illustration which he thought might explain the presence of thyroid tissue in the position in which Mr. Paton found it. He suggested that it was desirable to know that there was other thyroid tissue in the body before removing it all. Mr. Paton replied that partial removal would probably result in recurrence, and hemorrhage was often profuse from operations on thyroid tissue.

Mr. Betham Robinson then described a case of extra-peritoneal ureterolithotomy in a child of 3. Comparing it with two cases in adults he found the operation easier in the child on account of the small amount of fat in the abdominal wall and sub-peritoneal connective tissue, the shallow pelvis, and the abdominal position of the bladder.

Mr. Drew described a case of anuria from calculus in a boy of 4. Stones at different dates had been removed from the bladder, urethra, left ureter and kidney. Diagnosis was difficult, radiography negative. There were no symptoms referring to the right side, but after death a stone was found blocking the right ureter at its lower end. Mr. Paton mentioned a case of death in which no urinary symptoms had occurred, but a stone was found at the post mortem in one ureter.

The Midwives' Board is beginning to reap some of the seed it has scattered, and is dissatisfied with its crop. Sir Wm. Sinclair, the only member with clear views worthy of a medical man, looks forward to the Board's continuing its present policy until it makes a case for amendment of the act unanswerable.

It may be noted at the same time that the act is producing dissatisfaction among the female population who were declared to be all in favor of it. A cry is raised from rural districts that the new regime is only fit for towns.

It is declared impossible to supply villages and hamlets with registered midwives, and the abolition of the old neighborly help "as old as the villages themselves" and older too, will lead to much distress. Those who have helped their neighbors can easily register, it is said. But the objectors say no, they cannot or will not, and if they did it would only perpetuate under a false pretence the old voluntary system.

The After-care Association for poor persons discharged as recovered from lunatic asylums endeavors to meet their wants as to homes, clothes, and necessities. The annual meeting was held on Wednesday, when it was stated that the income had advanced from £648 to £818, but much more is required, for of the 7,000 persons discharged annually the majority are poor and friendless.

At the annual meeting of members of the University College on Wednesday the resolution for the incorporation of the College with the University of London was agreed to. The Incorporation has now only to run the gauntlet of parliament as an unopposed measure. The new Medical School provided for by Sir D. Currie will be built adjoining the Hospital provided by the late Sir B. Maple.

The Glasgow school has lost an enthusiastic and favorite teacher in Rob. S. Thomson, M.D., F.R.S. Ed., Professor of Medicine in Anderson's College, who has died at the early age of 47. In 1901 the University conferred on him the degree of D. Sc. During about twenty years of his too short career he held a number of appointments and devoted much attention to teaching. He was for many years visiting physician to the Smallpox Hospital, and among numerous contributions to the journals and societies were some on questions connected with that disease.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

NECESSITY OF GREATER HOSPITAL ACCOMMODATIONS—NEW MEDICAL SOCIETIES—NEW METHOD OF CARDIAC PERCUSSION—THE FINSEN TREATMENT OF SYPHILIS—THE FINSEN TREATMENT OF LUPUS.

BERLIN, March, 4, 1905.

At nearly every session of the city council the question of hospital accommodation comes up for discussion. Weyl, the eminent hygienist and also a member of parliament, recently communicated the fact that 220 lodge members who were in need of hospital treatment could not be accommodated in the crowded Berlin hospitals. Kürschner declares that this unfortunate state of affairs will soon be offset by the opening of the great Rudolf-Virchow Krankenhaus, with its 2,000 beds. This present condition is due partly to the decrease in the number of beds at the Charité Hospital. It should be remembered that in such emergencies, when the hospitals are overcrowded, barracks should be held in readiness for patients. I hope soon to have a report to make on measures adopted by our city government on this question.

It becomes more and more difficult to keep in touch with all of the new societies which have a certain relation to medical science. On the sixteenth of February, a society called "Gesellschaft für Medicin, Hygiene, und Medicinalstatistik" was incorporated. This society intends to work on the questions of political economy and medicine. Of the greatest importance are the subjects of workingmen's insurance bills, occupation diseases, alcoholic abuse, care of infants, infectious diseases, municipal sanitation, and the improvement of dwellings. On all of these subjects the results of the investigations of both physicians and political economists are to be collected, the problems being attacked from a purely scientific point of view. This society opened with a roll of ninety distinguished names, which portends a favorable outlook for its usefulness.

A topic of the greatest interest to the general practitioner was treated early in the year by Goldscheider in the "Verein für innere Medicin," under the title "Über Herzpercussion." The speaker has made use of the Röntgen rays according to the method of Moritz. He found the old question as to whether the absolute or relative dullness is better determined by percussion, to be in favor of the relative, which gives the correct limits of the heart. But this must be determined by only very low percussion. The Röntgen rays also reveal the enormous influence of respiration on the position of the heart. Therefore the following directions should be observed. The last cardiac limit in deep inspiration; the right and the upper cardiac limit in deep expiration. The lower part of the right heart and the great vessels must be examined in deep expiration. Turban and Rosenbach as well as Goldscheider find that very low percussion gives the best results. There must be absolute stillness in the examining room and the sound should be heard by the examining ear only. A second factor of great importance is "sagittal percussion," which means that which is practised from before backward. Transverse percussion gives incorrect results. In percussing, the intercostal spaces only must be made use of. The speaker, in concluding, stated that Turban, Rosenbach, Petersen, and others have also accentuated the importance of low percussion, although their opinion has not always been accepted. However, these researches put an end to all opposition, for the Röntgen rays prove that these limits are determined in an exact mathematical manner.

At the "Verein für innere Medicin," which met on the twenty-third, Ziehen read a paper entitled "Ueber psychische Begleitsymptome bei Lues Cerebri." Four kinds of syphilis of the brain are enumerated: 1. Disease of the vessels. 2. Gumma of the brain. 3. Gummatous infiltration of the cerebral membranes with extension to the brain. 4. Dementia paralytica. The speaker confined his attention to the discussion of the first class. He found besides large hemorrhages, perivascular and endovascular alterations. The clinical picture resembles that of dementia paralytica, although the mental activity is not impaired so extensively. The most marked clinical symptoms are the acute onset with deep stupor very similar to that of an infectious disease; when this stupor lasts for more than eight days, syphilis of the brain is suggested; hallucinations of the muscle-sense, the patient believing that he is rolled about and raised in the air, and an acute loss of memory for recent events. The acute cases offer a good prognosis, especially when they have energetic specific treatment. The insanities of chronic syphilis are characterized by poisoning and persecution manias, increased weakness, and irritability. These conditions require the ordinary treatment of nervous diseases and do not yield to treatment by mercury and potassium iodide.

Lesser's paper, read at the medical society on January 11, is of great value on account of the large number of cases of lupus which he has treated by the Finsen method. This treatment is only ten years old, and on account of the fact that lupus is extremely prone to recur, great precaution should be used in publishing results. Of the 800 patients treated by the Finsen method, 40 per cent. to 51 per cent. were cured, 121 remained without recurrences for from two to six years. The cosmetic effect was excellent, corresponding to the elective effect of the light which acts on the tissue of the neoplasm only, and not on the normal tissue. The Finsen method is superior to all others—the sharp spoon, caustics, excision, transplantation, tuberculin and hot air. The limitation of the Finsen treatment is seen in the case of deep lupus ulcers. In the discussion which followed the reading of Lesser's paper, all kinds of treatment were mentioned. Liebrich spoke in favor of the combination of cantharidin and the Finsen light treatment. Holländer emphasized the fact that the affection of the mucosa cannot be influenced by the Finsen rays, and also that in 60 per cent. of all cases the first appearance of the disease is in the nasal cavities. This is the dominion of the surgeon, and the hot-air treatment is indicated. The best results are due to the combination of the Finsen rays and the hot-air treatment. His cured cases have been followed for nine years. Blaschko and Senator spoke of the good results of the tuberculin treatment.

THE JAPANESE HOSPITAL SHIPS.

(From Our Special Correspondent.)

KOBE, JAPAN, January 15, 1905.

In medicine as well as in the other arts and sciences, the Japanese seem to have shown the same ability to appropriate for their own use all those things which have been found to be of service by Europe or America. Among other things may be mentioned the hospital ship, which has been extensively used during the present war. A description of one of these may prove of interest.

The *Kobe Maru*, which is at present anchored in the harbor of Kobe, is a fair type of this class of vessel. On approaching the vessel it is seen that she is painted white, with a broad band of green about two feet wide which extends completely around the hull of the vessel about midway between the rail and the water line. A large Geneva cross is painted on each side of the smokestack. With these characteristic distinguishing marks the vessel should be assured of not being mistaken for a combatant vessel or a merchantman. Arriving on board, it is found that the vessel is a fairly modern steamer of about 3,000 tons, which by a few changes has been converted into a hospital ship. The vessel was formerly in the passenger service of the Nippur Yusen Kaisha Company. The sick are all quartered upon the deck. The privates are placed in suitable sized compartments in bunks, which are three tiers high. The total capacity is 180. For the sick officers the ordinary staterooms are used. The bunks are constructed of iron and furnished with good springs and mattresses.

The amount of air space per capita appears to be inadequate, but this is compensated for in a way by the ordinary ship ventilators. No forced draught or other mechanical means of changing the air is used. Of course, it is proper to take into consideration that the distances to be run are not very great, at most not over three days, and no doubt during the majority of the voyages the weather conditions would be such that the portholes could be kept open, and thus a supply of fresh air assured. A neat operating room, furnished with modern furniture, is located on the same deck. The number and kind of surgical instruments is sufficient to perform almost any operation. The sterilizers are connected with the ship's steam supply, thus obviating the necessity of a separate heating apparatus. The room receives excellent light from an overhead skylight. A dark room is especially fitted up for *x*-ray work, for which there is a good machine on board. An isolation hospital for contagious cases is fitted up on the deck below that used for regular hospital purposes.

No female attendants of any kind are employed on board. The Japanese medical men do not seem to be very favorably impressed with female nurses for army or navy purposes. Six medical officers are assigned to each vessel of like capacity. All friction is avoided by the senior medical officer being in absolute charge of the vessel in all matters except the actual sailing of the vessel. The medical officer simply orders the master of the ship to proceed to such ports as he may desire, which orders must be carried into effect at the earliest practicable moment.

The sanitary arrangements are very good, all sinks, closets, etc., being of modern design, and they generally bear the name of some foreign maker. Everything is kept scrupulously clean, and from all appearances it would seem that the vessels are well managed. The principal work of the vessel has been to carry sick and wounded soldiers and sailors from the neighborhood of Port Arthur to Osaka and other base hospitals.

Progress of Medical Science.

Boston Medical and Surgical Journal, March 9, 1905.

Dangers from the "X-Ray Atmosphere" to the Operator; their Prevention.—H. W. Van Allen calls attention to the dangers attending *x*-ray work, with special reference to the effects on the testicles. Out of seven patients who had undergone treatment in this region, spermatozoa were absent in four. A somewhat prolonged course of exposures seems necessary to effect this result. The sexual organ does not seem to be impaired. Other untoward effects often show themselves in the skin and its appendages. The nails and hair are brittle and of slow growth. The skin itself is dry and of a yellowish hue so peculiar that it is almost characteristic. Many have dry seborrhea. Indigestion is present, especially of the intestinal kind. These men complain of lack of ability to concentrate their thoughts for any length of time and are drowsy although many suffer from inability to have continuous restful sleep at night. The disposition is somewhat irritable. These operators complain of an unnatural sensation of cold. Radiographs in some instances of the thinner parts of the body show a premature sclerotic condition of the arteries. To prevent these results the author describes an arrangement of the ray apparatus, the latter except the tube being in one room, while the tube and couch for the patient are in a room adjoining. The wall between the two rooms should be covered with a thin layer of sheet lead, and have a peep-hole through which to judge the tube. This plan does away with fluoroscopy, but the author regards this as a treacherous method in that it leads to unwarranted conclusions.

New York Medical Journal, March 11, 1905.

An Unusually Severe Case of Chorea Successfully Treated with Apomorphine.—The patient of M. G. Tull was a girl of fifteen years. The usual remedies, including arsenic, were given without avail, and finally apomorphine 1/40 gr. was injected hypodermically. Within probably three minutes the incessant motion had ceased, the muscles were relaxed, and the child slept peacefully and quietly. The author ordered 1/20 gr. by the mouth every three hours with the arsenic continued as before. At no time was there sign of nausea or vomiting. The result was all that could be desired; a steady, gradual improvement with no return of the severer symptoms. Ten days later the patient was able to go to the seashore where she remained entirely well.

Remarks on the Results of X-Ray Treatment in Several Cases of Carcinoma of the Uterus.—A series of cases reported by S. Tousey. In one case treatment seemed to prolong life for a year. A second case was not at all benefited, the disease being far advanced. In a third case the discharge and size of the growth were kept down, the general condition improved, and a fair state of comfort maintained for nearly a year; case still under treatment. In a fourth case the patient's strength improved and the discharge practically ceased; the case still under treatment; outlook unfavorable. In a fifth case results have been promising but there has been no distinct cure. The author describes in full the various modifications of apparatus as used by him in the several cases. These are not selected, he says, as an argument in favor of the *x*-ray in the treatment of inoperable or recurrent carcinoma of the uterus, but rather as showing fairly what may be expected from it in the various stages, and types of the disease. He strongly recommends the adoption of the treatment at any stage before the recurrent cancer has too far sapped the patient's vitality.

Medical News, March 11, 1905.

Uric Acid—Its Influence on Gout.— C. C. Ransom reviews the various theories of the relation of uric acid to gout, and notes that the ideas of Horbaczewski are generally accepted to-day under the designation of the nuclein theory which maintains that there is no relationship between urea and uric acid, the former being the terminal product of proteid metabolism, the latter being derived exclusively from the nuclein of the cell. The nucleo-proteid of the cell is broken up, the proteid part undergoing the usual proteolytic changes is converted into urea. The nuclein molecule is oxidized into nucleic acid. The nucleic acid, being further oxidized, forms on the one hand phosphoric acid and on the other the so-called "mother substance." The mother substance is oxidized into uric acid on the one hand and the purin xanthine or aloxur bases on the other. There is no longer a belief that uric acid is toxic *per se*, for in diseases in which it is present in excess, it presents no specific symptoms. Again, it has been shown that excess formalin holding food with a corresponding output of uric acid causes no disturbance. Gouty attacks are generally preceded by gastrointestinal disturbances, and during the attack the acid output is increased. Following the attack there is always a diminished amount excreted, following the regeneration of the tissue. This idea is quite consistent with the condition of affairs about the joint, and taken in connection with the nuclein theory as to the origin of uric acid, will explain the phenomena which take place in the infection of the joint. Through this trauma a slight inflammatory reaction is set up in the joint structure. The toxic material at once begins its action upon this susceptible tissue. The leucocytes, in the effort to destroy the toxins in this process, come to the joint structures in great number; unable to cope successfully with the toxin, they are destroyed. The nuclein of the cell is oxidized into uric acid, and the result is the gouty joint.

American Medicine, March 11, 1905.

Advances in the Physiology and Pathology of the Pancreas and Their Application to the Diagnosis of Pancreatic Diseases.—John C. Hemmeter in a lengthy article fully considers this subject. Of special interest are his observations concerning the diagnosis of relative pancreatic insufficiency from defective protolysis, amyolysis, and adipolysis. He believes the effort to determine the degree to which protolysis is interfered with is rendered futile by the presence of erepsin, secreted in the intestinal juice, and which can break down proteids very rapidly after they are once attacked by gastric juice. Defective fat digestion as a gauge for pancreatic insufficiency is equally disappointing. However, he believes great aid can be obtained from the method of Aloph Schmidt. This is based upon the physiologic fact that only gastric juice can digest connective tissue (collagen), and only pancreatic juice can digest the nuclear substance of meat fiber. Hence the presence of remnants of undigested connective tissue in the feces indicates insufficiency or absence of gastric secretion and the presence of nuclei in the cells of meat fibers points to insufficient pancreatic secretion. Hemmeter tested the stools of two patients, one suffering from pancreatic cyst, comprising the duct of Wirsung and the other from a stenosis of the duct, caused by an old pericholecystitis. In both cases the stools contained muscle fibers, showing well-preserved nuclei.

Uterine Fibroid Tumors.—J. Clarence Webster bases his conclusions on a study of a series of 210 cases treated surgically. He says widely held views as to the comparative harmlessness of uterine fibroids should be greatly modified. Taking into consideration the pressure effects, the tumor degenerations, the pelvic and abdominal complications, the changes in the heart, large vessels, kidneys, and liver, the chronic anemia of hemorrhagic cases, and other occasional associations, *e.g.* suppuration, gangrene, peritonitis, phlebitis, embolism, the influence of pregnancy and labor, the new growths must be considered as seriously increasing morbidity and mortality in women in whom they occur. Owing to improvements in technic and to careful preparation of patients, splendid results have been obtained from operative procedures, and the mortality has been greatly reduced. All large or growing tumors or small ones, which cause troublesome or serious symptoms, should be treated surgically.

Tuberculosis of the Gastrointestinal Tract.—J. A. Lichty reports a case of perforation and partial stenosis of the bowels. The patient had been closely associated for five years with a sister who died of pulmonary tuberculosis. Following a severe attack of pneumonia, she was troubled with a hacking cough, with much gas in the bowels and with constipation. Later, there were alternating attacks of constipation and diarrhea, and it was impossible to regulate the bowels. Laxatives or enemas caused unbearable pain. She had severe night sweats and a poor appetite. Temperature 102° to 103° every evening; normal every morning. She had a hectice flush and was slightly emaciated. There was marked tenderness over the descending colon, and a tender mass could be felt near the splenic flexure. No albumin in the urine; no leucocytosis. The lungs were negative except for a patch of dullness with distant breath sounds and diminished fremitus to the left of the heart. A few tubercle bacilli were finally found in the sputum. Pain in the abdomen continued to get worse, becoming sharp in character to the right of the umbilicus; there was marked rigidity of the abdominal muscles and a condition of collapse ensued. The autopsy showed a large ulcer at the splenic flexure, which part of the bowel was much thickened and constricted by Nature's attempt at healing. Tubercle bacilli were found in the base of the ulcer. In the ileum were many ulcers characteristic of tuberculosis, one of which had perforated. In the apex of the right lung were a few cheesy nodules, and the pleura of the left lung was much thickened. Primary tuberculosis of the intestine is a very rare condition, and this case comes very close to such an infection. The author discusses the distribution and frequency of tuberculous lesions in the various portions of the alimentary canal, and touches upon the transmissibility of bovine and human tuberculosis. He cites a case in his own experience, which goes to prove their identity. A farmer's healthy daughter evidently contracted pulmonary tuberculosis by drinking the milk of a tuberculous cow. The details are given, and the case is very convincing.

Etiology and Treatment of Acute and Chronic Rheumatism.—G. Morton Illman says it is necessary to investigate promptly and carefully all gastrointestinal conditions occurring previous to or associated with rheumatism, based upon the fact now being established that a diseased alimentary tract is the pathway by which the infection enters the circulation. Many members of one family or community are affected not by direct contagion or heredity, but because of the fact that they usually live under identical hygienic and dietetic conditions favoring the development of rheumatism. The treatment should be prompt and vigorous even though the symptoms be slight, special attention being given to the hygiene and diet. Meat, condiments, too ripe and too green fruits, alcoholic and cold drinks and dishes are to be modified or prohibited. A process of "drainage" or elimination from the bowel, kidneys, and skin is to be instituted before a resort to the salicylates. Salol following magnesium sulphate, is productive of excellent results in patients with catarrh of the bowel.

The Journal of the American Medical Association, March 11, 1905.

Gonorrhea as a Cause of Death.—Joseph Taber Johnson reviews the opinions of authorities as to the effects of gonorrhea in producing female sterility and disease, and states his belief that if the mortality from this cause could be ascertained it would be found to equal that from either typhoid fever, pneumonia or tuberculosis, and that possibly it might be found to exceed the mortality from all three diseases. He thinks that gonorrhea is the cause of at least 30 per cent. of the deaths among prostitutes, and that through its later effects on the generative organs it may be the cause of death in a very large number of virtuous married women.

Myxedema and Diabetes Mellitus.—A. A. Strasser reports the case of a child, 8 years old, in whom the characteristic symptoms of myxedema appeared after weaning. The thyroid treatment was instituted with marked improvement in the symptoms, but diabetes intervened and it was discontinued, not because it was considered responsible for the intervening condition, but to eliminate it as a possible factor. The case was very carefully studied as to its metabolism; the child improved greatly in its mental symptoms as the diabetes progressed, but finally died in coma and convulsions. The author discusses the case with special reference to the effect of the diabetes on the myxedema, and considers the case as absolutely unique. Diabetes mellitus itself is not so rare in children as was formerly thought, but its occurrence in myxedema with the apparent marked effect on the latter condition here observed, has not been reported heretofore. In a supplementary note he refers to two somewhat similar cases reported by Dr. Alfred Gordon in *American Medicine,* February 6, 1904, but he does not agree with the optimistic Gordon's views as to the prognosis in such cases.

Aseptic Operating.—H. T. Byford objects to rubber gloves and impervious covering of the hands on the ground that they produce sweating, and that a scratch or puncture would liberate the accumulation of germ-laden perspiration. He advises soaking the hands thoroughly to soften the cuticle and to loosen the dirt between the epithelial scales, and for this purpose he prefers water drawn in a basin and frequently changed to running water. After soaking the hands and scrubbing them with green soap he advises a scrubbing with diluted acetic, citric, or oxalic acid. This in turn is followed by soaking in 90 per cent. alcohol and then in a 1-1,000 solution of bichloride of mercury. In protracted operations, he advises dipping the hands in the mercuric solution every 10 or 15 minutes to insure asepsis. He does not believe in mixing the solutions of alcohol, green soap, etc., but prefers to keep them separate, and he objects also to sterilized sleeves. Of equal importance is the sterilization of the field of operation. It is easy to sterilize the abdomen, but it is more difficult in case of the groin or genitalia. The shaving should be carefully done to avoid abrasions and the parts scrubbed, not only with soap, but with alcohol and mercuric chloride, and minor operations should receive the same attention as the major. The best after-dressing is sterilized gauze shreds over the sutures and a thick layer of sterilized gauze over these. Inguinal wounds should be washed off after six days and then covered with dry sterile gauze, to be removed daily or otherwise as occasion requires. Dry dressings over peritoneal sutures should be changed every four hours or oftener if they become saturated.

Obstruction of Retinal Arteries.—Allen Greenwood considers at length the three principal causes of obstruction of the retinal arteries, viz., arterial diease, embolism, and spasm. He thinks that primary thrombosis is rare, though thrombosis is frequently a complication of the above conditions. The most important arterial disease is arteriosclerosis, and he points out the earliest danger signals of this condition. They are a slight increase of arterial reflex, slight irregularities in the size of the arteries, slight congestion of the disc, and feathery outline. Where the artery crosses above a vein the latter may be compressed. A little feathery exudate is often seen beside the arteries which should not be mistaken for the opaque nerve fibers often observed. With thickening of the central artery venous pulsation may sometimes be observed ophthalmoscopically; one or all of these conditions may be present. In more advanced cases the light reflex is increased, the arteries become beaded, retinal lesions appear and, finally, we have the full picture of albuminuric retinitis. The early stages of arterial degeneration require the careful inspection of the upright image for their detection. Spasm, the author believes, most frequently occurs in the early stages of arteriosclerosis, and should be looked on as a warning of future obliterating enderarteritis. The treatment of arteriosclerosis is mainly a well regulated life and avoidance of nerve strain and excesses and keeping elimination and digestion unimpaired. Greenwood has been in the habit of advising long-continued use of small doses of iodide of potash. The treatment of embolism is rarely prompt enough to save the function of the retina, but Greenwood advises the early use of vasodilator drugs and deep massage to carry the embolus, if possible, into the smaller branches and to reduce the field defect. For spasm the treatment for arteriosclerosis should be carefully followed. Nitrite of amyl might be used to cut short an attack.

Berliner klinische Wochenschrift, February 20, 1905.

The Clinical Use of Antistreptococcus Serum.—Meyer says great care is necessary for the proper standardization of streptococcus sera that are to be used clinically, and that their strength should always be tested by some authority, who should use for the purpose a streptococcus culture obtained unchanged from human infection and different from the one used by the producer of the serum. The main value of such sera is a prophylactics, and to get proper results its use must not be deferred until it is a last resort. Much judgment is needed to determine the cases in which it is likely to be beneficial; for in some conditions when important organs are seriously invaded, it may prove the reverse of helpful. For example, in malignant endocarditis and in acute rheumatism the injection of antistreptococcus serum is not to be advised.

Dialyzed Diphtheria Poison.—Römer calls attention to van Calcar's experiments on the products obtained by the dialyzation of diphtheria toxin and describes experiments undertaken by him to test the accuracy of van Calcar's conclusions. The latter author found that on subjecting diphtheria poison in a dialyzer to atmospheric pressure, so that the membrane was put more or less on the stretch, and its pores slightly opened, dialysis took place, and some of the poison passed from within into the outer fluid. After repeated renewal of the external fluid, van Calcar claimed that injection of the residual inner fluid into a guinea pig no longer gave rise to the usual acute diphtheria death, that is toxin action, but only typical toxin action shown by the occurrence of diphtheretic paralysis is the test animals. He thereupon drew the conclusions that he had succeeded by pressure dialysis in separating the toxin from the toxon, and that the toxon molecule is larger than the toxin molecule. Only when the membrane was stretched to the uttermost did any diffusion of the toxon take place. Römer repeated all the experiments and comes to the opinion that it is not possible to separate toxin and toxon in this way, and that dialysis under pressure does not in any way give rise to qualitative changes in the diphtheria toxin.

Münchener medizinische Wochenschrift, February 21, 1905.

Raw or Boiled Milk?—Brüning says that a movement has been started having many prominent advocates which has for its object such regulation of the milk supplies as to render it feasible to feed infants on unboiled cow's milk. The accedents to this view allege that children brought up on raw milk thrive better than is the case when boiled milk is used. The author undertook feeding experiments on animals in order to throw some light on the comparative effects produced by feeding young mammals on raw and boiled milk of a different species. The observation described refers to a litter of four puppies of which two received the natural nourishment, one was given only boiled cow's milk and the other only raw cow's milk. At the age of two months and a half the first two dogs were in splendid condition in every way, the third was considerably smaller, had a more prominent abdomen and a rougher coat, while the fourth dog that had been fed on raw milk was far behind in development, was weak, had nephritis, open fontanelles, a poor coat, etc., and in fact presented a condition simulating rachitis. None of the animals gave a positive tuberculin reaction. While the author does not pretend to draw conclusions from this test, he says that at least we should not be over hasty in advocating the general use of raw milk.

The Treatment of Varicose Ulcers.—Vörner employs two elastic bandages in preference to all other forms of dressing for this condition. The first bandage is applied from the toes upward in accordance with the situation of the lesion, and the second is then applied in the same manner over it, and is fastened either with pins or adhesive. By careful application the degree of pressure can be accurately gauged, and owing to the double layers the dressing is exceedingly stable and does not slip down as ordinary bandages do. In dealing with unintelligent patients it is often advisable to use a permanent dressing, and for this purpose the author employs a fixative composed of tragacanth one-half per cent., gelatine ten per cent., glycerine five per cent., boric acid and sodium borate, of each five per cent. After the first bandage is in position it is saturated with the fixative and the second is applied over it. The solution dries quickly and is very firm. To remove the dressing it is only necessary to immerse the limb for a short time in a pail of water. The method is very effective, and is cheaper than any other of the permament dressings recommended.

The Treatment of Acute and Chronic Gastritis.—Weitlaner is a warm advocate of castor oil in stomach troubles, and says that in cases of acute gastritis his plan is to give a hypodermic of morphine, to forbid everything by mouth, even ice, and in four to five hours to give from twenty to thirty grams of castor oil. Another remedy of great value in chronic gastritis or in the later stages of the acute condition is artificial Carlsbad salt. This is best administered in one gram doses in warm water on rising. Hydrochloric acid is efficient in cases in which the alkali is unsatisfactory, but should be combined with tannic acid. One-half hour after lunch and dinner the patient is to dissolve a 0.1 gr. powder of the tannin in a small glass of warm water, add seven drops of dilute hydrochloric acid and drink the mixture slowly.

Deutsche medizinische Wochenschrift, February 9, 1905.

The Differentiation of the Blood of Biologically Related Animals.—Hamburger was called upon in a criminal case to determine whether certain blood spots were or were not composed of goat's blood. Inasmuch as rabbit serum adapted to goat's blood also gives a precipitin reaction with the serum of related animals such as the sheep and beef, the ordinary precipitin test could not be relied on. The procedure employed consisted in adapting three rabbits, one to goat serum, one to sheep serum and one to beef serum. These sera were then adjusted by dilution or further injections until their value was about equal, and three tests of each were made, one with goat serum, one with sheep serum, and one with beef serum. In each case the reaction was most pronounced in the tube containing serum adapted for the animal from which the authentic serum was added. The salt solution extract obtained from the suspected spot, was then added to the three sera and as the reaction was much more intense with serum adapted to goat serum than with the others, it was evident that the stain contained goat serum. This method may also be employed in order to differentiate the identity of suspected meats.

The Use of Specific Sera in Testing the Identity of Mummy Material.—Uhlenhuth says that his original tests on mummy extract were negative, but that Hansemann and Meyer have published positive results in observations made on two specimens. The author has since then made a study of material obtained from twenty-seven different mummies from two to three thousand years old, but was unable to get a positive precipitin reaction in any case. In some instances the salt solution extract had a strongly acid reaction, which, unless the fluid were neutralized would lead to erroneous conclusions, as acid fluids tend to precipitate the test sera under any conditions. Tests on mummified material of more recent date, one of the specimens being sixty-six years old and the others less ancient, gave positive reactions, however, and the author is undertaking further observations in order to determine, if possible, the length of time that must elapse before the precipitable bodies are rendered inert.

The Treatment of Coryza.—Henle relates the happy effects experienced when in a severe attack of coryza in his own person, he tried Bier's congestion treatment applied to the neck by means of the pressure tube of his own invention. The pressure was run up to 25 mm. of mercury without producing any discomfort and with very prompt relief to the subjective nasal symptoms, and a repetition of the treatment a few hours later caused all symptoms to disappear completely. A trial of the plan on five other patients gave equally satisfactory results in all save one, in which only a single application was made, but without any effect. This patient was the subject of chronic rhinitis. The plan is absolutely harmless in patients with normal arteries, though the pressure should never be raised above 25 mm. of mercury; and the author counsels its trial in all acute inflammatory conditions about the nose and throat.

French and Italian Journals.

Relations Between Arterial Pressure and Absorbed Doses of Chloroform.—According to Tissot, it has been demonstrated that chloroform causes death by its toxic action on the heart or cardiac nervous centers. It is easy to study this toxic action on the heart by substituting for the direct examination of cardiac contraction that of arterial pressure which faithfully reproduces the modifications. The object of these observations has been to study the relations that exist between the doses of chloroform absorbed and the modifications of arterial pressure which they determine. Besides this, the effect of the same doses on the respiratory movements has been noted. As a result of these observations, the following conclusions are presented: The depressing action of chloroform on the heart or on the arterial pressure increases regularly with the dose of chloroform absorbed. The doses of chloroform which in the dog do not lower the arterial pressure below 10 cm. of mercury, do not cause any accidents. The doses of chloroform which produce only respiratory arrest in the dog are those which lower the pressure between 10 cm. and 6 cm. of mercury. The doses of chloroform which cause cardiac syncope are those which lower the arterial pressure to the neighborhood of 5 cm. of mercury or below. Accidents incident to the use of chloroform in the dog can be positively avoided, even if the drug is given without precautions, if care is given to administer such a quantity that the arterial pressure will continue more than 10 cm. of mercury. If a sufficiently delicate instrument is applied to the artery, it will, like the manometer in the case of the dog, indicate the degree of cardiac intoxication. When the dose of chloroform is large enough to determine accidents, arterial pressure is influenced well before respiratory arrest or even before an alarming modification of the respiratory mechanism is produced. Besides the tardiness of respiratory indications, they are often difficult to appreciate.—*Le Bulletin Médical,* February 22, 1905.

Experimental Diagnosis of Smallpox and Chickenpox.—P. Salmon, Vincent, declares that inoculation of the pus from the pustules, practiced by simple application to the cornea of the rabbit, affords the means for making a rapid and positive diagnosis between the two diseases. Chickenpox yields only a negative result, while smallpox pus gives rise to transparent visicles, easy of recognition by the aid of a magnifying glass or by oblique illumination. L. Martin has noted in regard to monkeys, that attempts at inoculation of chickenpox always give negative results, an observation which stands in line with the work just mentioned, and which, like it, establishes a new distinction between smallpox and chickenpox.—*La Tribune Médicale,* February 18, 1905.

Prognostic Value of Ehrlich's Diazo Reaction in Pulmonary Tuberculosis.—Holingren believes that although the value of the diazo reaction from the standpoint of diagnosis may seem to have been exaggerated, in respect to pulmonary tuberculosis, it offers an important element from the prognostic point of view. This reaction fails in more than two-thirds of the cases of advanced tuberculosis; it is exceptional in the first stage of the illness, and shows itself with some frequency only in the third period or at the end of the second. But when it does appear, it is an excellent indication of the future duration of the disease. This observer has divided the results of these reactions into four classes: Very clear, clear, doubtful or nil. Of the patients belonging to the first class, 60 per cent. succumbed within two months, and 51 per cent. in six months; two only out of the twenty-three in the series, survived after eighteen months. Of these two patients, one has chronic pleurisy, and the other had chronic rheumatism, and they consequently offered a soil less favorable for bacillary evolution. In the second class, reaction distinct, the mortality at the end of two months was 30 per cent.; 50 per cent. at the end of six months, and 76 per cent. at the end of eighteen months. For those in the third class, reaction doubtful, the mortality was lower—10 per cent., 16 per cent., and 36 per cent., respectively. In the group of advanced cases in which the reaction was not present, there was no death in the first two months; 9 per cent. only after six months, and 32 per cent. after eighteen months. In patients suffering from tuberculous pleurisy only, the reaction failed; and all of the patients in the last class who could be kept under observation until death, finally showed a positive reaction. Holingren believes that the duration of the survival of tuberculous patients is in inverse ratio to the intensity of the diazo reaction. When the reaction is very definite, the patient will probably rapidly succumb—within two months—and has little chance of living more than six months. With a doubtful reaction one may hope for eighteen months. If it is negative, one can count on exceeding this.—*Revue Française de Médecine et de Chirurgie,* February 6, 1905.

Experimental Degenerative Gastritis.—Hayem has recently demonstrated the nature of lesions of degenerative gastritis which occur in the course of infectious maladies. He has been able to reproduce lesions absolutely similar, by the injection into the blood vessels of a dog, of the toxin of diphtheria in repeated small doses. It appears from these experiments that it is the toxins which, carried by the blood current, produce the injury to the glandular elements. On the other hand, in certain patients presenting the asetic type in whom there did not exist former gastric troubles, which would explain the present condition, it is probable that a former infection was the cause of the degenerative gastric lesions, explaining the modifications of the stomachal secretion.—*La Presse Médicale,* February 22, 1905.

The Pathogenesis of Dissociation of Sensibility of Central Origin.—Ugo Benenati has collected 31 cases, divisible into two categories, (a) syringomyelia with thermic sensibility present, in which the gray commissure was intact; (b) cases with abolition of thermic sensibility, in which the gray commissure was injured. From the study of these cases he concludes the great importance of the posterior gray commissure to be demonstrated in the transmission of thermic sensibility. Clinical facts are in accord with the author's experimental results in pointing out that the posterior gray commissure of the medulla is the organ of transmission of thermic impressions. Grasset has shown that disturbances of the sweat and vasomotor functions, thermoanesthesia and analgesia are the result of lesions of the central gray substance of the medulla, and the bulbar structures.—*La Riforma Medica,* February 4, 1905.

Sugar in the Treatment of Pulmonary Phthisis.—Massalongo and Daneo have given much attention to those methods of treating phthisis connected with supra-alimentation, especially by the use of ordinary sugar, and have made a series of experiments, of which they give us the results. Sugar is not only a heat-producing food but also one that produces energy, and is especially useful to prevent emaciation. It should be given in phthisis in large amounts outside of the regular meals, 100 to 500 grammes per day. Weight is gained rapidly, in a few months 8-15 kilogrammes increases being shown. In some instances the gain in weight each day was greater than the amount of sugar ingested. While the sugar was being administered there was no glycosuria, though there was a diminution in the amount of oxidation compounds. The most encouraging results were obtained in cases without fever, or with only a slight rise of temperature. The sugar was generally well taken and assimilated by the patients; in some cases there was intestinal fermentation. The sugar could be masked by the use of milk or black coffee, or bitter tinctures. Even in some febrile cases the sugar was well tolerated, and in those cases that could not take cod liver oil.—*Annali di Elettricita Medica e Terapia Fisica,* January, 1905.

Nephritis and Breast Feeding.—Luigi Concetti discusses the advisability of allowing an infant to nurse while its mother suffers from nephritis. Roger, in the hospital for infective diseases in Paris, allowed 100 infants to continue nursing during the progress of the illness of women suffering from measles, scarlatina, diphtheria, and erysipelas, while using all possible precautions against direct contagion. He found that the children in general did well, and that the mortality was less than when the children were artificially fed. The author cites the case of a four months' old child, who did well while nursing his mother through five weeks of acute nephritis, but when put on artificial food developed an acute intestinal trouble so severe that he was returned to his mother in two weeks. On breast milk he improved rapidly, gained in weight and soon was well. The mother, too, seemed to improve under the change. As we do not know what poison causes the symptoms of acute kidney disease, and as antitoxins and immunizing substances are known to pass into the milk, a state of immunity may be developed in the infant through the mother's milk. The author concludes that a child should continue nursing during nephritis of the mother, while carefully observed, and a daily urinary examination made, to guard against the development of an acute nephritis in the child.—*Rivista di Clinica Pediatrica,* January, 1905.

Puerperal Nephritis or Nephritis in the Puerperium?—Silvestri Torindo believes that we cannot admit that there is a toxemia dependent on pregnancy. The clinical and experimental facts are favorable to the conception that eclampsia is a syndrome resulting from varying factors; pregnancy has no other office than to prepare the ground, producing in the cerebral organism of the pregnant woman peculiar conditions, which may be physiologically reproduced in the brain of the infant. Pregnancy, inasmuch as it determines lessened resistance of the nervous system and overloading of emunctories, with insufficient action of the glands of the mother that produce antitoxic actions, is a powerful predisposing factor in the etiology of nephritis. Therefore we should rather speak of nephritis occurring during the puerperium than of puerperal nephritis.—*La Riforma Medica,* February 15, 1905.

Vascular Pathology of Progressive Paralysis in a Baby.—Campana reports the histological examination of the capillaries in the brain of a syphilitic child, who died as the result of accident while in the early stages of syphilis, showing the presence of infiltration about the arteries. This examination accords with the examination of other cases made by him, and with those of incipient tabes of like origin. The author believes that we should not be content with the examination of the early stages of the disease alone, but the results should be controlled by new researches, which, he predicts, will accord with his results, or will show the reason of the different results obtained by different authors.—*La Riforma Medica,* February 18, 1905.

Orthostatic Albuminuria.—Giuseppe Evoli characterizes orthostatic albuminuria as a transitory condition, not the expression of a true morbid state, but functional, and occurring without loss of health. It occurs in individuals of nervous heredity and general bad development, in young subjects possessed of an unstable nervous system. The condition seems to be somewhat rare. It is cured by rest in bed and general nutrition. Its chief characteristic is that it occurs only when the patient is occupied so as to be on his feet most of the time, and disappears with rest in bed, to reappear when the erect position is again maintained. The amount of albumin is from one-half to one gramme per liter, and there are no casts, and no indication of gastric failure. It is rather a dynamic than an anatomical condition. Our author regards it as a state of insufficiency, determined principally by atonia of the circulatory apparatus, which is exaggerated by the erect posture to such an extent as to produce dystrophy of the glomerular epithelium and allow a certain amount of albumin to pass into the circulation.—*Giornale Internazionale delle Scienze Mediche,* February 15, 1905.

Book Reviews.

A Dictionary of New Medical Terms, Including Upwards of 38,000 Words and Many Useful Tables, Being a Supplement to "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences." By George M. Gould, A.M., M.D., Author of "The Students' Medical Dictionary," "30,000 Medical Words Pronounced and Defined," "The Meaning and Method of Life," "Borderland Studies," Editor of *American Medicine*, etc. Based upon Recent Scientific Literature. Philadelphia: P. Blakiston's Son & Co., 1905.

This work, as its title declares, is supplementary to Dr. Gould's monumental dictionary of medical terms, and is intended to define all the words which have been coined in the decade since the publication of the first edition of the original work. Most of the titles are therefore contained in the later editions of the dictionary, yet there are many, so rapid is the progress of medical science, that are not to be found in even the latest edition of Gould's lexicon. The reviewer of a dictionary has several tasks before him. He must determine whether the work he is reviewing is reasonably complete—absolutely complete it can never be, for even in the interval between the final correction of the proof sheets and the publication of the book not a few terms will appear in the literature which a captious critic might cite as evidence of the shortcomings of the work. He must take note of the definitions—whether they are correct, explanatory, and clear. And finally he has to note the orthography, whether it is in accord with accepted standards and whether it is consistent. With the etymology he has little concern, for unless the author is an ignoramus or possessed of unusually fantastic imagination his derivations can hardly fail to be correct. Approaching the book with these aims in view, we must admit its completeness. Some of the most recent coinages are, of course, absent, but to make up for these there are many words—hundreds, we were going to say—which are mere nonce-words, never, please heaven, to be found again in medical or any other literature. The definitions are excellent—clear, concise, and satisfying. But the spelling is confusing and inconsistent. English orthography is bad at its best, but when innovators take a hand at its simplification they invariably make a mess of it. Language is a stubborn thing and will follow its own sweet way regardless of purists and sticklers for consistency who never are consistent. Dr. Gould is an advocate of single vowels in place of diphthongs, yet he gives us "leukæthiopia" (misplaced after "leukemia"). He favors the use of *k* in place of *c* in such words as "leukocyte," yet we find "leucotoxic" and "leucotoxin" (misplaced after "leukotaxis" and a number of words of similar derivation spelled with a *k*). "Katalysation" has an initial *k*, but "catalysis" is written with initial *c*. We wish the author had adhered throughout to the use of *c* to denote the Greek *k* before a hard vowel, in accordance with the usage of the best English writers, but if he must use the ugly *k* he ought to stick to it and not confuse his disciples—of whom he has unfortunately a considerable number among the medical writers in this country—by jumping about from *c* to *k* and *k* to *c* with apparently no rule but the whim of the moment.

But, having delivered himself of this expression of dissatisfaction with the author's orthographical vagaries, the reviewer turns from criticism to commendation. This work is one that no medical reader can well dispense with; it is a supplement not only to Gould's dictionary but to all others—of which the name is legion. It contains many titles not to be found in even the latest of the medical dictionaries, and will be found useful to the possessor of any of these. It is, of course, not a complete medical dictionary; it is only—and this is all that it claims to be—a supplement to other dictionaries, but as such it is worthy of all praise. The user of it can rely upon the definitions, and he will find few new words not defined; he had better not follow slavishly the orthography, but he is not likely to do so if he has been well grounded in the rules of English spelling, and he can overlook these faults in the presence of so much that is helpful.

Eye, Ear, Nose, and Throat Nursing. By A. Edward Davis, A.M., M.D., Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital, and Beaman Douglass, M.D., Professor of Diseases of the Nose and Throat in the New York Post-Graduate Medical School and Hospital. With 32 Illustrations. Philadelphia: F. A. Davis Company, 1905.

While the manual of Yearsley, published in England some years ago, left little to be desired, it seems not to have become well-known in this country, and we welcome this new book by American authors. Dr. Davis has written the chapters on the eye (pp. 1-168), and Dr. Douglass those on the ear (pp. 170-227), nose and throat (pp. 229-307). Each section opens with a brief description of the anatomy and physiology of the parts, and is followed by an enumeration of the common diseases and full directions for their cure by the nurse. Special stress is laid upon the necessity of full antiseptic precautions in work on these local areas, and nothing of importance seems to have been overlooked. We unhesitatingly commend this manual for the use of nurses.

Life Insurance Examinations. A Manual for the Medical Examiner and for All Interested in Life Insurance. By Brandreth Symonds, A.M., M.D., Medical Director of the Mutual Life Insurance Co. of New York; Lecturer on Life Insurance Examinations at the University and Bellevue Hospital Medical College. New York and London: G. P. Putnam's Sons, 1905.

Although this little volume is written with the special purpose of assisting medical examiners for life insurance companies in performing their often difficult duties, it is of a nature to be interesting and instructive to all practitioners. The question of prognosis is one that most vitally concerns both the patient and his friends, and good judgment or the lack of it in this respect may make or mar a professional reputation. The vital statistics which render life insurances commercially possible are equally valuable in estimating the patient's prospects, and the many hints on the tactful conduct of physical examinations, etc., should render the book helpful to young practitioners. The subject matter comprises a good deal of information regarding the general nature of life insurance companies, the different features of the examinations of applicants, relations with agents, frauds and fraudulent practices, etc., and in an appendix the examination of urine and the subject of heart murmurs are discussed.

The Surgical Diseases of the Genito-Urinary Tract, Venereal and Sexual Diseases. A Text-Book for Students and Practitioners. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois (The Chicago College of Physicians and Surgeons); Professor of Criminal Anthropology in the Chicago-Kent College of Law, etc. Revised Edition. Illustrated with 233 Engravings and 7 Colored Plates. Philadelphia: F. A. Davis Company, 1904.

The second edition of this thoroughly satisfactory book has required but little revision to keep it in its place among the foremost of our text-books on this subject. Radical changes in second editions often mean ill-considered or hasty work in the first impression, but every chapter in this book bears witness to the thoughtful care with which it was prepared in the beginning, and the present text should maintain its authoritative position for many years. Somewhat more space than before is given to the mention of the newer silver derivatives, which the author considers the best remedies at our command for the systematic local treatment of gonorrhea. The illustrations have also been improved in general tone by judicious substitutions and additions, though it must be admitted that the colored plates are not above the average in execution. The author's fluent style and wealth of experience make the volume not only instructive but also very agreeable, and it is a pleasure to commend it to all classes of medical readers.

Grundsätze für den Bau von Krankenhäusern. Von Generalarzt Dr. Thel, Korpsarzt des XI. Armeekorps. Mit 11 Tafeln und 66 Figuren im Text. Berlin: August Hirschwald, 1905.

The subject of hospital construction is too broad and far-reaching a one to permit of adequate consideration within the compass of a volume of 125 pages, of which a large proportion are given up to the sixty-six figures introduced. The little book is excellent as far as it goes, and contains many interesting plans of German and other hospitals, but it is hardly extensive enough to be of much value to anyone really in need of a working knowledge on this topic.

Uncooked Foods and How to Use Them. A Treatise on How to Get the Highest Form of Animal Energy from Food. With Recipes for Preparation of Healthful Combinations and Menus. By Mr. and Mrs. Eugene Christian. New York: Health-Culture Co., 1904.

The authors of this book think that cooking destroys some vital element of food, and that man would be better off if he never subjected anything to go into the stomach to a temperature above 145° F. A housewife might find some good recipes for salads and other raw foods in this book, but we see no other reason for its publication. The scientific accuracy of the authors' statements is well illustrated by the following quotation (p. 105): "Bread rises when infected with the yeast germ, because millions of these little worms have been born and have died, and from their dead and decaying bodies there arises a gas, just as it does from the dead body of a hog or any other animal."

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 2, 1904.

The President, Dr. Charles L. Dana, in the Chair.

The Hypodermic Use of Adrenalin Chloride in Asthmatic Attacks.—Dr. D. M. Kaplan read a paper on this subject, in which he offered the following conclusions: 1. That this remedy had a distinct place in the therapeusis of asthmatic seizures. 2. That the effect produced by it apparently substantiated, in certain cases, the vasomotor origin of the seizures. 3. In the writer's experience, the contraindications to the drug were generally overstated. 4. Even large doses, freely used, did not give rise to glycosuria, although relieving the paroxysms with greater promptness and certainty than most of the other drugs at our command. 5. The hypodermic use of adrenalin was in no sense curative of the disease, as such.

Dr. W. Gilman Thompson said he had used adrenalin to some extent, and had been rather disappointed in the effect of its hypodermic use in asthma, which he thought was perhaps due to the fact that he had not employed it in sufficiently large doses. The results of animal experimentation with the drug, as compared with the clinical results in man, were very contradictory. Several writers had recently questioned the ability of the organism to absorb much of the drug when given hypodermically, its local effect on the neighboring vessels being such as to constrict them. The speaker said he was not convinced that it was very active in controlling any form of internal hemorrhage. It was a rather curious fact that for years vasodilators, such as amyl-nitrite, had been recommended in the treatment of asthma, and that now a remedy was brought forward for the same condition which produced a diametrically opposite effect.

Dr. Andrew H. Smith said that some years ago he made quite a series of observations with the use of oxygen gas in asthma, and he was soon struck by the fact that while certain patients were immediately relieved by the inhalation of the gas, others remained entirely unaffected by it. He attributed this to the fact that we had to deal with different varieties of asthma. In some instances the asthmatic attacks were due to a tumefaction of the bronchial mucous membrane; in others to a constriction of the muscular tubes or of the branches of the pulmonary artery from reflex or vasomotor causes. With constriction of the branches of the pulmonary artery, the supply of blood would be interfered with, and this might produce all the clinical phenomena of asthma.

Dr. John B. Huber referred to a paper by Sajous on the subject of the ductless glands, in which the idea was advanced that the red blood corpuscles, which contained the hemoglobin and perhaps oxygen, did not reach all the tissues of the body, and that the adrenal glands secreted a ferment which permeated these minute tissues and supplied them with oxygen. The good effects of adrenalin might be explained on this theory.

Dr. S. Wachsman, who had witnessed many of the experiments made at the Montefiore Home by Dr. Kaplan, said that the drug had a strikingly beneficial effect upon the asthmatic attacks as compared with the older remedies, such as hyoscine, atropine, and morphine.

The President called attention to the experiments of Dr. Meltzer, who had produced edema of the lungs in rabbits by injections of adrenalin. The speaker also mentioned the fact that the use of the drug was sometimes followed by certain nervous symptoms.

Dr. Kaplan, in closing, said that in long-standing cases of asthma, the usual dose of adrenalin chloride was not sufficient. In such cases he had seen satisfactory results follow a dose of twenty-five or thirty minims. The asthmatic attack was usually cut short in less than five minutes. The cases that were mainly influenced by the remedy were those of bronchial asthma occurring in the course of emphysema. The speaker said he had used the drug in pulmonary edema with very satisfactory results.

A Case of Dibothriocephalus Latus Infection, Causing Pernicious Anemia, with Complete Recovery.—Dr. W. Gilman Thompson reported the case of a boy of seventeen, a native of Finland, who was employed as a plumber's apprentice. His family history was unimportant, and he had always enjoyed good health until about seven months prior to his admission to Bellevue Hospital, when his increasing pallor first became noticeable. A month later, repeated attacks of epistaxis occurred, on successive days, one of which lasted half a day. He also began to suffer from dyspnea on exertion. A month before admission his legs became edematous, and as his weakness increased, he lost some thirty pounds in weight, and having had about fifty attacks of epistaxis, he applied to the hospital for relief. A month previous to his arrival at the hospital he took a dose of a decoction made from some seeds which had been sent to him from Finland to rid him of a tapeworm of several years' growth. He stated that many of his countrymen were similarly affected. He passed about four feet of the worm, as he thought with the head attached. Upon admission, the boy presented a typical clinical picture of pernicious anemia. He appeared well nourished, but was of a pale, lemon-yellow color. There was moderate edema of the legs, and the cervical glands were enlarged upon the left side. The pulse was quick and compressible; the heart appeared normal in size, but presented an apical systolic bruit, and another at the base, transmitted to the vessels of the neck; the pulmonic second sound was accentuated. The leg reflexes were diminished, but there were no other nerve symptoms. The abdominal viscera appeared normal. The urine was slightly albuminous, with a few hyaline casts and a specific gravity ranging between 1,007 and 1,010. There was moderate dyspnea and a few crepitant râles were heard at the base of the right lung. The patient had repeated epistaxis, but examination of the nasal cavities revealed nothing abnormal. The optic discs were very pale, with small veins and arteries, secondary atrophy and several small hemorrhages in the fundus, but none in the maculæ or periphery. Motion of the eyes and vision was normal, but the patient had had a transient attack of blindness the week before his eyes were first examined. His temperature on admission was 104° F., and remained so for three days, with a pulse of 120. For two weeks after that it ranged between 100° and 101° F., subsequently becoming normal. Soon after admission, the ova of the dibothriocephalus latus were observed in the feces, with a few red blood cells. During a period of eight weeks the patient was given five doses of the oleoresin of aspidium, one drachm in each dose, and on four occasions thereafter he passed several feet of the parasite—in all about thirty-five feet—but no head was discovered. The administration of male fern was preceded by a period of starvation, and followed in twelve hours by castor oil. After three weeks of treatment, the hemorrhages ceased, and the general condition, including the anemia, began to show steady improvement, which was maintained until the patient was discharged after three months, apparently cured and with normal blood. In connection with the history of this case, Dr. Thompson showed a table of six representative blood analyses made during the course of the patient's illness. The features of special interest in the blood examinations were: 1. The complete restitution of the red cells from a count of 608,000 to 5,980,000, and of the hemoglobin from 20 per cent. to 98 per cent. 2. The early high color index (1.6). 3. The absence of eosinophiles in the earliest examinations. 4. The early high percentage of macrocytes. 5. The early presence of normoblasts and megaloblasts. 6. The leucopenia.

Two Cases of Pernicious Anemia Due to the Bothriocephalus Latus.—Dr. Alfred Meyer reported these cases. The first was that of a female domestic, 22 years old, a native of Finland. She was admitted to Mt. Sinai Hospital on November 6, 1903. She stated that for a year prior to her admission she had suffered from weakness, with increasing pallor. This was marked, and of a yellowish hue. There were loud systolic murmurs at the apex and in the aortic area, with slight edema of the extremities. A blood examination showed red blood cells, 780,000; white blood cells, 5,000; hemoglobin, 15 per cent. There were numerous ecchymoses upon the arms and about the ankles and trochanters, and large retinal hemorrhages, especially in the right eye. The temperature ranged from 100° to 102° F. during the patient's first fortnight in the hospital. On the eighth day after admission ova were for the first time found in the stools, but they were not recognized as those of any known parasite. A few days later, thirty grains of thymol were given in two doses, and four hours later, a tapeworm was passed which proved to be a bothriocephalus latus, measuring almost nine feet in length. Ova were still found in the stools from time to time until nine days after the expulsion of the worm, when they disappeared for a period of three weeks and then were again found for one day only. The improvement of the patient was immediate and truly marvelous. The mucous membranes rapidly improved in color. She gained thirteen pounds in weight, the hemoglobin rose from 15 per cent. to 63 per cent., and the red blood cells from 780,000 to 3,460,000. The second case reported by Dr. Meyer was that of a woman who was still an inmate of Mt. Sinai Hospital, to which she was admitted on December 7, 1904. She was 25 years old, married, and a native of Poland. Her illness began about two months before the birth of her first child, with a swelling of the feet and legs. About the same time her pallor became noticeable and progressively increased. She stated that she saw segments of a worm in her stools about a year before. Upon admission, there was marked pallor of the body and mucous membranes, with an icteric tinge. There was edema of the lids and extremities. A systolic murmur was heard at the apex and in the pulmonic area. Her temperature was 101.2°. A blood count showed 660,000 red blood cells; 5,400 white blood cells, and 10 per cent. of hemoglobin. Dr. E. Gruening, who examined the fundus, reported numerous hemorrhages along the veins; also hemorrhages where there were no veins. An examination of the stools showed a large number of ova of the bothriocephalus latus. Thymol was given in half drachm doses, preceded and followed by castor oil, but the worm was not expelled. The same negative result followed the use of the ethereal extract of filix mas. On December 19 the red blood cells numbered 556,000, a loss of a hundred thousand in eleven days. On January 3, 1905, the red blood cells numbered 468,000, another loss of about ninety thousand. On January 7 some segments of bothriocephalus latus passed, and ova were found for the first and only time since the administration of anthelmintics was begun. Many and varied doses of thymol, filix mas, and pelletierine sulphate were employed, but without expelling the parasite. On January 16 the red blood cells numbered 1,176,000, having nearly trebled in thirteen days; the white blood cells numbered 5,800, and the hemoglobin was 21 per cent. The case was still under observation.

A Case of Double Infection with Uncinaria Duodenalis and Strongyloides Intestinalis.—Dr. William P. Northrup reported this case. The patient was a girl of nine years. Both of her parents were dead; cause unknown. The child was born and had always lived in South America up to six months ago. The past summer she had spent in Tennessee and Alabama. Up to two years ago she had lived under the poorest conditions, in a neighborhood where many died of dysentery and starvation. Her present illness began about eighteen months ago, her chief trouble being continued looseness of the bowels. She had at times from fifteen to twenty movements of the bowels a day, the stools being loose and containing blood and mucus. Since she came to this country, six months ago, her condition had slowly improved. There had been protrusion of the bowel from the anus following each movement. Her general health varied with the severity of the dysentery. When it was most severe she lost flesh and strength, became pale, short of breath, and showed no inclination to play. For the past six months she had been improving. Her bowels moved five or six times a day, her color was better, and she had more strength. The blood examination showed a moderate secondary anemia, with marked increase in the eosinophile leucocytes, suggesting the presence of some intestinal parasite. Examination of the feces showed segmenting ova, which appeared to be those of the uncinaria duodenalis (or ankylostoma duodenale—the hook-worm). Ova of trichocephalus dispar—the whip-worm, were also found. Under treatment the patient had improved, but was still under observation.

Dr. Fred Palmer Solley, who had made the microscopical examinations in the case reported by Dr. Northrup, said that, beside the ova of the uncinaria duodenalis and the trichocephalus dispar, free-swimming embryos were seen a few days later in the freshly passed stools. These embryos were of the so-called rhabditiform type, with a short, bottle-shaped esophagus. So far as their appearance was concerned, they might have been those of either uncinaria duodenalis or strongyloides intestinalis—the Cochin-China diarrhea worm. Further observation showed that the numerous segmenting ova present in the feces of this case were uncinaria ova, while the embryos were held to be strongyloides intestinalis. This opinion was confirmed by Dr. Stiles of Washington, to whom a specimen of the feces was sent. Ciliated infusoria, apparently the trichomonas intestinalis, were also observed from time to time in the stools. These had no especial significance, excepting that they seemed to thrive under catarrhal conditions of the intestine. The trichocephalus dispar, mentioned above, was also of no pathological importance. The association of the uncinaria with strongyloides intestinalis was, however, of great interest. The predominant effect of the combined infection in the case under discussion had been a persistent diarrhea, lasting eighteen months. The anemia in this case had not been pronounced, the red cells ranging from four to five millions, and the hemoglobin from 60 to 65 per cent. Evidently the uncinaria, which were capable of producing grave forms of anemia, were not present in great numbers. Indeed, their ova had now almost disappeared under repeated small doses of thymol, and but one mutilated representative of the adult hook-worm was found in the stools during treatment. The diarrhea was apparently the direct result of the presence of the Cochin-China diarrhea worm, since the number of embryos in the stools was noticed to be in proportion to the severity of the diarrhea. The leucocytes in this case gave the first clue to the condition. The total leucocyte count had ranged from 9,000 to 27,000, and seemed to vary with the severity of the diarrhea and the number of embryos present in the stools. There had been a constant eosinophilia of from 12 per cent. to 39.5 per cent., and it was well known that an increase of eosinophiles was very constantly associated with uncinariasis.

The Limitations of the Value of Nitroglycerin as a Therapeutic Agent.—Dr. H. P. Loomis, read this paper. (See page 411.)

Dr. Egbert Le Fevre said his results with the use of nitroglycerin had been somewhat different from those reported by Dr. Loomis. The effects of the drug varied, according to the type of arterial tension one had to deal with. After progressive fibrotic changes had occurred in the arterial walls, and there were practically no muscular elements left, little could be expected from nitroglycerin in its action upon the general circulatory system. In another type of cases, which had been variously described by different writers, there was a tonic high tension pulse, with more or less evidence of cardiac hypertrophy; in these cases the condition responded very quickly to small doses of nitroglycerin, but the beneficial effects of the drug were transient. Dr. Le Fevre said he had seen two cases in which the use of large doses of nitroglycerin had been followed by cerebral hemorrhage. In both of these the head symptoms produced by even ordinary doses of the drug had been very profound. In one of the cases, in which the dose was increased from 1-50 to 1-25 of a grain, the patient developed the symptoms of a cerebral hemorrhage, and that lesion was found at autopsy. The second case was practically identical.

Dr. W. GILMAN THOMPSON said he was inclined to agree with Dr. Loomis that nitroglycerin was often an unreliable remedy, and that if given at all, it should be given fearlessly and in good-sized doses. The drug was used too much as a matter of routine, just as strychnine was for its opposite effect.

Dr. ANDREW H. SMITH thought that nitroglycerin or nitrite of amyl was of distinct value in certain cases of cyanosis, especially connected with pneumonia.

Dr. HENRY W. BERG referred to the recent experiments on dogs made by Dr. Crile of Cleveland in connection with the treatment of surgical shock. Crile found that the various stimulants that we were in the habit of laying so much stress upon—including alcohol, adrenalin, ether, and nitroglycerin—produced but a very slight increase in the blood pressure, and that soon after an injection of nitroglycerin the blood pressure was very much diminished. Dr. Berg said that in cases of failing heart occurring in the course of bronchopneumonia or diphtheria, he thought that nitroglycerin was the only drug of any real value. He also placed the greatest reliance upon it in acute pulmonary edema complicating aortic regurgitation. The speaker thought the action of nitroglycerin was a vasomotor one, dilating the terminal arterioles.

Regular Meeting, Held February 16, 1905.

Dr. CHARLES L. DANA IN THE CHAIR.

A Contribution to the Pathology of Sciatica.—Dr. J. RAMSEY HUNT presented this communication, and said that the study of the underlying pathological changes in sciatica was rarely taken up because of the fact that so few died during an attack, the disease not being a menace to life. He had been able to collect but eleven cases in which the condition of the nerve was noted post mortem, three of these receiving but an histological study. During the past fifteen years there had been no records of post-mortem examinations of those dying with sciatica. Sciatica he divided into two groups, first, the neurotic, with slowly developing symptoms, and, secondly, the neuritic, with inflammation of the sheaths and inflammation of the nerve fibers, and it was in this latter group that most of the cases of sciatica belonged. It was interesting to note that, in many cases, the local findings showed fine powdery deposits of urate of soda, similar deposits being found in the joints, and the nerve at some later period becoming saturated with urate of soda. The speaker then summarized the facts presented at autopsy in the eleven cases collected from the literature. He then gave a history of a patient, fifty-nine years old, who had an attack of sciatica on the left side in November, 1902. In six weeks the symptoms disappeared. In February, 1903, sciatic pains became very severe in the left leg, and the patient then applied for treatment. There were the usual tender points, but there were no demonstrable objective disturbances of sensibility. The muscles of the left thigh, the buttocks and leg showed fibrillary twitchings. There were signs of an arteriosclerosis. His symptoms became so acute that he was sent to Bellevue Hospital. In about three weeks the symptoms abated, and the patient was allowed to return to his home again. In standing or walking he favored the left leg, and there were twitchings in the muscles of the left side. The Achilles jerk became less in intensity. The left thigh and leg underwent a slight passive atrophy. The patient developed a croupous pneumonia and died on March 23, 1903. A complete autopsy was not allowed, but permission was given for examination of the affected nerve, the sciatic, as far down as the popliteal. In going downwards the trunk of the nerve was of greater volume than normal, due to the deposits of gelatinous material, some of this material being deposited in the popliteal space as well. The bifurcation of the internal popliteal nerve presented a normal appearance. The increase in the size of the nerve was not due to edema, but to firm, homogeneous, translucent deposits in the perineurium. In the examination of the microscopical sections there was no infiltration of round cells found, nor any signs of an acute inflammation. No fibrin could be demonstrated. The nerve fibers were free from deposits. The connective tissue was thickened along the course of the arteries of the sheath, which were markedly sclerosed and thickened. There was a small extravasation of blood found in the sheath. The examination of adjacent muscles gave negative results. In the case reported by Dr. Hunt there was no question as to the correctness of the diagnosis of sciatica. He did not care to express any opinion regarding the pathological nature of the cases reported, or his own, but they did seem to relate closely to gouty states.

Dr. B. SACHS said that the findings in Dr. Hunt's case might have been exceptional ones; all were not at all agreed that these deposits along the sheath of the nerve were gouty. The case strongly suggested the possibility of syphilis; all knew that gelatinous deposits were seen in syphilis of the spinal cord along the greater length of the cord, so that if these were not gouty deposits, the possibility of their being syphilitic should be borne in mind. This would, in his opinion, go a long way towards proving a syphilitic perineuritis.

Dr. JAMES J. WALSH thought it was unfortunate that the term uric acid should have been introduced into the discussion, because it was a term we were trying so hard to get away from. Even though we knew little about the gouty manifestations we did know that they were earned rather than hereditary. Some people had too much lead and others too much alcohol in their systems. Certain nerves were most prone to be affected according to their uses; for instance, the tailor might suffer from lumbago, the shoveller from sciatica, the woman with much sweeping from neuritis in the forearm, etc. It should be borne in mind that the particular nerves the patients were in the habit of using were the ones most liable to disturbances.

Dr. ROBERT T. MORRIS said that fifteen years ago he operated a number of times upon the sciatic nerve, stretching it, for sciatica, but during the past two years he had not been called upon to stretch even once. He asked the reason for this. Even admitting that many of the cases were due to a toxemia, entirely separated from cases due to a direct mechanical irritation, he asked why more cases were not seen to-day. A rational explanation for the presence of the gelatinous fluid would be as follows: First, a neuritis; then a plastic exudation; then an adhesion between the nerve sheath and the nerve; later an attack of sciatica would be excited by the irritation caused by these adhesions. It would be remembered that these adhesions were well defined between the nerve and its sheath. Subjecting the nerve to fifteen or twenty pounds weight would pull the adhesions out, and in some cases the relief would be permanent, then again others would be marked by recurrences. To-day in commencing attacks of sciatica it would be well to remove the prostate, fasten up a uterus, or do some other operation which would remove any direct mechanical pressure upon the sciatic nerve.

Dr. J. Ramsey Hunt said that there was no possibility of syphilis in the case he reported.

The Treatment of Acne.—Dr. GEORGE THOMAS JACKSON read this paper. (See page 408.)

Phases of Grip, 1904-1905.—Dr. JAMES J. WALSH said that it was now about fifteen years since the pandemic of influenza began in Bokhara in Central Asia and spread westward throughout the civilized world. The disease was apparently communicated from person to person. None of the civilized countries were spared, and the death rate was as high as in most of the historic epidemics of grip of which we have any account. Since that time the disease had recurred until we might feel justified in calling it endemic, though this did not mean that it would continue indefinitely to be an affection of the large cities of the world. In previous epidemics it was noted that the disease continued to appear for a time and then gradually passed out of existence. Whether the disease exhausted the material which it might affect, or just why the cessations of virulence occurred, was not clear. One attack seemed to predispose to recurrences of the disease. It was possible that all the affections called influenza were really not the specific disease which was caused by Pfeiffer's bacillus. It was well recognized that cold itself was not the most important factor in the production of the affections that had been grouped under the designation of influenza. The worst epidemic occurred in a mild winter, and in those portions of winters characterized by higher temperature the disease seemed to be more prevalent. Dampness and fogginess seemed to favor the incubation of the agent which caused the affection. The study of influenza had persuaded the medical profession that colds were due to infectious agents. As a matter of fact colds were much more common in the lower part of the temperate zone than they were farther north, and the same was true with regard to the temperature due to altitude. It might have been expected that the severer winter of 1904 might have witnessed fewer cases of grip than the present winter, the early portion of which was mild. The statistics of New York City did not show this difference. Unfortunately the incidence of grip could not be determined, as it was not reported, and, in mortality statistics, the cause of death was usually assigned to some complications or sequela which had caused the fatal termination. As near as could be ascertained there were, during the first quarter of 1904, 176 deaths from this cause. In January there were forty-five, in February, fifty-seven, and in March, seventy-four. Comparing this with January of the present year, it was found that only thirty-eight deaths had been reported from grip, with ten so far in February. The fatal cases occurred just after the periods of mild weather. The statement had been made that the prevalence of grip as an endemic had been the principal cause in the increase of the death rate from pneumonia. It was shown, however, at the meeting of the Section on Hygiene of the American Medical Association, in June, 1904, that the apparent increase in pneumonia mortality was due to the fact that more deaths from this disease were reported under the age of five and over the age of sixty than used to be the case. There had been no increase in the death rate from pneumonia, and consequently influenza had had no effect in this way. In some parts of the country influenza had been seriously epidemic during the present year. In Chicago it had been more prevalent than at any time since the epidemic of 1891. Careful inquiry had shown that there was no such an epidemic in New York State, the New England States, or in Philadelphia. Few acute infective diseases had manifested in all times and at all places the stamp of uniformity so strongly in the aggregate of symptoms as influenza. The various epidemics had differed among themselves as regarded the course of the disease, but these differences had been found to be associated either with a particular season of the year or kind of weather, or with something special in the locality, and had not infrequently been determined by the individuality of the sick person rather than by anything in external causation.

The Bacteriology of Colds and Grip.—Dr. William H. Park said that the first difficulty that confronted us in endeavoring to understand the bacteriology of these conditions was the presence in nearly all throats of those living in New York City, of the very bacteria which were considered to be the exciting factors in grip and bronchitis. Pneumococci and streptococci were readily found in the mucus of all throats, and at this time of year influenza bacilli could be frequently isolated. It was true that during inflammations of the mucous membranes one or more of these species greatly increased in numbers and also probably in virulence, but these were matters difficult to demonstrate. During last winter, as well as during this, the influenza bacilli were only occasionally met with in cases of colds and pneumonia in December, but became more prevalent in these cases during January and February. In eight cases of colds and bronchitis examined on Tuesday of this week influenza bacilli were present in seven, but usually in less number than the cocci. Dr. Park said that it seemed almost certain that the bacteria quietly resting in our throats were capable of exciting disease when the natural resistance of the tissues was lowered through taking cold. It was also probable that these same bacteria had their virulence increased during an infection, and were thus, when transferred to another throat, more liable to excite disease than those existing in it. During an epidemic the virulence of some became so increased by frequent transfers that they might excite disease in a certain proportion of individuals, by simply finding a lodgment in the mucous membranes. The fact that the pneumococci, streptococci, and influenza bacilli were usually associated made it very difficult to decide in a given case to what organism the symptoms were chiefly due. It was generally impossible to decide from the symptoms alone what organism was the chief factor. He thought the bacteriological investigations of a case were rather of scientific interest than of practical value. A simple examination of the smear from the throat mucus was usually sufficient for a good guess as to the presence of one or more of the varieties mentioned. The examination of a blood agar plate culture of the mucus was almost diagnostic. It was probable that there were a number of varieties of influenza bacilli, and at present it was impossible to be certain whether some grouped as influenza bacilli were really of that type of organism.

Dr. T. W. Hastings said that during the past year and a half an examination of the sputum sent to the laboratory, especially from cases of acute and chronic bronchitis, and some cases diagnosed as grip, had revealed the presence of a great number of organisms. In the acute cases which ran their course with coryza, the inflammation extending down into the bronchial tubes, both streptococci and pneumococci had been found to be specially numerous, as well as that organism written about so much lately in this country, the Pfeiffer bacillus. This influenza bacillus had been found in ten cases of acute conjunctivitis, in one case of purulent vaginitis, in seven cases of acute coryza which had been diagnosed as acute influenza. In some cases of chronic bronchitis the pneumococcus and the micrococcus of Pfeiffer had been found mixed. In its morphology and stain reactions the grip bacillus resembled the gonococcus. It grew readily in plain agar, or in agar and glycerin.

Dr. Arnold Knapp said that in young infants attacked by severe conjunctivitis a form of pseudomembrane had formed, which led to a perforation of the cornea, and in these cases a microorganism had been cultivated which was identical with the influenza bacillus, and he believed Pfeiffers' bacillus would attack the conjunctiva the same as the gonococcus or the diphtheria bacillus would. In 120 trachoma cases this bacillus had been found in eight, and they had all the characteristics of the influenza bacillus. In order to compare the two organisms he obtained a culture from a true case of grip pneumonia, and the two organisms could not be distinguished either morphologically or culturally. It was interesting to note that the organism would grow only in a medium containing hemoglobin. In an examination of the grip otitides complications, as a rule the infections were found to be mixed. Among the most interesting sequelæ of eye diseases were the cases with inflammation of the optic nerve.

Dr. Warren Coleman said that in influenza the temperature curve was remarkably low after the initial rise, but the intense prostration these patients experienced was out of all proportion to the virulence of the infection. He referred to two cases of marked cardiac disturbances, in both without undue elevation of temperature.

Dr. L. A. Connor spoke of the feeling of helplessness he experienced when called upon to treat these cases of grip; treatment was entirely unavailing. The bacterial findings particularly interested him, and he believed that most of the cases of ordinary colds were not cases of grip at all. He said he had been trying for three years to find a true case of influenza at the Hudson Street Hospital, but had failed. The so-called grip cases one saw constantly were not cases of influenza. He thought a sharp distinction should be made between the catarrhal colds and true epidemic influenza, and the latter was very rarely seen.

Dr. B. Sachs said that when a patient had pains in the bones and back, with an intense headache, with a sudden onset of a febrile movement lasting a few days, and then a more or less rapid subsidence of the symptoms, there was little doubt as to the existence of a disorder of an infectious nature, even in the absence of other symptoms. Disregarding the feature of cold, much more importance should be attached to the other symptoms. There was a disease, infectious in nature, prevalent in this city, with no other diagnosis than grip or influenza. He said he was struck by the fact that the sequelæ were much more severe twelve or fifteen years ago than at present; at that time he had occasion to see a number of cases diagnosed as encephalitis and meningitis due to influenza; there was nothing to distinguish these cases from the ordinary ones except possibly that the entire development and subsidence of the disease were more rapid than in those from ordinary causes. The intensity of the headaches was greater at that time than now.

Dr. Edward B. Dench said that the very severe colds or attacks of grip during the last two years had been marked by rather characteristic aural complications. In most cases the invasion had been sudden, the pain coming on without prodromal symptoms of discomfort and being very severe. There had been almost invariably some elevation of temperature, quite marked in the severer cases. Even in those cases in which the pain had lasted only a few hours there was well marked congestion of the membrana tympani, and, in severer cases, marked bulging of the drum membrane in addition to the change in color. The smears and cultures made from the discharge after incision of the drum membrane had usually shown a streptococcus or a pneumococcus infection. In quite a number of cases a mixed infection was shown, but a staphylococcus infection had been rare. One of the most noticeable symptoms in all of these cases was the early development of mastoid tenderness. This tenderness was more marked at the tip of the mastoid than over the antrum. In the majority of cases it had disappeared in the course of a few days, after free incision of the membrana tympani. He had seen this mastoid tenderness so mild as not to demand incision of the membrana tympani, and whatever effusion had taken place into the tympanic cavity was completely absorbed. It was wise, therefore, in cases of well pronounced grip infection to delay operative interference on the mastoid for a number of hours, and to observe the effect of free drainage of the tympanic cavity. He did not employ local applications of cold to relieve the mastoid congestion, as this measure simply masked the symptoms. He had found it almost invariably necessary to make a free incision of the drum membrane, in spite of the fact that the membrane had ruptured spontaneously, as in all of these cases drainage was insufficient. In cases of grip infection extensive bone destruction might occur with extreme rapidity, and might demand operative interference at a very early date. Experience seemed to teach that the only wise procedure in any case of acute otitis following an attack of grip, was to perform a free myringotomy as soon as there was well marked evidence of any inflammation within the tympanic cavity. It also taught that if mastoid tenderness persisted after this procedure, and especially if the temperature remained elevated, the surgeon should not delay opening the mastoid at once. He advocated this plan of treatment on account of the very extensive involvement of the mastoid process which had been noted, even in cases where the aural involvement had existed for only a short time. In mild cases where the aural symptoms had consisted of some slight feeling of discomfort in the ear, without pronounced pain, or where the pain had lasted but a few hours and the drum membrane had been but slightly congested or merely retracted, he had found that relief came, without surgical interference, under catheter inflation and the application of astringent solutions to the congested nasopharyngeal mucous membrane. In those cases where a serous effusion had been present in the tympanum, and where myringotomy was not necessary, the fluid had been absorbed through the lymphatics in the course of a few days or weeks. He was of the opinion that the severer aural complications could be prevented if, as soon as aural symptoms appeared, measures were instituted for the relief of congestion in the middle ear and in the nose and pharynx. The general practitioner should bear in mind the close relation which existed between the nasopharynx and the middle ear, and should treat these prodromal cases of grip characterized by intense nasopharyngeal congestion by means of local applications; in this way the number of cases of acute otitis following grip might be materially diminished in number.

Dr. Joseph E. Winters said that nothing was more difficult than to make a correct diagnosis of influenza. If a child had grip and was placed in a warm room and wrapped in blankets and kept in a free perspiration, in the majority of cases it would get well.

Dr. J. Finley Bell of Englewood divided influenza into two classes clinically, viz., those with catarrhal symptoms, and those with nervous symptoms most marked. Large doses of salicylate of sodium had given him the best results. Follicular tonsillitis had been frequently mistaken for influenza.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

193d Regular Meeting, Held February 3, 1905.

The President, Dr. Charles Stedman Bull, in the Chair.

An Extensive Epithelial Cancer of the Glans Penis Treated with the Röntgen Rays.—Dr. Robert Abbe presented a man who had been referred to him two months ago for amputation of the penis, owing to an extensive cancer involving the glans. A section of tissue which was removed and examined microscopically proved the lesion to be an epithelial cancer. About half a dozen glands in each groin were enlarged. The lesion involved a considerable portion of the glans and corona, and extended well up on the foreskin, forming altogether a large mass. Before resorting to amputation, Dr. Abbe said he thought it advisable to give the Röntgen rays a trial. Exposures of five minutes each were given twice weekly, followed in each instance by an exposure of five minutes to the rays from a Piffard lamp. After two weeks' treatment, the mass became flattened, with the appearance of apparently healthy granulating tissue, and the enlarged glands in the groin could no longer be felt. Two weeks later the cicatrization had extended in all directions, and at the present time, after thirteen exposures, there was nothing left but a small healing ulcer, which was rapidly cicatrizing. In order to demonstrate the extent of the improvement that had taken place in this case, Dr. Abbe exhibited four plaster casts colored to illustrate the appearance of the lesion as it was originally and at different stages of the treatment.

In reply to a question, Dr. Abbe said that the Piffard lamp, which he had employed in this case as an adjuvant to the Röntgen rays, was a lamp with iron electrodes, which gave a maximum of ultra-violet light, and besides that emitted rays which in their action ionized the surrounding air, and discharged the electroscope in a manner very similar to those of radium and the *x*-rays.

Dr. Abbe said he thought there was no doubt that radium would prove effective in certain cases of malignant disease. In the case of giant-celled sarcoma of the lower jaw in a boy who had been presented at several of the meetings of the society, a cure was effected by the use of radium alone, and the patient still remained perfectly well a year and a half after beginning treatment. In another case of lupus of the forehead, with apparently beginning carcinomatous invasion, two applications of the radium caused a disappearance of the lesion, which had existed for two years, and it remained cured after more than a year. An interesting feature in connection with his case of epithelial cancer of the penis was the rapid disappearance of the enlarged glands in the groin, which were fully as large as beans when the patient was first seen. Their enlargement may have been due to simple irritation rather than to malignant involvement. The cause of their rapid retrogression must be conjectural, but it was easy to conceive that some by-product or antitoxin of the retrograding growth during *x*-ray treatment found its way along the lymphatics to the infected glands, just as the original poison had done. He had observed the same thing in malignant growths involving the axillary glands.

Lesion of the Lenticular Nucleus Found in Coal Gas Poisoning.—Dr. WALTER B. JAMES exhibited a brain section that showed very strikingly a bilateral, symmetrical softening of the globus pallidus of the lenticular nuclei. He had seen two fatal cases of coal gas poisoning during the past month, and in both of them this lesion had been found. It was first described some years ago, and was considered by some as quite characteristic of coal gas poisoning. The speaker said that while in many instances patients who suffered from coal gas poisoning recovered entirely, there were a fair number who recovered from the immediate effects of the gas, but who remained in a state of absolute lethargy and finally died, in spite of the fact that the gas had apparently entirely disappeared from the blood, as shown by the usual test. The specimen exhibited by Dr. James was obtained from a patient at Roosevelt Hospital, a man who got over the immediate effects of the coal gas, but remained in a lethargic condition from which he could be roused, but he never moved of his own accord. There was no paralysis; only slight muscular rigidity. One patellar reflex was exaggerated; the other absent. The pupils reacted slightly to light. There were no disturbances of sensation. There was a marked tendency towards the development of pressure sores, and death finally supervened. The wife of this patient, who had also suffered from coal gas poisoning, was still in the hospital, and in this same lethargic condition. In a third case, the patient passed through this stage, although she never recovered entirely. She was sent to Bellevue Hospital, where she developed certain mental symptoms, and she was subsequently transferred to the Insane Asylum on Ward's Island, where she died just seven weeks after the occurrence of the coal gas poisoning. Dr. James said that the clinical symptoms of this condition were very interesting, as was also this peculiar lesion in the brain, which appeared to be a very constant one. The occurrence of softening in this particular area had been explained on the theory that it was supplied by a small artery, a branch of the interior cerebral, which it left at such an acute angle that, in the adult brain particularly, this region was very poorly supplied with blood.

Dr. GEORGE L. PEABODY thought that the anatomical peculiarity referred to by Dr. James and the comparatively feeble blood-pressure in the region of the lenticular nucleus would hardly account for the pathological condition observed in these cases, inasmuch as these influences were of such common occurrence in all cases of great lowering of blood-pressure in other pathological states, without causing this lesion. It was quite characteristic of coal gas poisoning, and had been referred to by Dr. W. Gilman Thompson in a paper on this subject presented in Washington last year, as well as by other writers.

Dr. KINNICUTT said that it might properly be asked if the characteristic nervous symptoms of coal gas poisoning could in any way be dependent upon the lesion described by Dr. James. A lesion at the particular site shown in the specimen should give no symptoms, and should in no way affect the outcome of the disease, according to Dr. Starr.

Dr. M. ALLEN STARR said he thought the fact was well established that the poison of coal gas attacked the entire nervous system. Cases of peripheral neuritis had been traced to it, and recent investigation had shown that a peripheral neuritis was usually associated with a degenerative process in the cells of the spinal cord, as well as in the peripheral nerve trunks. The speaker said he had no doubt that further investigation would show that in cases of coal gas poisoning the effects of the gas were not limited to these gross lesions in the lenticular nucleus, which, like the appendix, was a relic of past experience and apparently served no useful purpose. Cases of very extensive destruction of the lenticular nucleus, and especially of the globus pallidus, had been reported in which the lesion had given rise to no symptoms during life. He recalled a specimen shown by Meynert, in which both lenticular nuclei had been destroyed by cysts. The lesions were discovered at autopsy, the patient having shown no symptoms of paralysis or of a mental character during life, and the specimen was exhibited as an evidence of the fact that the lenticular nucleus could be destroyed without producing any symptoms. In ordinary cerebral hemorrhage, with destruction of the lenticular nucleus, the symptoms were due to laceration or compression of the capsule, which lay on the inner side of the nucleus, and contained all the large tracts. Dr. Starr said he had seen a considerable number of cases of coal gas poisoning, including one of those referred to by Dr. James. He was inclined to ascribe the lethargic condition of these patients to a cortical lesion rather than to the softening of the lenticular nucleus.

Dr. PEABODY said that many of these patients recovered entirely after very pronounced symptoms. He recalled one patient who was comatose and had to be fed artificially through the nose for seven weeks, when she gradually became conscious and finally recovered entirely. He recalled other cases where the patients apparently had recovered and then had a relapse, and after days of increasing feebleness and indifference gradually passed into a condition of coma and died.

Specimen Showing Line of Union in the Sigmoid Flexure After End-to-End Anastomosis Following Resection of the Gut for Carcinoma.—Dr. CHARLES MCBURNEY showed this specimen. The patient was an elderly man, who had an acute attack of complete obstruction of the bowels nine years ago. The abdomen was much distended, and the exact location of the obstruction could not be made out. An immediate colostomy was done by Dr. McBurney, the caput coli being opened and the bowels evacuated. Examination through the abdominal excision revealed the existence of a small tumor in the descending colon. It was deeply situated on the left side, and no attempt was made at the time to remove it. About three weeks later, when the patient had recovered from the effects of the colostomy, the abdomen was opened on the left side, and a small dense tumor was found at about the middle of the sigmoid flexure. The tumor involved the entire circumference of the intestine and was clearly a carcinoma. It was excised, together with about three inches of intestine above and the same amount below, and the divided gut was brought together by an end-to-end anastomosis. There was apparently no glandular involvement. A microscopical examination of the tumor showed it to be an annular carcinoma of the bowel, which had reduced the caliber of the intestine to one-quarter of an inch.

The patient made an uneventful recovery and remained well up to less than two years ago, when he was killed by being shot through the head. At the coroner's autopsy Dr. McBurney secured the specimen of the bowel that had been operated on seven years previously. It showed no evidence of a recurrence of the malignant disease, and the lumen of the gut had been well maintained. No recurrence of malignant disease had taken place in the intestine or at any other point. The lumen of the gut at the point of union was very nearly, if not quite, normal in caliber. The function of the bowel from the time of operation till death had been perfect.

Cancer of the Appendix.—Dr. Kinnicutt referred to a case of primary carcinoma of the appendix in a girl of 18, operated upon six years ago. There had been no signs of a recurrence up to the present time. A little later a second case of primary carcinoma of the appendix had been reported by Dr. Prudden from the Pathological Laboratory of the College of Physicians and Surgeons.

The Surgical Treatment of Hemorrhoids.—Dr. McBurney also presented a communication with this title.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held February 27, 1905.

Dr. Henry S. Stearns in the Chair.

Spinal Hemorrhage.—Dr. William Browning of Brooklyn read this paper. He said that relatively few autopsies had been made on those who had died of spinal hemorrhage. A proper understanding of this condition should be based on a knowledge of the anatomy and mechanics of the local circulation. It should be remembered that the spinal cord was an elongated structure, more or less elastic, subjected to changes caused by gravity, etc., yet a thorough description was as yet impossible. The sensory and vasomotor supply was not understood in either the brain or spinal cord. The varieties of spinal hemorrhage, from an etiological standpoint, he considered under three categories, viz., traumatic, the most frequent of all; the secondary, as with inflammations or tumors, and the spontaneous, a form much disputed. All these forms occurred most frequently in the cervical region. The character and size of the cord, he said, played a minor rôle, but this region was probably more often involved because of the greater mobility of this part of the spinal column. Anatomically there were three distinct forms of spinal hemorrhage, the epidural, the submeningeal, and the myelitic. In considering the first variety he said that the blood-vessels in the epidural spaces were chiefly veins and constituted quite a plexus. Posteriorly there was more space than anteriorly; therefore, it followed that free blood would tend to collect behind the cord and dura and exert no uniform pressure upon any special part of the column. The effusion of blood here might be either traumatic or spontaneous in origin. The epidural form of spinal hemorrhage was found to be especially common in the new born. The correctness of current teachings upon certain points was verified in a collection of ten cases. He said it was a common teaching that the meningeal form of hemorrhage was more painful, but the epidural cases exhibited pain quite frequently. In nine out of these ten cases there seemed to be a sudden onset of the symptoms, due to rupture of aneurysms. The epidural cases should be distinguished from the meningeal forms. The loss of control of bladder and rectum, the motor paralyses, etc., were not considered by him. In these forms there was far less tendency to impairment or loss of sensation than in the myelitic forms. In those cases in which the blood collected by reason of the anatomical arrangement in the posterior part of the spinal canal there was hope from operative interference. The submeningeal form of spinal hemorrhage he divided into three classes, the subdural, the subarachnoidal, and the subpial. The first of these was comparatively unimportant, as also was the second. The subpial form gave rise to positive manifestations, yet it seemed to be impossible to get a true type because these cases were so largely associated with other cord troubles. Hemorrhage into the cord itself, or the form classed as myelitic, he divided into three divisions, the central or tubular, the punctate or multiple or capillary, and the focal forms. The central or tubular form occurred with the blood infiltrating longitudinally and more often resulted from injuries, such as fractures or dislocations, when the vessels would be torn across. This form had been subjected to special study within recent years. The second form referred to was usually associated with inflammatory processes. The third form, the focal, was the one that corresponded to the ordinary forms of spinal hemorrhage and he reviewed briefly the literature on the question whether these were primary or secondary in origin. It was surprising how many of the cord cases began before the period of life when cerebral hemorrhage was most frequently encountered. Among twenty cases noted there were only six that occurred in persons over 45 years of age. Fourteen of these cases were in males and six in females, probably showing that myelitic hemorrhage was not so much due to a degeneration as to active conditions of life. Where there were such complications of spinal hemorrhage as inflammations, fractures, dislocations, decubitus, etc., the outlook was correspondingly affected. In the submeningeal forms the complications had little independent significance. In the myelitic forms they were not rapidly fatal unless they occurred above the origin of the phrenic nerve. The course of lymphatic absorption was upwards, and therefore absorption went on slowly. Dr. Browning then gave a detailed history of a case.

Dr. F. W. Tilden reported the microscopical findings in the case detailed by Dr. Browning.

Dr. Harlow Brooks reported a few cases and demonstrated the microscopical findings with the stereopticon.

Dr. Edward D. Fisher said that spinal hemorrhage was not so common as many other diseases of the spinal cord, and we were not so familiar with it. A point he wished to emphasize was his belief that diseases of the blood-vessels were a frequent cause of spinal hemorrhage, such as arteriosclerosis, and the same diseases of the blood-vessels would lead to the same conditions in the cord as they were found to lead to in the brain. Spinal hemorrhage was more often due to traumatism. In caisson disease there was also a traumatic lesion. In looking over the literature and considering the classes of cases that presented themselves to his observation, he thought it better to divide these cases of spinal hemorrhage into two classes, the subdural and the intraspinal, the first including those cases Dr. Browning classed as epidural. In the epidural class he thought one obtained greater evidence of local injuries which might be a guide in diagnosis. It was not an easy matter to make a differential diagnosis between the subdural and intraspinal forms of spinal hemorrhage and at times almost impossible, at least at first. In the majority of these cases there were associated fractures of the spinal column. It was not a common thing to get an intraspinal hemorrhage without getting evidences of fracture of the spine itself. In making a differential diagnosis between subdural and intraspinal hemorrhages one could be guided somewhat by the fact that subdural hemorrhage would present greater symptoms of pain, which pain might be distributed through the extremities; the pain was not due so much to any lesion of the cord, but was probably due to pressure upon the posterior spinal nerve roots. This could also be obtained from hemorrhage into the substance of the spinal cord. The course of the blood naturally proceeded along the lines of least resistance, and therefore in most instances the hemorrhage was found in the gray matter of the cord. It was not necessarily, only usually, so unless the lesion was a destructive or a transverse lesion. Most often one-half the gray matter would be involved to a greater extent than the other one-half.

Ordinarily one would find the symptoms of a transverse myelitis present. The lesion might again be confined almost entirely to the anterior fibers of the cord. Dr. Fisher closed with the statement that, in the majority of cases, the hemorrhages encountered were intraspinal and not subdural. If the lesion was intraspinal no operation could relieve the condition; if subdural, there was some hope from operation. In many cases of fracture of the column or injury to the spine, he was in favor of operation because the operation itself would relieve pressure. If there was no fracture or injury to spine he would not advise any operative interference.

Dr. **Pierce Bailey** said that in studying spinal hemorrhage it was necessary to know whether we were dealing with the traumatic or the idiopathic variety. The idiopathic forms he considered to be extremely rare, and the correctness of diagnosis was always open to question. There were many forms of myelitis which began in the same manner as we expected to find spinal hemorrhage. He did not believe that cases of hematomyelia occurred except where there was present degeneration of blood vessels. Among the old people at the Alms House very few cases of paraplegia occurred. He referred to the important complications of syphilis, and here thrombi were more common than hemorrhage, and constituted a more important factor of spinal syphilis. In traumatic hematomyelia there were two classes, first, those in which the hemorrhage occurred independent of injury, and, secondly, those that occurred secondarily to crushing injuries, fractures, dislocations, and the like. In these latter cases the hematomyelia was apt to be associated with mutilations of the spinal cord. The question of hemorrhages occurring outside the spinal cord, he said, was a very important one from the surgeon's point of view, because the surgeon would be glad to operate.

Dr. **George W. Jacoby** said that nearly all the cases of spinal hemorrhage met with were in the spinal cord itself, and nine-tenths of them were due to traumatism. He said that if lumbar puncture were done, and one were sure that a vein had not been punctured, and one should withdraw blood mingled with cerebrospinal fluid, it would be fairly certain that one was dealing with hemorrhage. In many cases the hemorrhage into the cord was very little, and many of these cases were diagnosed as hysterical. In these cases one found atrophy of groups of muscles, wasting and fibrillation of muscles, reflexes of single muscles lost upon one side, and certain objective signs would be present, showing that one was dealing with a slight hemorrhage in the cord. These cases were the important ones from a medicolegal point of view as well as from a professional one. Syringomyelia following hemorrhage was very uncommon; still, he said, it did occur.

Dr. **William M. Leszynsky** said that the idiopathic variety of spinal hemorrhage was very difficult to prove, and he believed that all cases were due to direct traumatism or secondary to injuries of the spinal column itself. If one made a diagnosis of intraspinal hemorrhage the prognosis, as a matter of course, was bad. One did not expect, when the damage to the cord was great, to have absorption prove of value. But if it was due to a dural hemorrhage one could hope for absorption to take place. Operation, therefore, in these cases, would be of no value. He said that he had recently performed a lumbar puncture in a case of spinal hemorrhage resulting from traumatism in the lumbar region; this case had all the symptoms usually attendant upon such cases. Blood was withdrawn, not with the idea of curing the patient, but to relieve the pressure that was present. The patient was improved, but made no recovery, paraplegia still persisting.

The Open-Air Treatment at Home for Tuberculous Patients, with a Description of a Window Tent and Half Tent.—Drs. **S. A. Knopf** and **W. B. McLaughlin** presented this communication, which was read by Dr. Knopf. He said that the modern object of phthisiotherapy was to give the tuberculous patients the greatest amount of pure, fresh air for the greatest possible number of hours in the twenty-four. This constant exposure to the fresh, pure air was, of course, obtainable in an ideal way in the specially constructed sanatorium, where the patients reclined on comfortable chairs in the open rest-cure gallery during the day, and the beds were moved onto the open veranda at night. To provide the same advantages for the large number of consumptives who could not go to a sanatorium many appliances had been devised. In country homes suitable extensions could be made with relatively little expense, or, where this was impracticable, a so-called sleeping shack could be built, which would have a southern exposure. It could then serve as a rest-cure gallery by day and an open air sleeping place by night. In large cities, particularly among the poor, the flat roof and the fire-escape had been employed. He did not recommend the fire-escape, but said that a steamer chair placed upon the roof would answer the purpose of a typical reclining chair, and a large umbrella would serve as a protective awning. For patients who had a yard or a convenient flat roof, a half tent, which he presented, would prove very suitable. This half tent was composed of steel tubing, over which strong sail duck was stretched and secured by snap buttons. To prevent the tent from being overturned by the wind it was secured by ground spikes. He showed a model of a reclining chair, intended for outdoor use, made of bent enamel steel tubing with woven wire springs top and back. This chair was adjustable. The half tent and chair should be placed as nearly as possible so that the patient could be exposed to the sun and at the same time be sheltered from the wind. It was his conviction that nothing increased the patient's chances for recovery as much as sleeping at night in a pure, cool atmosphere. He presented a device which could be used in a tenement house as well as elsewhere. This window tent was an awning which, instead of being placed outside the window, was attached to the inside. The patient lying on the bed, which was placed parallel with the window, had his head and shoulders resting in the tent. The frame, which was attached to the awning, was placed in the lower half of the window, which it did not completely fill, a space of about three inches being left for the escape of warm air from the room. This space could be reduced according to the needs. The patient entered the tent through a flap on either side of the tent. The lower edge of the canvas was long enough to be tucked well under the mattress, so as to exclude the air from the room and protect the patient from draughts. He showed that ventilation in this tent was perfect. There was also a protruding portion which would b found useful in protecting the patient from storms. It was best to arrange this peak with hinges, so that it could b folded down so as to facilitate the closing of the windo when desirable. The advantages of this device were th the patient's body was kept thoroughly warm and that h received the air only in his face. The cot could be placed the window to suit his preference for sleeping upon right or left side. Again, this arrangement would attract the attention of outsiders. The bed could be plac alongside the window instead of at right angles to it, whi was an advantage in small rooms. It was necessary to rai the bed to the level of the window sill, but this could done with but little expense. The frame of the tent cou be made to fit any window, and could be moved away duri the day time, or if it was necessary to remain in bed duri the day time, the tent did not interfere with the comfo of others using the same room. In winter time the patie could be covered with enough blankets to secure absolu comfort. Where blankets were a scarcity, a number layers of newspaper between the coverings added greatly their warmth. When the light awakened the patient early, he could wear some thin, dark colored material ov the eyes. The pulmonary patient should be in communic tion with the person who took care of him by means of bell. He should also have a cuspidor, or, better, a pock flask, which he could keep under his pillow. Dr. Kno exhibited his latest model, which differed from the form in its greater simplicity and durability. It was oval, 2½

2¼ inches, and was made according to the principle of the non-reversible inkstand. A urinal should also be convenient, so that the patient need not leave his bed. It was always to be borne in mind that the more pleasing and entertaining the outlook from the veranda or rest-cure gallery the better for the sufferer. Lying for hours and hours, even in the open air, had resulted in some cases in hypostatic congestion of the lungs; the patient should change his position from time to time and take frequent deep inspirations. The afebrile patient should have some mild exercise. The amount of this exercise should be determined by taking the rectal temperature before and after exercising. A temperature of 100° was an indication for absolute rest. The patient should be gradually accustomed to the exposure to night and day air. He should first be placed in a reclining chair before the open window during the warmest part of the day, and the number of hours of exposure to the open air gradually increased until after a week or ten days he might begin with a few hours' sleeping in the window tent. Dr. Knopf emphasized the importance of the tuberculous patient dressing, undressing, taking his massage and hydrotherapeutic applications in a room with a temperature of at least 72° F. He thought there was no region in the United States where this open-air treatment could not be carried out with advantage.

Dr. H. P. Loomis said all agreed that cold, fresh air was good for consumptives, but that, in this climate, it was difficult to provide because of the extremes of weather and sudden changes. The cold wintery days here precluded such exposures, and he would dislike to see the general tone of the profession favoring the ideas of extremists, sleeping and spending the time out of doors. He thought this sleeping out doors was becoming more or less of a fad. Sleeping out of doors on verandas, etc., under clear, cold climatic conditions was all right, but not in New York City. The plan of sleeping in the room with a tent, as demonstrated by Dr. Knopf, especially when other people must live in the same room, he heartily approved of. He said he was watching with much interest the plan that was being carried out at Bellevue by the trustees. About eighty cases were under observation during the past year, and the results showed that they had gained in weight, and their general improvement had been extraordinary. Still, to him, it was a question whether it was the cold air that caused such marked improvement; the cases were selected ones; they had the best of attention and were watched most carefully; they were educated to care for themselves; their surroundings were made most agreeable, and much of the treatment employed was independent of the fresh air.

Dr. J. Blake White said that the tuberculous patient required treatment that was adapted not to a single entity claiming attention, but to a series of pathological conditions. He commended Dr. Knopf for what he had done in alleviating the sufferings of the consumptive poor. He believed that home treatment of these people, when properly carried out, could give as good results as the sanatorium treatment.

Dr. John H. Huddleston emphasized the importance of the practical suggestions that were made by Dr. Knopf. One who had followed the tuberculosis problems increasingly was certain that these patients must be treated at home, and if they were to be cured at all, it was there that they would be cured—at home. With the importance of home treatment borne in mind, it was easy to see that any device for home treatment of consumptives that was practicable and applicable was of far more importance than the consideration of climatic changes. Ventilation and warmth for the room were impossible to obtain without practically turning the room into a flue, and this provision seemed to be admirably adapted to overcome such objections in the device submitted by Dr. Knopf. Practically the room was turned inside out—making part of the room outdoors. It should not be forgotten that the outdoor treatment might be carried too far in some cases. The method itself, though, seemed to be correct in the arrangement of air currents.

Dr. Wm. T. Klein spoke of the results that had been obtained at the Riverside Hospital, on North Brother's Island, where the air was far more dust-free than in the city proper. The cases were advanced ones, some far advanced, that were sent there by the Health Department in order that they might not be a menace to the city. An incipient case was rarely received. A moderate number of cured patients were discharged, and more cures would have been added to their number if the patients could have been kept longer under observation. The treatment consisted essentially in hyperaëration, hyperalimentation, and respiratory exercises. The exercises were given only to afebrile patients, and with marked improvement in their chest capacities and in the dyspnea. Out of seventy-seven advanced cases only seven complained of night sweats at all, and those were very moderate. About 60 per cent. of these patients gained in weight an average of eight pounds. One gained forty-eight pounds in seven months. The medical treatment was symptomatic. These patients were encouraged to go outdoors.

Dr. Lazarus Zwisohn and Dr. Westcott also discussed the paper.

Dr. Knopf closed the discussion.

Recommendation of the Comitia Minora.—Dr. A. Jacobi said that the Comitia Minora had recommended that a committee of three be appointed by the president to oppose the bill legalizing and regulating Osteopathy, such a committee to provide suitable resolutions, which should be presented at a meeting of the society.

The president appointed as members of this committee, Drs. M. L. Foster, Thomas, and J. Gardner Smith.

Against Kinesipathy, Osteopathy, and Optometry Bills.—Dr. M. L. Foster offered a resolution, which was unanimously carried, that the County Medical Society protest against the passage of the bills to legalize and regulate the practice of kinesipathy, of osteopathy, and of optometry, because each bill was an attempt to evade the laws of the State; also that no license to practise any portion of the healing art should be granted to such men unless they had the proper training required by the present medical laws.

Chicago Medical Society.

At a meeting, held February 22, Dr. Otto J. Stein read a paper on "The Dunbar Antitoxin Method of Treating Hay Fever." He reported 26 cases. To obtain the greatest degree of immunity, it had been his experience that the remedy must be applied before the onset of an attack. At the very first sign, or just prior to the time when the attack was expected, and this time was fairly well known by those who suffered from this disorder, resort should be had to the medicine. When the disorder was once fully established, he had learned from his patients that they did not obtain the relief expected. It therefore was his invariable custom to emphasize to his patients the necessity of using the remedy at the very onset of the disease. Regarding the remedy, therefore, more as a prophylactic one, he had found that in all but three of his cases it proved efficient. When used during the height of an attack, it usually modified the severity of the same, but never entirely relieved the patient. The experience of some observers had been that even a well-developed attack might be relieved at once and entirely; but such had not been his experience. Dr. Joseph M. Patton read a paper on "Tricuspid Obstruction," and reported a case associated with the mitral and aortic lesions. Dr. William F. Waugh read a paper in which he reviewed Sajous' work on "The Internal Secretions." He said that this book must be reckoned with; that it ought to be carefully studied and vigorously opposed, in order that the measure of truth it contained might be clearly brought out, and its errors recognized and eliminated before they became crystalized in the working theories of the profession.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 11, 1905:

	Cases.	Deaths.
Measles	349	10
Diphtheria and Croup	296	26
Scarlet Fever	270	19
Smallpox	1	......
Chickenpox	159	.
Tuberculosis	480	183
Typhoid Fever	30	9
Cerebrospinal Meningitis	......	76
Typhus Fever	. ...	......
Yellow Fever	..	......
Cholera		..
Totals	1,585	323

The Recti in Relation to Hernia.—Landau draws attention to the fact that when straining efforts are made after expiration, the recti muscles broaden out and their outer edges are pushed sidewise over the inguinal regions, so as to form a very considerable addition to the strength of these defects in the muscular wall. After inspiration, however, the recti are unable to become wider, and the inguinal openings are left unguarded. It is customary to take a deep inspiration and close the glottis before exerting any muscular force, because in this way sufficient oxygen is furnished to last for the next few moments when no respiratory movements are made, while the distended chest also affords a better hold for the muscles of the upper extremity. It would be well for those having a predisposition to hernia to train themselves to reverse the usual procedure and to make straining efforts, sneeze, etc., only after emptying the lungs, as in this way the recti would be made to give support to the weak inguinal canal.—*Zentralblatt f. Chirurgie.*

The Duration of Human Pregnancy.—Blau and Christofoletti examined the records of the obstetrical clinics of Schauta and Chrobak for the years 1892-1901, comprising 68,032 births, in order to determine the correlation of large children and protracted gestation. Among this number 1,778 of the children weighed more than 4,000 g., and in 150 of these pregnancy had lasted over 300 days, and in 135 over 302 days. These figures are closely in accord with those obtained by V. Winkel and Füth, and lead the authors to conclude that gestation may be protracted beyond the legal three hundred and two days, and that the delay occurs more often with large children than with those which do not pass middle size.—*Monatschrift f. Geburtshülfe u. Gynäkologie.*

Tuberculous Adenitis Treated by the X-Ray.—G. E. Pfahler believes that in the crusade against tuberculosis one of the most important points of attack is that of tuberculous adenitis. The *x*-ray treatment is giving better and better results. Bullitt has collected 226 cases that were subjected to this method, with the following results: Seventy-nine, or 35 per cent., were cured; 92, or 40 per cent., were improved; and 55, or 25 per cent., were unimproved. Even if no more cures can be reported from the use of this method than by surgical methods, the scar is avoided, and that is a distinct gain. The writer concludes that although it is too early to estimate the chances of recurrence after *x*-ray treatment, still it offers the best cosmetic results; the danger of secondary involvement or dissemination is lessened; suppurating glands should be incised and drained, and then subjected at once to *x*-ray treatment; cases should be treated as early as possible. The writer has had two cases which have remained well for a year.—*The Therapeutic Gazette,* January 15, 1905.

Rupture of Gall-Bladder (Spontaneous and Traumat Operative and Nonoperative). An Historical Review 203 Cases.—Benjamin Merrill Ricketts classifies the ca which he reports into the spontaneous and the traum rupture, and these he separates again into four divisio He mentions 37 cases of spontaneous rupture of the g bladder, which have been operated upon successfully, shows that 80 per cent. of these have been females; one or more concretions have been found in 72 per of them, and that 80 per cent. of these successful ope have been cholecystotomies. In another group of 27 in about 60 per cent. of which concretions were operation was successful. As to sex, there was a dominance of neither. Of the unsuccessful operation per cent. were abdominal sections. In other groups, covered without operation, while 89 died without ope concretions being found in about 60 per cent. To 58 per cent. of those operated upon recovered, whi 6 per cent. of those not operated upon recovered. traumatic cases, 23 of those operated upon recovered, 3 died. Fourteen died without operation, peritoniti the general cause. Four cases recovered without ope probably from drainage. Of the cases of traumatic 88 per cent. of those operated upon recovered, while cent. of those not operated upon recovered.—*St. Medical Review.*

Health Reports.—The following cases of smallpo low fever, cholera, and plague have been reported Surgeon General, Public Health and Marine Hospit vice, during the week ended March 11, 1905:

SMALLPOX—UNITED STATES.

		CASES.
California, Los Angeles	Feb. 18–25	[illegible]
San Francisco	Feb. 18–25	[illegible]
Florida, Jacksonville	Feb. 25–Mar. 4	[illegible]
Illinois, Chicago	Feb. 25–Mar. 4	[illegible]
Indiana, Hammond	Feb. 21–28	[illegible]
Kentucky, Louisville	Feb. 23–Mar. 2	[illegible]
Louisiana, New Orleans	Feb. 25–Mar. 4	[illegible] 4 im
Michigan, Detroit	Feb. 25–Mar. 4	[illegible]
At 74 Localities	Feb. 11–18	(Pre
Missouri, St. Louis	Feb. 25–Mar. 4	47
Nebraska, Omaha	Feb. 25–Mar. 4	[illegible]
New York, Mount Vernon	Feb. 25–Mar. 4	1
Ohio, Toledo	Feb. 25–Mar. 4	3
Tennessee, Memphis	Feb. 25–Mar. 4	23
Nashville	Feb. 25–Mar. 4	6
West Virginia, Wheeling	Feb. 25–Mar. 4	1
Wisconsin, Milwaukee	Feb. 11–25	21

SMALLPOX—FOREIGN.

Bosnia and Herzegovina	Dec. 1–31	17
France, Paris	Feb. 11–18	8
Nantes	Feb. 8–22	19
Great Britain, Leeds	Feb. 11–18	9
Leith	Feb. 11–18	3
London	Feb. 11–18	3
New Castle-on-Tyne	Feb. 11–18	5
Nottingham	Feb. 11–18	1
South Shields	Feb. 11–18	[illegible]
India, Bombay	Jan. 31–Feb. 7	......
Karachi	Jan. 9–Feb. 5	[illegible]
Madras	Jan. 28–Feb. 3	......
Italy, Lecce	Feb. 9–16	[illegible]
Treviso Province	Feb. 9–16	[illegible]
Japan, Ehime	Feb. 2	[illegible]
Fukoka	Feb. 2	[illegible]
Hiroshima	Feb. 2	[illegible]
Kumamoto	Feb. 2	1
Nagasaki	Feb. 2	2
Osaka	Feb. 2	[illegible]
Yamaguchi	Feb. 2	1
Mexico, City of Mexico	Jan. 27–Feb. 11	4
Straits Settlements, Singapore	Jan. 14–21	......

SMALLPOX—INSULAR.

Philippine Islands, Manila	Jan. 7–28	5

YELLOW FEVER.

Mexico, Coatzacoalcos	Feb. 11–18	1
Panama, Panama	Jan. 1–Feb. 14	27

CHOLERA.

India, Bombay	Jan. 31–Feb. 7	......
Russia, Erivan	Jan. 16–23	......
Saratow	Jan. 16–23	5

PLAGUE—INSULAR.

Hawaii, Aiea	Mar. 2	......

PLAGUE—FOREIGN.

Arabia, Aden	Feb. 4–11	230	
India, General	Jan. 21–28	38,204	33
Bombay	Jan. 31–Feb. 7	......	
Calcutta	Jan. 28–Feb. 4	......	
Karachi	Jan. 29–Feb. 5	44	
Russia, Ural Territory	Jan. 3–9	8	

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Original Articles.

MANUEL GARCIA: TEACHER, DISCOVERER, AND MAN.*

By JAMES E. NEWCOMB, M.D.,
NEW YORK.

The spirit of scientific medicine has ever been that of a true eclecticism. Its motto has been "Truth against the world." From every quarter it has sought truth and appropriated it wherever found. It learned from a monk, as Dr. Holmes reminds us, how to use antimony, from a Jesuit how to cure agues, from a friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a post-master how to sound the Eustachian tube, from a dairy-maid how to prevent smallpox and from an old market-woman how to catch the itch insect. To this unique enumeration let it be added that half a century ago it learned from a teacher of singing the perfected art of examining the interior of the larynx. From this period dates the renaissance of our knowledge of diseases of this organ and of contiguous structures.

During the present month the minds of laryngologists the world over have had but one Mecca, a modest house shaded among the trees, back a little way from one of the streets of Northwestern London. The gate-post bears the modest inscription, "Mon Abri" (my shelter). Here lives Manuel Garcia, who has to-day completed one hundred years of an eventful, happy and useful life. To have lived this long span of years is a remarkable event; to have lived it during most of the nineteenth and the opening years of the twentieth century is a unique distinction, and it is a matter not only of congratulation to him, but of gratitude for ourselves that the century's roll call finds him with mind alert, with eye undimmed and with natural force but little abated.

Garcia was born at Madrid, and in his veins runs the blood of a remarkable Spanish family made up of men who have been well-characterized as "representative artists whose genius and originality have left a permanent trace on the records of vocal execution and adornment." His father, who was born in Seville in 1775, and died in Paris in 1832, was Manuel del Popolo Vicente Garcia and his mother Joaquina Sitchex, a well-known dramatic artist of her day. Genius was prodigal in her distribution of talent to the children of this union. Two daughters may be particularly mentioned; one, Marie, afterward became the celebrated Madame Malibran (died in 1836), and the other, Pauline, who was afterward Madame Viardot-Garcia. Both of them were among the world's most famous singers. The latter is now living in Paris at the age of eighty-five years. The parents removed a few years after Manuel was born to Paris and later to Naples, leaving him in Spain, but he joined them in Italy in 1815. His musical education began with instruction in harmony by Fétis, a noted teacher of the time, and in singing by his father. It is interesting to know that for a long time the boy desired to become a sailor and that he was dissuaded with considerable difficulty from following out this plan. With his father he came to America in 1825. The senior Garcia, who had reaped many musical triumphs in European capitals, had formed the scheme of establishing Italian opera in this country, and the journey was undertaken in furtherance of this idea. Eleven new operas were given here in the course of a single year, and the journey was then extended to Mexico, where the company met with great success. Just as they were about to leave for home, a grievous calamity befell them. Near Vera Cruz they were attacked by brigands who robbed the father of all he possessed, including nearly thirty thousand dollars in gold, and the knights of the road added insult to injury, for after despoiling him of his goods they compelled him to sing for their entertainment.

Garcia the son retains very distinct recollections of this American journey. He was greatly interested in our city and explored it thoroughly. His nautical instincts were still in evidence, for he told a recent visitor with considerable glee how, when he was one day walking along the battery, he was invited to go out sailing. He accepted with alacrity, but the boat was small and the weather squally. Soon the craft was upset, but he managed to crawl up on the bottom of the boat, whence he was rescued, none the worse for the experience. Had timely assistance not been at hand, the development of laryngology might have been long delayed.

For some years he was a professional singer, having a tenor voice, but in 1829 he gave up the stage and began to devote himself entirely to teaching. In this work he seems to have been, from the start, preeminently successful. He busied himself particularly with the study of the conformation of the vocal organs, the limits of the voice registers and the mechanism of singing. In 1835 he was appointed Professor of Singing at the Paris Conservatoire, and removed from Spain to that city. In 1840 he presented to the French Academy his "Memoire sur la Voix Humaine," which secured for him the congratulations of this body and which may rightly be said to form the foundation of all subsequent investigations of the voice. In 1847 he published his "Traité complet de l'Art du Chant," which was speedily translated into French, English, and Italian, and gained for its author a world-wide reputation. In 1850 he resigned his position in Paris and removed to London, where he has since resided and where he was for many years a professor at the Royal Academy of Music. He was now in the front rank of teachers. Many of the world's most famous vocalists were among his pupils. Among them may be named Jenny Lind, Henriette Nissen, afterward Madame Salamon, Santly, Antoinette Sterling, Johanna Wagner and Bataille; also two of the best known teachers, both still in active work, Madame Marchesi and Julius Stockhausen.

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*Paper read at the Garcia Jubilee meeting of the Section on Laryngology, New York Academy of Medicine, March 17, 1905.

But the event which has rendered his name imperishable was yet to come, and this brings us to the achievement which links his name with our own profession.

From the earliest times physicians had naturally been desirous of seeing the interior of the human body and of watching as far as possible the workings of its organs. Beginning with Bozzini in 1807, a long series of earnest and conscientious men had sought to view the interior of the larynx during life. A vast amount of apparatus had been constructed with this end in view. Most of it was cumbersome and all of it was unsuccessful. Glimpses had been had of the laryngeal vestibule and occasionally of the posterior commissure, but no satisfactory view of the true cords or sub-glottic structures. Most of the apparatus pushed the tongue and epiglottis before it so that the orifice of the larynx was more or less occluded. Illumination was poor and the importance of the protrusion of the tongue was not appreciated. But progress was being slowly made by different men in different countries. Time does not permit us to call the roll of these investigators. The story is a fascinating one, and the details of it are easily accessible. Among those thus engaged was the teacher of singing in London. As far as we know, he was not aware of what had been done by others. He had often thought out the theory of laryngoscopy, but believed it impracticable. In September of 1854 he went to Paris to spend his holidays, and while there took up the subject anew and brought it to a successful issue. He was his own subject, and is, as far as we know, the first man who ever conceived the idea of an autoscopic examination, and the first one who fully saw the interior of the larynx in action.

Fortunately, we have on record the master's own words with reference to this epoch-making event. "One day in September, 1854," he says, "when I was sauntering about the Palais Royal, busied with the wish often put aside as unattainable but yet always urgent, namely, to see the glottis during the act of singing, I suddenly saw both mirrors of the laryngoscope in their respective positions as clearly as if my eyes actually beheld them. I immediately hastened to Charrière, the instrument maker, and in answer to my inquiry if he happened to have a little mirror on a long handle, he replied that he had a small dental mirror which had been exhibited in the London exposition of 1851, but which had been found unpractical. I bought it for six francs. After procuring a small hand mirror, I hastened home in great impatience to begin my experiment. I laid the little mirror, which I had warmed in hot water and carefully dried, on my uvula, and with the hand mirror concentrated a beam of sunlight on its surface. To my great joy, I saw the glottis widely open and so distinct that a portion of the trachea was visible.

"When my initial excitement had subsided, I began to examine what was presented to my eye. The form and manner in which the glottis opened and closed noiselessly and its movements in phonation filled me with astonishment.

"From my observations, the conclusion easily followed that the theory ascribing to the glottis alone the capability of tone production was completely vindicated, from which it further followed that the cervical tissues in front of the larynx had no share in tone production, although they in common with variations in position of the soft palate and changes in shape and space relations of the pharynx could modify it. In these changes we find the possibility of varying what we style the timbre or tone-color of the sound."

Garcia soon returned to London, and on March 22, 1855, presented to the Royal Society of London his memorable paper entitled, "Observations on the Human Voice," in which he accurately described the action of the vocal bands in inspiration and phonation, adding important considerations on sound production in the larynx and on the formation of chest the falsetto notes. His own introduction to this description is characteristically modest. His paper opens as follows: "The pages which follow are intended to describe some observations made on the interior of the larynx during the act of singing. The method which I have adopted is very simple. It consists in placing a little mirror on a long handle suitably bent in the throat of the person experimented on against the soft palate and uvula. The party ought to turn himself toward the sun so that the luminous rays falling on the little mirror may be reflected on the larynx. If the observer experiment on himself, he ought, by means of a second mirror to receive the rays of the sun and direct them on the mirror which is placed against the uvula."

The "little mirror fixed on a long handle suitably bent" has revolutionized the study of laryngeal disease.

As often happens under similar circumstances, the importance of Garcia's results was at first hardly appreciated. Some thought his success due to merely the fact that he had the peculiar ability of supporting in the pharynx the prolonged contact of a foreign body without the provocation of attempts at vomiting. The idea that a new method had come to light which with patience and the training of the subject was of universal applicability rooted slowly in the minds of men. But the work of Türck in Vienna and of Czermak in Budapesth soon made the importance of Garcia's work clearly manifest. To the latter we owe the suggestion of wearing the reflecting mirror on the forehead. Unfortunately, an unhappy controversy arose between the partisans of the two men just named as to their respective shares in popularizing the new method of examination, but the development of the story from this point on is without the scope of this paper.

No data have come to the writer's knowledge as to the time at which Garcia gave up his active work as teacher. Gradually from the confusion of conflicting claims his own work stood out in its true light. To-day we look to him as the originator of the art of practical laryngoscopy. In the sunset of his life his work has been fully recognized, and due honors have been showered upon him. With the medical profession his relations have always been most cordial and he has been chosen an honorary member of various of its societies. In 1880 he was elected Honorary Fellow of the American Laryngological Association, the late Sir Morell Mackenzie being the only other man admitted to this class of Fellowship.

No reference to his later years would be complete without mention of the marvelous preservation of his mental and physical powers. Many men of seventy-five hardly rival him in these respects. Though somewhat bowed with the weight of years, he is able to go about and goes out frequently, though becoming easily tired when walking. He participates in many of the activities of life and takes a lively interest in the events of current history. He attended a recent meeting of the Laryngological Society of London, and in a firm, clear voice participated in its discussions. He greets the visitor in a charming, cordial and hospitable way. His conversation betokens a vigorous mind and is enlivened with flashes of quaint humor. He is in every way a delightful man to meet. He speaks fluently English, French, Spanish, Italian, and some German. Now, in his declining years, surrounded by a host of loyal friends and the object of their love and veneration, he has this day received a tribute which has come to him from all lands wherein scientific medicine abides, a tribute which any man might well envy.

In a treatise on old age, written centuries ago by one whom we call a heathen but whose thoughts and words are immortal, Cato thus discourses to his friends Scipio and Laelius: "As I love to see the fire of youth somewhat tempered with the gravity of age, so I am equally pleased when I observe the phlegm of age somewhat enlivened with the vivacity of youth, and whoever unites these qualities in his character may indeed have the marks of years in his body, but will never discover the same in his mind." Manuel Garcia is to-day a glorious exemplar of this ideal.

RADIOTHERAPY AND SURGERY, WITH A PLEA FOR PREOPERATIVE RADIATIONS.*

By WILLIAM J. MORTON, M.D.,
NEW YORK.

THE Röntgen ray was first a matter of interest to pure science, then to surgical diagnosis, and lastly to general therapeutics. One feature of its advent into therapeutics was somewhat sensational, for it was claimed that it would cure cancer. This claim has naturally been found to be too broad. True, it can cure cancer of some types and in some stages, but equally true it cannot cure cancer of other types and in other stages. Sufficient experience has now been gained to enable an expert to judge of what cases he can fairly undertake and what not, or again, to judge in what cases the *x*-ray may be helpful to the patient, with or without conjunction with other measures, and in what manner helpful. And we must not forget, furthermore, that Röntgen therapy has created a field of usefulness all its own in many other diseases; if its use should, at this moment, be abandoned for treatment of cancer, it would still retain a transcendant place in therapeutics.

The discovery of radium in 1903 brought a new ally to radiotherapy. We may now, at this date, fairly ask ourselves, What may be expected of these two radiations therapeutically? We may look at this question of status from three points of view: (1) The nature of the radiations; (2) their effect upon tissue; (3) their effect upon disease.

1. *The Nature of Röntgen and Becquerel Radiations.*—A radiation is an effect exerted radially across space. Newton's idea of light was that it was propagated by means of tiny corpuscles shot forth from the emission source at infinite velocity. But it was difficult to conceive of transmission of energy unless by aid of a medium, and hence an all pervading ether became an hypothetical necessity. With this granted, the undulatory theory of light became established. Faraday and Maxwell extended this undulatory view of electricity, and Hertz finally actually measured the length of electric waves, and otherwise demonstrated that light and electricity are electromagnetic phenomena of the ether. Science had just become reconciled to the novel fact that electric currents were not like fluids traveling in a wire or conductor, but were in reality propagated at the speed of light in the nonconducting material around the wire, when the marvelous phenomena of uranium and radium radiations appeared.

Now, no longer is the radiation undulatory; it is, on the contrary, corpuscular. The ether pulse or wave will explain the gamma rays, but not the alpha and the beta. We must lay aside our old idea that the chemist's atom is the smallest demonstrable subdivision of matter, and must accept the fact that his atom breaks up into thousands of smaller particles flying off at a speed of from 20,000 to 160,000 miles per second. We have here simply a disintegration of the hitherto accepted atom and the liberation of its latent energy. The shot off beta particles are known to be negative. Whether each atom is matter plus a negative charge, or simply a unit of negative electricity alone, is not yet determined.

I have touched thus cursorily upon these facts to point out that our therapeutic radiation is thus twofold, namely, undulatory, when we use the *x*-ray or the gamma ray of radium, and corpuscular when we use the alpha and the beta rays of radium.

There exist then two theories of electricity to-day, one the corpuscular, the other the undulatory.

Our radiation treatment is therefore (*a*) a bombardment of positive particles (alpha rays); (*b*) a bombardment of negative particles (beta rays); (*c*) a penetration of rays like light (*x*-rays and gamma rays).

In the one case a swarm of corpuscles negatively charged stream through tissue as air streams through a coarse-meshed sieve; in the other case beams of light stream through as does sunlight through a pane of glass; in both cases the tissue absorbs the new energy. But the radiation energy is not lost; it is merely transformed into heat, chemical and other forms of energy. The result is a physical impairment of the integrity of tissue, a corresponding physiological change, and an effort of nature to repair the damage, whose success depends upon the degree of injury. If the injury be too great, degeneration or necrosis ensues, if in reason, repair of the damage sweeps along with it repair of the disease, just as an irritating zinc solution sets up in a conjunctival membrane a primary inflammatory process, whose consequent tissue restoration carries with it a repair of the initial diseased conditions.

Effect upon Tissue.—Whether undulatory or corpuscular, these radiations exert many effects in common.

They penetrate all matter in proportion to its density. They ionize the air, that is to say, they tear asunder joined atoms and provide both positive and negative carriers of electricity, which latter thus make the air a conductor. In penetrating living tissue they produce electrical, chemical, and inflammatory effects. It is some one or any of all of these effects which cure or fail to cure disease.

Pathological effects observed are mainly upon the walls of the blood-vessels. The endothelial lining or intima is caused to degenerate, an endarteritis obliterans ensues, and the nutrition of the part fails (L. Freund). The epithelial matrix of the nails and the seminal vesicles are easily affected and also the hair follicles and sweat glands. The most obvious effect of excessive radiation is therefore to set up degeneration. This is the view of Scholtz, who believes that the cells of the connective tissue are especially affected. But *pari passu* the radiation may not be excessive, the result is stimulatory, and nutritive activity is augmented. We may use heat in the same manner; we may burn enough to set up degeneration and necrosis, or may apply just enough heat to set up nutritive reaction.

Technique.—We refer only generally to this point here. The disposition to-day is to use radiations of less intensity than formerly. Some early cases of epithelioma were *x*-rayed to produce a "caustic effect." To be sure, no one followed this technique. A common practice a year ago was to *x*-ray to the point of a severe dermatitis, namely, a second stage with formation of vesicles and serous effusion. To-day a mild dermatitis for the first series of sittings only is allowable. Again the *x*-ray was employed over a long period of time, viz., so many months. It is now a question of carrying the *x*-ray sequences of sittings along to a maximum in four to six weeks, and then of allowing an interval of half this period of time at least to watch for repairs or cure.

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*Read before the Harvard Medical Society, January 7, 1905.

It is a sad fact that one may carry the treatment of a facial epithelioma steadily up to a point of complete cicatrization and cure, and then by prolonging treatment see the entire area break down again into a condition worse than at the start. The moral of this experience is to know when to stop the applications, and also in this class of cases not to *x*-ray except gently. Experience had to be gained, and it is now gained, in many instances.

The main feature of a successful technique is to standardize, *i. e.* to measure accurately each step of the administration. For my part, I pursue a steady cumulative treatment, each step of advance the same as the last one, until an end result judged of by the skin reaction is reached.

I think this is best accomplished by a hard tube (5-inch and over, alternate spark gap); about three to four amperes in a primary circuit at 60 volts; nine inches distant from the target; 18 minutes' exposure three to four times weekly. By actually pursuing this plan, a serious burn is impossible, the usual dermatitis is reached with great regularity in about three weeks; its intensity can then be diminished, maintained or increased at will, and the case thus be held in rigid control. If some regular method as above outlined were adopted, we should hear no more of those distressing cases of *x*-ray burns, which are continuously cropping up.

Application to Disease.—It is not a little curious that the very diseases amenable in greater or less degree to radiation treatment are those hitherto least amenable to any treatment. Such are some forms and stages of sarcoma and carcinoma, lupus, tuberculous glands, eczema, psoriasis, cheloid, hypertricosis, acne, favus, herpes tonsurans, leukemia, amebic dysentery, alopecia areata, and chronic blepharitis.

Another most important field of usefulness, and one not as yet much touched upon, is the treatment of diseases of malnutrition, in which cases the radiation is used in its stimulatory quality, just as it may be used to make the hair grow rather than to cause it to fall out.

Space forbids the enumeration of the degree of usefulness of this treatment in the above named diseases.

Rodent Ulcer.—A victory, now securely scored for both the *x*-ray and radium, is the cure of facial cancer of the rodent ulcer type. Under favoring circumstances, this also may be accomplished by other means, but there are many cases which have already reached an inoperable stage and which are easily cured by the radiations. I exhibit such a case here tonight. The history of the case, briefly, is as follows:

Case I.—Mrs. E. M., aet. 57, referred to me by Drs. A. L. Mackin and David Webster, October 18, 1904. Patient first noticed, ten years ago, a pimple upon the cheek below the eye. This pimple continually grew larger, sometimes scaling over, sometimes raw, and developed eventually into an open ulcer, half an inch in diameter. The patient went through a great variety of treatments at the hands of different physicians, until finally, in September, 1901, she underwent an extensive operation by Dr. Lloyd of the Post-Graduate Hospital, and soon after malignant ulceration again appeared. Examination on October 18 showed the following: The upper third of th cheek, as can be seen now, is occupied by extensiv cicatricial tissue, indicating the site both of operations and of caustics. On the outer side of the lower lid was a rapidly progressing, eroding, broken-down edge, on the inner side a hard, infiltrated, carcinomatous mass. The space between was occupied by a ulcer into which a probe would extend a considerabl distance. The patient was immediately put upo fluorescin, six drops of an aqueous solution, one to thirty, three times a day, and *x*-ray treatment. The disease did well from the first moments. The pain was at once diminished, and in two months the ulcer was entirely healed. The accompanying illustrations (Figs. 1 and 2) from photographs exhibit

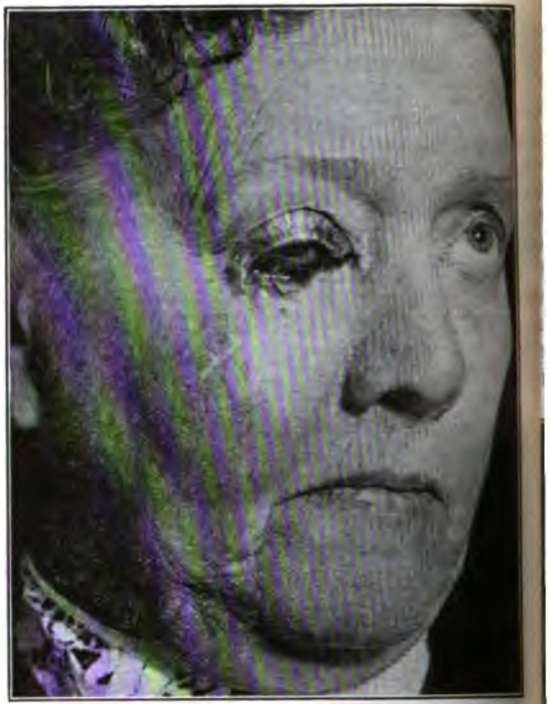
Fig. 1—Mrs. E. M

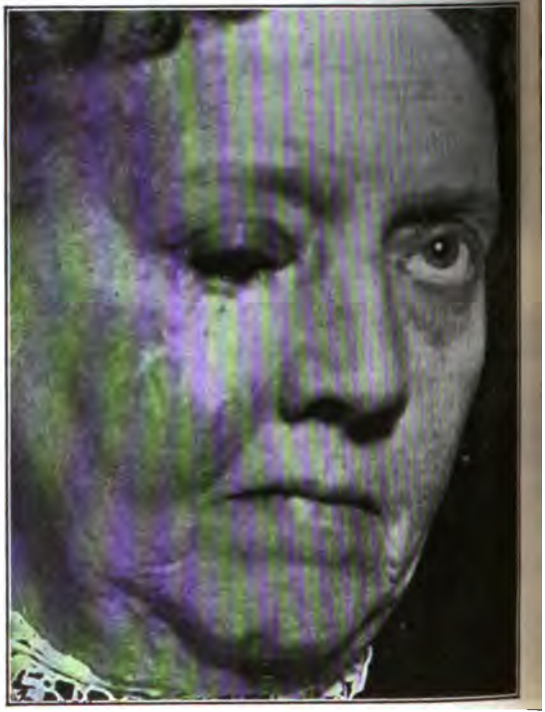
Fig. 2—Mrs. E M.

the general condition of affairs both before and after treatment.

This case illustrates particularly this point: If at the moment of complete cicatrization the *x*-ray had been pushed with vigor, the new and healthy tissue would itself quickly have broken down, and we should have been obliged to report a failure to cure.

Case II.—Mrs. J. J., aet. 52. Previous history unimportant. Patient was subject to attacks of eczema, and about eight years ago first noticed a very small "water blister" upon the temple. This persisted, although frequently appearing to heal, and has grown steadily and slowly ever since, until it appears as shown in Fig. 3. The tumor is 1¼ inches in diameter, and is raised up one-third of an inch. It is of a cauliflower-like appearance, is extremely vascular, and bleeds easily.

The report from the Pathological Department of the Post-Graduate Medical School and Hospital upon a specimen taken from the tumor was as follows: "Microscopic examination of the tissue from Mrs. J. J. shows the histologic structure of so-called rodent ulcer (superficial epithelioma). H. T. Brooks, November 4, 1903."

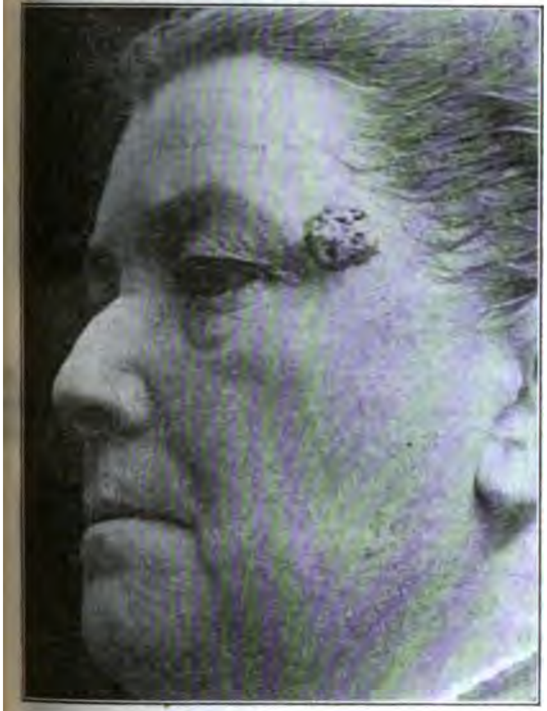

Fig. 3—Mrs. J. J.

December 7: The tumor has steadily diminished from the first treatment. It has retracted from the edges inward, leaving a sound skin behind, and has flattened down daily. The size now about the diameter of the ring finger. It shows a disposition to concavity rather than convexity.

December 14: Mild *x*-ray dermatitis and heavy scab falling off.

January 30, 1904: The tumor was entirely cured, although the patient took some more treatments from mere solicitude as to the outcome. For results see Fig. 4. The cosmetic result is also perfect.

Case III.—W. H. H., aet. 60. July 20, 1903. The patient has upon the left cheek an induration or infiltration about 1¼ inches in diameter and superimposed upon this is a raised mass ¾ of an inch in diameter, elevated about ¼ of an inch above the surface. See Fig. 5.

July 31: The induration has entirely disappeared and the ulcer is elevated about 3-16 of an inch above the surface.

August 27: Malignant tumor is contracted in area, but stands out like a filbert attached by a broad pedicle. It is dry and scaly. No induration around it.

September 30: A contraction around the base of the tumor, which latter is bulb-shaped, placed on a stem or pedicle.

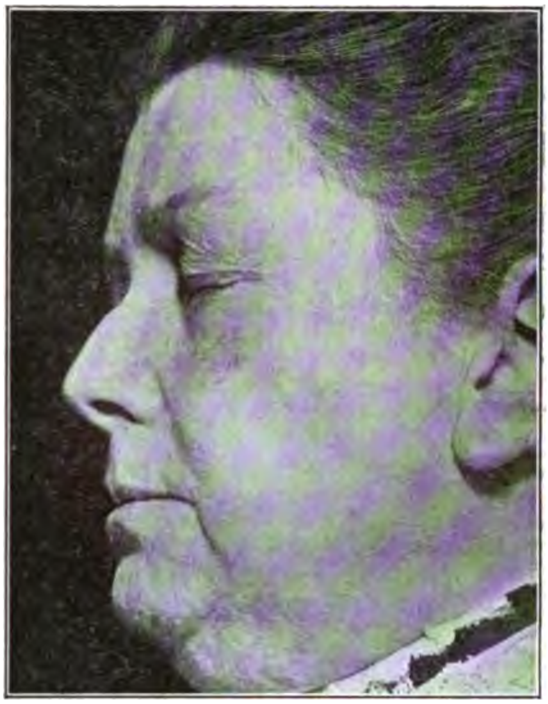

Fig. 4—Mrs. J. J.

December 2: Placed elastic ligature around the epithelial mass at base.

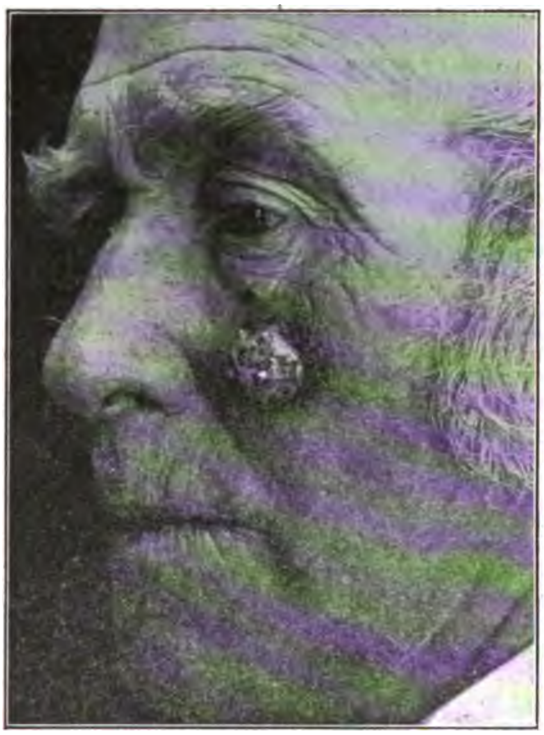

Fig. 5—W. H. H.

December 4: The seat of constriction inflamed and tumor ready to fall off. Microscopical examination shows nest cells characteristic of epithelioma.

Patient Cured. See Fig. 6.

Epithelioma involving the lymphatics and glands and deeper structures of the face, neck, tongue, and throat, cannot, as yet, in its well-established and late stages, be cured by radiations. But seen and treated early, it can be cured. The same is true, no doubt, of surgical operation. But a danger of cutting is the setting free of cancer cells into the incised tissues and subsequent recurrence. This danger does not exist in the radiation treatment. Radiation, on the contrary, clears up the inflamed and involved lymphatics and glands and may cure an initial small and early focus of the disease.

The following case is reported in illustration of these statements. P. L. M., aet. 55, physician, seen April 19, 1904. He first noticed about six weeks ago a pain at the base of the tongue on the right side, and discovered an ulcer at that point. This was treated with nitrate of silver and again with nitric acid, but showed no disposition to heal. Examination reveals nearly at the base of the tongue on the right side a sharply excavated ulcer with well-defined linear elevated edges of the size of about the end of the finger, oblong in shape. The patient was at once put upon fluorescin solution as above described, and radium, one million radioactivity, used about half an hour daily, and the *x*-ray.

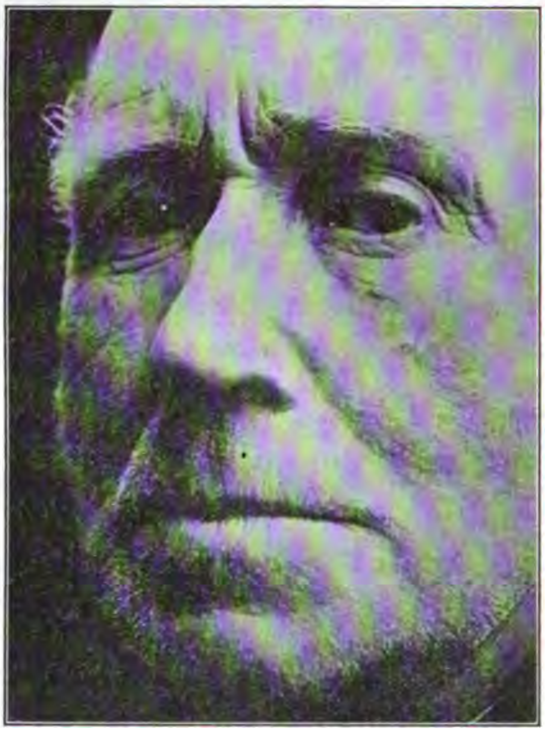

Fig. 6—W. H. H.

May 26: Patient met a friend, a distinguished surgeon, who advised an immediate operation. I asked him to wait a while, which he did, though much disturbed by his friend's advice.

May 31: Ulcer reduced in dimensions to about the size of the end of a lead pencil; induration has disappeared. Owing to the patient's state of mind and my own responsibility in the matter, I took the patient to see Dr. W. T. Bull, who also advised immediate operation. I again asked the patient to wait, and he was willing to do so.

June 22: I took the patient to both surgeons, Dr. Bull and the patient's friend, and both reported that there was a complete resolution of the infiltrated area which they had both first observed, and that they saw no reason for operation, in the present condition of affairs. As a matter of fact, the ulcer was entirely cured. The patient returned home, and has had no trouble since.

Sarcoma.—Very many cases of large sarcomatous growths have been cured. Such cases have been reported by Coley (case of Dr. Fisk of Brookly Skinner, Johnston (three cases) and others. On th other hand, innumerable other cases have not bee cured. Why this difference? This answer cann be given. We can only say that the law of control i these cases is unknown. There is ground for hop that it may yet be discovered.

Primary Carcinoma of the Breast.—I have ha and published a very considerable number of cur to date of this condition. And also a large numb of failures. An analysis of success and failure sho this, among other things: If the initial tumor is se early and is small, a cure may occur even though t lymphatics are indurated and swollen glands ex in the axilla. The lymphatics and glands quick become apparently normal, and the small tum slowly disappears. But on the other hand, a cert type of flat, disk-shaped and not very large ade carcinoma will go on growing in size and inva in spite of the most persistent use of *x*-ray or radium. Why? We do not know.

Or again a certain type of medullary or infiltrati tumor, *cancer foudroyante,* rapid cancer, will r on to general metastatic infection regardless of ra ation treatment. This type cannot be arrested radiation. I think most surgeons will also admit t operation would not in the same cases have saved patient's life. Again, a large carcinoma (schirr will not notably diminish in size and disappear u radiation. What will happen is a great reductio the softer, outer edges of the tumor, and its red tion to a harder and more clearly defined mass, at the same time a disappearance of the cord- lymphatic vessels and of enlarged glands. W then, should be done in such cases? The tumo now simply a foreign body. Radiation will not move it. Obviously, it should be removed by sur cal operation.

The situation, to my mind, seems to be about th A cancer is a most dangerous foreign tenant, should be cut out. But, and it is a very big but, cutting out process carries with it another most d gerous feature, and that is the incision of lymphat and to say nothing of innumerable small infect glands, impossible in many cases to dissect out. the other hand, radiation will not remove the tum but, and this is equally a very important but, it clear up of cancer cells all the outlying territo right up to the tumor itself, and now an operati can be a comparatively safe one.

There can, in my mind, be but one deduction derive from this situation. It is a plan I have lo advocated, and one which I invariably follow. It this: Practice *x* and radium radiations thorough say six weeks to two months, *before* operation; practice it as well *after* operation, say for about t same period of time. In this manner we avoid t Scylla of "soiling the wound" and the Charybdis failure to remove the tumor. And by radiation tre ment I do not mean a destructive effect, but I mea radiation which just falls short of producing a mi dermatitis, or, to put it in another way, a radiatio which just barely produces a mild dermatitis, in fro four to six weeks. With this degree of radiation have always found that the lymphatic vessels cea from being sensitive to the touch and cease to exhib signs of inflammation. While the axillary gland may not in this period of time subside, it is probabl that they do not hold active cancer cells.

But at this point one may remark, How do yo know that outlying areas of cancer infection are neu tralized of infection and that the seat of the diseas is again localized as in its beginnings? I reply:

1. By the facts of the observed effect in many case of recurrent cancer of the skin where this actual fac

may be visibly studied and may be verified by palpation. Nothing is more common in the history of radiation than to see large areas of skin-infected carcinoma clear up, leaving a healthy skin.

2. By the early cure of recurrent cancer in cicatrices.

3. By observation of the behavior of cancer of the mucous membrane where under radiation a distinct line of demarcation unfolds itself between the affected and the sound mucous membrane, and by that sign affords a new indication to the surgeon of where to incise.

4. By palpation of indurated lymphatic vessels in breast cancer. Take a concrete instance of this alone. What surgeon would prefer to cut through infiltrated lymphatics, when he could later on cut through flexible and disinfected lymphatics?

I will quote a single case to illustrate the return to an apparently normal condition of the region of tissue near the malignant growth, and to illustrate the fact that on the mucous membrane an absolutely clean line of demarcation may be established.

Patient, C. A. A., was referred to me by Dr. C. W. Buffum, with a detailed account of microscopical examination of sections made by Dr. Edw. K. Dunham of the Department of Pathology of the University and Bellevue Hospital Medical College. The case was only simply of classical epithelioma with characteristic microscopical and macroscopical appearances. It was partly ulcerating and partly solid infiltration. The disease occupied tthe posterior region of the tongue and involved the velum palati, and from this latter region a dark, dusky red extension of the disease passed over the roof of the mouth to the front teeth. In five days after beginning radiation, including three treatments only, I made the following note: "A serpentine line of demarcation appears on the mucous membrane of the hard palate, separating sharply the active disease from the sound tissue. The red, dusky inflammatory tissue ended sharply at this line and from it onward the mucous membrane had now assumed its light colored pink and healthy tone."

We will suppose that an operation had been determined upon before the *x*-radiation. It is obvious that there would be no guide as to a line of incision so far as the hard palate was concerned. Suppose again that operation was decided upon after the radiation. It is perfectly apparent that there would now exist a determining feature which would allow the surgeon to decide where to make his incisions. What occurs thus obviously under the eye, occurs also, as we know by the other evidence brought forward in other regions where the delimitating effect is not so plainly visible.

It may, however, be objected that the wound will not heal as well after radiation. Grant the full weight of this objection, and I should reply, better slow healing than a recurrence. But this objection is not a valid one. I have referred patients in a number of cases to surgeons for operation, and we have observed no delay in the healing processes.

But one surgeon has gone so far as to say that gangrene is more likely to occur if the patient has been *x*-rayed before operation, and cites two cases in his own experience. I was present at one of these operations, and saw the surgeons' and the assistants' fingers frequently soiled by the gangrenous material of a large open ulcer of the breast, which was in the course of excision, and as frequently immersed in the fresh dissection. In this case the subsequent occurrence of gangrene in the wound might well have been expected, to say the least.

Taking, then, in conclusion, a broad and conservative view of the present position of radiotherapy and of its relations to surgery, I believe that the best interests of the patient demand a combined treatment. An early operation is certainly the most important thing for the patient, but so also is an early *x*-ray treatment. The particular case which would have been curable by the operation, would also as likely have been cured by the radiation. In the latter event the operation will not prove to have been necessary. If the *x*-ray fails in a reasonable time, then the patient is in a better condition than before to submit to the inevitable operation. *In short, I believe that preoperative radiation should precede every operation for cancer with as much reason and force as preoperative aseptic or antiseptic cleansing of the skin to be incised.*

But, in reality, in cancer no hard and fast law can be laid down which shall apply to all cases, for the reason that each case is, in a sense, a law unto itself according to its degree of advancement, its location, and its nature. My plea is simply to avoid preconceived opinions, not to place operation and radiation at two opposing extremes facing each other belligerently, but rather gladly to avail ourselves of both, letting each method mutually help the other rather than to lose the aid of either. *"In medias res tutissimus ibis."*

In this brief glance at the possibilities and the shortcomings of radiotherapy, I have not referred to my own method of artificial fluorescence. I did not wish to cloud the issues. But in every case I have treated I have employed artificial fluorescence on a plan already fully published, and I attribute any success I may have had largely to this method.

1. Radiation treatment exerts a retarding effect upon the growth of some cancers.
2. It cures some cases—the ratio to operative measures is not here discussed.
3. Preoperative radiation will increase the ratio of cures by operation.
4. Preoperative radiation transforms some inoperable cases into operable cases.
5. Preoperative radiation is recommended as a precautionary measure, probably quite as important as preoperative antiseptic preparation for surgical operation.

BILE-TRACT ADHESIONS.*

By ROBERT T. MORRIS, M.D.,

NEW YORK.

PROFESSOR OF SURGERY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

THE new subject of bile-tract adhesions is destined to awaken the medical profession as we were awakened by the subject of appendicitis. Surgeons have often operated for the purpose of removing gallstones, and have found to their discomfiture that no gallstone was contained in the cavity of the gall-bladder. Adhesions were separated incidentally, and an explanation was given to the effect that the concretion or concretions must have passed on before the operation. Patients recovered from their symptoms, and the explanation seemed to have been a good one. It was usually wrong.

Patients with dilatation of the stomach, or with chronic gastroduodenitis, or mucous colic, or intestinal dyspepsia, or gastric dyspepsia, or gastric neuralgia, or chronic constipation, have often been the subjects of unsatisfactory consultation by expert diagnosticians, in cases in which a ready explanation for the symptoms lay close at hand, in the presence of the adhesions. Byron Robinson called attention to the fact that peritoneal adhesions were found in the vicinity of the bile-tract more frequently than elsewhere in the peritoneal cavity aside from the pelvis, but he did not comment much upon the observation. Men engaged in post-mortem work have noted that it was often difficult to find the foramen of Winslow, because adhesions were in the way. They have observed that the gall-bladder and common bile-duct were adherent to surrounding structures more or less, in a rather large proportion of all of their post-mortem examinations, but little significance was attached to such findings.

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* A paper read at the meeting of the Bridgeport Medical Association, for February, 1905.

Now let us all think about the matter for a while. Subacute cholecystitis is very common. It is sometimes called stomachache, sometimes gastroduodenitis, and sometimes by as many other names as we used to give to appendicitis, before the classical paper of Fitz appeared. Subacute cholecystitis when called improper names strikes back, just as appendicitis used to strike back under the same circumstances. Catarrh of the bile-tract was commonly thought to represent an extension of infection from the bowel, until Lartigau showed us that the colon bacillus was carried to the liver from the bowel by the afferent vessels of the portal system. The colon bacillus, arriving from behind in this way, seems to be the chief malefactor in catarrhs of the bile-tract, in temperate climates. The toxins of the colon bacillus, and of its terminal infections, apparently do not often penetrate the bowel wall in a way to do serious damage to endothelium, excepting at the site of the appendix, and of the bile-tract. In the appendix region they can damage the peritoneum when swelling of the inner coats of the appendix in their inelastic outer coat leads to compression anemia of the inner coats, and leaves the latter disabled against attacks of bacteria. In the bile-tract the toxins probably penetrate all of the thin walled structures in such a way as to cause desquamation of endothelium on the peritoneal side. When desquamation of endothelium occurs, plastic lymph is thrown out, and the resulting adhesions produce various degrees of disturbance. Adhesions between the gall-bladder and the liver are perhaps the least harmful. Adhesions between the cystic duct and the adjacent peritoneum of other structures can cause angulation of the cystic duct, and give rise to symptoms that are mistaken for gallstone colic, or colic from the passage of inspissated bile. Adhesions between the bile-tract and the pylorus can inhibit peristalsis and cause constipation, chronic dyspepsia, and dilatation of the stomach. Adhesions between the bile-tract and the hepatic flexure of the colon can cause constipation and perhaps mucous colic, but I believe the latter to represent a functional neurosis. It is not a diagnostic entity, but is apparently a symptom like a cough or a sneeze, and due to reflex from a peripheral irritation. This peripheral irritation I believe to be due, in bile-tract adhesion cases, to the pulling of adhesions upon the peritoneum in the sensitive area of the semilunar ganglia. Very extensive functional disturbance of abdominal viscera is caused by these webs of adhesion, like spider webs, that extend from the bile-tract to neighboring viscera, and that pull upon the great sympathetic ganglia. The number of symptoms that we are relieving by clearing away the work of the gall-spiders, is a constant source of interest. Thousands of patients who are now suffering from gall-spiders, are to be relieved by surgeons during the next decade. There is probably no physician in the world engaged in general practice, who has not a number of such patients under his care to-day, but none of us have been equipped for a diagnosis until very recently. In medicine and in surgery, we can find almost anything that we are looking for. We have not been looking for the immediate and remote work of the gall-spiders, any more than we looked for the immediate and remote disturbances caused by the infected appendix previous to 1886. There is no literature that I am familiar with on the subject of gall-spiders. It is coming. The literature of the next decade will be alive with interest in this subject. We all knew of the prevalence of peritoneal adhesions in the region of the bile-tract, but we overlooked their significance.

Perhaps there are many patients with bile-tract adhesions who do not suffer any discomfort. That is not for us to say just yet, for we do not know. We do know that the viscera involved in such adhesions were intended by nature to be particularly free, and when they are suspended by adhesions instead of by the natural peritoneal supports, it is fair to assume that nature beckons to the surgeon to come to her relief in almost every case. Such a patient may have been an invalid for years, and yet not have reported anything to go with the post-mortem findings. At what age do bile-tract adhesions form? At any age, but perhaps most often in childhood, when the delicate tissues are least resisting. Desquamation of eipthelium of mucosa of the bile-tract, with deposit of cholesterin and formation of gallstones, is most apt to occur after middle life; but desquamation of the endothelium of adjacent peritoneum seems to occur frequently enough in the very young, as well as in the aged, and probably because of the thin walls of the gall-bladder and the bile-ducts. How are we to make a diagnosis of gall-spiders? We are to go over the tailings from the ore mill in which we previously found gastroduodenitis, diaphragmatic pleurisy, acute cholecystitis, acute indigestion, and a group of cases without very definite diagnosis in which there was a history of epigastric tenderness, rigors, febrile reaction, and general malaise lasting for a few days at a time. In going over these cases months or years after the acute symptoms have disappeared we are to note if there is undue tenderness on pressure over the bile-tract. A tenderness that is pretty persistent. It may be absent on some days, but present to a greater or lesser degree most of the time. The patient will complain of a certain degree of discomfort in the bile-tract region, and at times when he is most disturbed the abdominal muscles will become rigid in order to splint the disturbed peritoneum. Having found these characteristic signs of bile-tract adhesions, we are to exclude other causes for the same symptoms; and that requires diagnostic acumen, and high-class consultation.

In several cases which were sent in for gallstone operations, the diagnosis of bile-tract adhesions without the presence of gallstones was made in advance of operation, on the fact that the colic was less severe and more transitory than it is apt to be when the muscularis of the gall-bladder or bile ducts is trying to force out a concretion. In a number of other cases the patient, before operation, was found to be suffering from the influence of a loose kidney rather than from bile-tract adhesions or from gallstones, although both conditions can occur simultaneously easily enough. The same statement applies to cases of enteroptosis. In all of the cases that were actually subjected to operation for the purpose of separating bile-tract adhesions, however, such adhesions were always found to be present. What is the treatment for gall-spiders?

Separate the webs of adhesion and prevent thei recurrence by applying one or two satisfactory resources. The best resource, I think, consists i spreading a sheet of chromicized Cargile membrane over the roughened points of peritoneum, and leaving the membrane to present a mechanical obstacle to re-adhesion at such points. The other resource consists in sprinkling aristol over roughened points of peritoneum, and waiting for the aristol to form a protecting lymph coagulum before the abdomen is closed.

Musser is the first physician to take a radical position, and to say that the gall-bladder should be removed in cases of infective cholecystitis, because of the danger of repeated excursions of infection from this focus. His stand is probably as important in the way of progress as was the stand of McBurney in advocating early removal of the infected appendix. The gall-bladder seems to be of as little consequence as other rudimentary organs, excepting in the way of making trouble. Many animals have no gall-bladder, notably the cervidæ. Patients with occlusion of the gall-bladder, due to irritation from calculi, and patients who have been deprived of the gall-bladder by operation, show no results pointing to the idea that the viscus was ever of any value to them. Removal of the gall-bladder with the steps in technic of suturing a drainage tube in the cystic duct, and of preparing Morison's pouch properly, is a very safe operation.

In my earlier operations for separation of bile-tract adhesions, the gall-bladder was left intact, but it is now removed. In one patient, Mr. W. T. R., in whom the gall-bladder was left intact, a subsequent operation by Dr. Hartley, showed no recurrence of the dense adhesions between the gall-bladder and pylorus, over the area that had been protected by Cargile membrane, but new adhesions had formed posteriorly. This would seem to indicate that re-infection can occur at any point in the bile-tract area.

As a rule, the operation for relieving the patient of bile-tract adhesions, is almost startling in its success, and patients hardly an hour out of anesthesia will sometimes say that they are more comfortable at that moment than they had been for months or years previously; but one feels the need for being extremely careful in making a good diagnosis in order to avoid the chagrin that comes to a surgeon when he suspects that he has done a needless operation. Surgeons do not speak of this chagrin, because they are accustomed to withstanding shocks, but if there is any one feeling deep down below all others in any surgeon's mind, it is the fear that he may do something needless. Personally, I have not, as yet, made a mistake in diagnosis in gall-spider cases, but stand in dread of it, nevertheless, and perhaps have allowed a good many patients to go uncared for because of reasonable doubt about adhesions being the dominant factor in any given case. Our tendency will be at first to do too little of this work, than to do too much, and finally to put the matter on the scientific basis where appendicitis now stands.

One cannot look over an average audience at the theater without seeing at least fifty people who are suffering from some degree of disturbance caused by bile-tract adhesions; so there is a vista of unknown horizon newly opened up for us. Adhesions in the pelvis belong to old history, well understood. Adhesions in the cecal region belong to new history, but thoroughly understood. Adhesions standing in abundance midway between those of the pelvis and those of the cecal region, furnish history that is yet to be written.

616 Madison Avenue.

INTRATRACHEAL INJECTIONS.*

By J. W. GLEITSMANN, M.D.,
NEW YORK.

When I selected a subject for this evening's discourse, which, apparently, belongs to the domain of the specialist and seems to be of less interest to an assembly of general practitioners, I was influenced to do so principally by a request of your President. But the topic is not one which requires special knowledge or experience, and everybody who is familiar with the use of the laryngeal mirror, which I deem essential for a successful execution, will soon learn to make the applications properly. Besides, their value as a curative agent in many cases, as an ameliorating factor in others, cannot be denied, and their harmlessness as well as their efficacy have been attested to by numerous writers.

From what I know from the literature, from programmes of medical societies, and from personal intercourse with colleagues, intratracheal and intrabronchial medication does not enjoy a great popularity nor widespread usage, although in the last few years the number of publications have considerably increased. When I searched somewhat hurriedly the literature in Semons Internationale Centralblatt from its beginning in 1884 to the year 1903, which gives a very complete enumeration of all papers pertaining to laryngology and allied branches, I found only quotations of 41 articles referring to intratracheal injections, in addition to which there are several in other journals. This small number covering a period of 19 years, is quite out of proportion to the multitude of papers appearing on subjects of minor importance.

The history of our subject dates back to prelaryngoscopic times, and as it is quoted in numerous publications, I can be brief. Leaving out of consideration previous applications to the larynx proper, Horace Green[1] of New York, was the first to make applications to the trachea, and he read his first paper on the subject before the Medical and Surgical Society of New York, 1841, reporting several cases cured by his proceedings. Although unfavorably commented upon by the profession, he did not desist in his efforts, treated over 100 patients with various success, and had the satisfaction to demonstrate later before the New York Academy of Medicine the appearance of a probang in the tracheal wound of a man having attempted suicide, thereby refuting Trousseau's contention that it would be impossible to introduce instruments below the cords. He was soon followed by the English physician Alison,[2] who also speaks very favorably of these applications and their beneficial results, having himself already applied olive oil with a sponge to larynx and trachea, relieving the sense of tightness and dryness of these parts. Of the earlier writers may yet be mentioned Bennett[3] of Edinburgh, who, after communicating with Green, treated bronchitis with asthma and claimed a decided effect in lessening the cough and delaying asthmatic paroxysms.

Later investigators broached the subject from a physiological standpoint in two directions, viz., as to the tolerance of the trachea to different drugs and as to the capability of its mucous membrane of absorbing the solutions. Bergeron[4] was amongst the first who injected medicated liquids in the trachea of cows, horses, and dogs and found them borne without trouble. He also gave relief to a phthisical patient by 25 calming injections in as many days. He, as well as his followers, injected the liquids with a hypodermic syringe through the skin into the trachea. Brancaccio[5] injected 15 to 20 grammes of blood in this manner into the trachea of dogs, drop by drop, and with a continuous stream, and noticed no cough, no dyspepsia, no evil sequelæ. Penhale[6] used injections of turpentine, carbolic acid and chloroform successfully in calves suffering from parasites in the trachea and bronchi. Schmalz[7] of the Berlin veterinary school made numerous injections in horses for therapeutic purposes and found that the respiratory mucous membrane of the horse possesses a high degree of absorbing power, that the animals are very little molested and that large quantities can be repeatedly injected. He treated catarrhal conditions of the nose and throat and relieved the obstinate, dry laryngeal catarrh with solutions of ½ per cent. alum and 1 per cent. salt. The best results he had in hemophilia of the horse, which resisted all other remedies, but was cured by repeated injections of 10 to 20 grammes of a solution of iodine 1 part, iodide potassium 5 parts to 100.

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* Read by invitation before the East Side Physicians' Association, January 20, 1905.

Botey[8] of Barcelona repeated these experiments on hares and finally had the courage of his conviction to make injections to himself. He relates an instance, when, in an old horse assigned for the purpose, almost 32 liters of water were injected before it died. Of his experiments the most interesting is that by which he tested the comparative tolerance of the tracheal and esophageal tract by injecting a solution of ½ per cent. bichromate of potash into the trachea of one and into the esophagus of another hare, killing both two days later. The first animal showed no ill effect, and at the autopsy the respiratory mucous membranes were normal without hyperemia. The other animal lost its appetite, crouched down in his cage, and, when killed, the stomach showed congestion and inflammation. Being accustomed to inspect and touch the interior of his larynx, Botey made injections himself into his trachea, beginning with 10, then 25, lastly 50 grammes of distilled water, followed by no symptoms whatever, except a slight lowering of the number of his respirations and pulse. He made use of his experience in a case of laryngeal and tracheal syphillis, in which mercurial treatment had failed, and cured the patient by seventeen injections of iodide of potassium and a small quantity of bichloride of mercury.

From this time dates the usage of intratracheal injections for therapeutic purposes, although Rosenberg[9] employed in 1886 intralaryngeal injections of menthol oil for laryngeal tuberculosis, and considers their effect anesthetizing, analgetic, and antiparasitic. I found the first references in the English literature, when Downie[10] read a paper before the Glasgow Medical Society (1889), in which he states to have treated pulmonary and laryngeal phthisis, bronchiectasis and pulmonary gangrene. In the discussion following several colleagues took part, who were inclined to accept a favorable influence on the symptoms, but were skeptical as to their lasting benefits. In his later paper[11] he adds a number of diseases amenable to injections, cites satisfactory cases, and claims that, with practice, injections, of which he uses only thirty drops but two to three times, he could dispense with the laryngeal mirror. We see from his report that already at this early period the drugs and combinations employed were practically the same as we administer at the present time. T. Grainger Stewart,[12] to whom subsequent writers frequently refer, cured an advanced case of fetid bronchiectasis with a solution adopted by his followers, viz., 2 per cent. guaiacol, 10 per cent. menthol, 88 per cent. olive oil, the patient increasing in weight 20 lbs. Of English authors may yet be mentioned Sharpe,[13] who gave a drawing of a fairly good syringe, under the name of Beehag's syringe; Campbell,[14] who treated tuberculosis and a variety of diseases, and found excellent results in three cases of hemoptysis, with immediate cessation of the bleeding; Bronner,[15] who adds salol and europheen to the list of remedies, and recommends the injections also in tuberculosis and the chronic laryngotracheitis prevalent in the North of England; finally, Thomas,[16] who investigated the effect of the injections as to possible pulmonary congestion and hemorrhage. He used them in pertussis, emphysema, asthma, acute, chronic, fetid bronchitis, bronchiectasis, and phthisis, in which in the first stages the results were very favorable.

I shall not tax your patience with an exhaustive literary review, but confine myself to two foreign and the principal American writers. Mendel of Paris, who supplemented his first communication[17] by an exhaustive paper, four years later[18] (1899) applied either bromoform or iodoform, or guaiacol or menthol in tuberculous patients, and observed cessation of cough and expectoration, return of sleep and appetite, increase of weight and drying up of cavities. Thorpe[19] of the naval station at Wei Hai Wei found the injection a valuable adjuvant to the open-air treatment of his patients, saw bacilli disappear and the patients gain weight. He succeeded without aid of the laryngeal mirror.

In the United States, Dr. Coakley of New York made most interesting experiments at the Loomis Laboratory, showing how quick absorption takes place in the trachea. Injecting a solution of India ink into the trachea of rabbits and killing them two hours or sooner afterwards, no pigment was found in the trachea nor bronchi, and only traces in small lymph-ducts. Early in January, 1896, Muir[20] of this city read a paper before a medical society giving his experience of the method during a trial of three years in forty patients, the majority suffering from tuberculosis. He prefers by far the alleviating, resolving effect of the injections to internal administration of opiates, speaks of the favorable influence they have on the secretions of the diseased area, and dwells upon the ready absorption of the liquid by the mucous membranes. Very soon afterwards Barton[21] published an excellent paper, coinciding with Muir's views, and found as advantages of the injections the direct application to the irritated mucous membranes, the immediate relief of the most distressing symptoms, the antiseptic effect in febrile cases, the rapid absorption, and the avoidance of disturbing the stomach and digestion. Thompson[22] of Cincinnati, who wrote me in January of the present year that he had been using intratracheal injections during the last twelve years, observed rapid and prolonged general effect f. i. anesthesia with menthol injections, and, in addition to a variety of diseases, advocates them in chronic catarrhal inflammation of the mucous membrane of the trachea. He insists on the introduction of the syringe between and below the cords. Murray[23] and Anderson[24] made injections with satisfaction in tuberculosis, and the latter in several publications considers them of the greatest usefulness in secondary affections of tuberculosis, as bronchitis, pneumonic extension. He also used ichthyol (2 per cent.) with menthol-camphor (5 per cent.), which, although lessening the secretions, he finds less agreeable to the patient. Donellan,[25] in his articles, relates his experience in asthma, bronchorrhea, chronic catarrhal cough, and fetid bronchitis, and reports several cases. He also advised a very suitable syringe, with lateral perforations. The latest paper I could lay hand on is by Hubbard,[26] read before the American Laryngol. Association (1904), and kindly sent to me by the author as manuscript, the Transactions having appeared only a few days ago. Although he does not deny the utility of injections in alleviating the distressing cough and irritation in tuberculosis, he is more reserved as to their limitations and ultimate effect. He, as well as most writers, is adverse to their use in the acute stage of any type of inflammation, and says that the injections are not given for the purpose of systemic medication, and that they take the place of so-called stimulating expectorants, the treatment being essentially local, and absorption not the object.

These somewhat extended abstracts give us not only the historical development of the method and the views of the principal writers, but embrace also to the greater part the indications and remedies employed, and serve to prove the propriety and efficiency of intratracheal injections. I therefore do not need to enter at length into the different features, and can summarize more briefly.

The experiments on animals, as well as the injections to the human beings, attest to their harmlessness, and I have not been able to find a single reference where an unpleasant or serious effect has been reported. It is necessary to make this assertion, as the lower respiratory tract is *a priori* not intended for medication, and some physicians deprecate the idea of injecting liquids into the trachea.

Although necessarily the number of diseases to be treated, as well as the choice of remedies, is limited, the advantage of applying the latter directly to the seat of the lesion is obvious, and instances are frequently related in which the injections showed their beneficial effect when other treatment had been futile.

Having frequently referred to the absorptive power of the tracheal mucous membranes, shown in the foregoing by the experiments of writers on animals themselves, and on patients, I cannot fully subscribe to Hubbard's view as being an irrelevant factor. If a moderate dose of a non-irritant remedy is properly injected, very little, if any, is coughed up, and consequently must become absorbed in the trachea. If we add to our vehicle menthol, recommended by Rosenberg years ago for tuberculous laryngitis, or iodoform or guaiacol, the latter being to the present day a favorite for tuberculosis, and if the larger part of the solution remains in the trachea, I do not see why we could not expect at least the same effect as by giving the drug by other channels.

The antiseptic effect has already been mentioned by Barton, also the advantage of not disturbing the digestion, so often a vital point in a run-down individual.

If we are not carried too far by enthusiasm, as some writers are, and limit the field of injections to their proper indications, we will not have to regret their adoption in suitable cases. However much may have been written about their effect in pulmonary tuberculosis, I am not inclined to believe in a cure by them *per se*. They are certainly useful in alleviating the dry cough in the beginning stage by promoting the secretive power of the mucous membranes; they may at a later stage modify favorably the putrid secretions; but I, for my part, see a cure of tuberculosis aside from climatic treatment only from an unlimited use of pure air, liberal diet and specific medication, of which I have a number of cured cases on my record. In the quotations from the literature all the diseases were mentioned in which injections had been used, and I can therefore recapitulate briefly. For bronchiectasis and blennorrhea I know of no better treatment, and the injections act almost as a specific. Many, but, in my experience, not all, cases of asthma will be relieved; the distressing dyspnea and the whizzing râles decrease or cease altogether when the injection has loosened the viscous secretions and assisted in their expectoration. But we cannot speak of a cure of asthma proper as long as we cannot eliminate the underlying causative factor. I concur with Dr. Hubbard in not recommending injections for acute tracheitis, but found them most efficient in the different varieties of chronic tracheitis and bronchitis, and treated a number of patients with decided success. Cases of obstinate tracheal syphilis have been cured and the fetid pulmonary gangrene has been favorably influenced. I have no personal experience as to their usage in pertussis and hemorrhage, but although Campbell reports immediate cessation of bleeding after injections, I would, for my part, hesitate to make them in the latter instance, as irritation of the trachea and subsequent coughing cannot always be avoided, and therefore the risk of increasing the hemorrhage has to be considered.

We read in the later publications no more of astringent or caustic solutions as were applied at an early period. If we use them nowadays it is with the intention to produce a topical, localized effect, for instance, to an ulcer or tumor, and we make them with sounds or cotton-carriers of proper curve to a well-defined locality. The diseases for which intratracheal injections are recommended are deeper seated, spread over a larger area, and require larger quantities, therefore solutions of a non-irritant character. The general consensus is to use as vehicle for injections bland, purified oil, and if this requirement is complied with, it matters little which preparation we use. All writers agree to the efficacy and beneficial influence of menthol, which, according to the disease and the predilection of the practitioner, can be added in proportion of 1 to 15 per cent., although the latter figure is higher than I employ. The next favorite is guaiacol and creosote carbonate, both excellent adjuvants in tuberculosis, from 1 to 2 per cent., the latter also highly recommended to relieve bad odor from cavities, bronchiectasis, gangrene. Chlorophenol, 1 per cent., europheen, 1 to 2 per cent., are also well spoken of for similar affections. Bromoform, iodoform, turpentine, salol are less frequently used, and of remedies seldom employed, except by their advocates, I will only mention calomel, 1 per cent., of which one author speaks favorably.

For my part, I have always used as vehicle the hydrocarbon oil, sold under the name of benzoinol, which, besides its purity, has the advantage of being furnished in different combinations, of which the addition of menthol, 1 per cent., is the most useful one, and very much appreciated by patients. If desired, more menthol can easily be added, but I have found 5 per cent. sufficient for all purposes. I have also used the oil with ½ per cent. menthol and camphor each, but often found the latter too irritating. I need not say that I employ also the other agents in suitable cases, but I find the list of remedies limited, and transgressions of little avail or benefit. I once tried to decrease the copious secretions of a case of bronchiectasis by an addition of tannic acid, but failed to make any impression, except to excite the disgust of the patient.

As far as the applications themselves are concerned, I stated already at the beginning that I consider the use of the laryngeal mirror indispensable. It may be that some gentlemen possess the skill to introduce the distal end of the cannula between and below the cords without aid of the mirror, but to be sure that the cannula is in its proper place, I feel the need of the mirror. It is possible to inject some liquid without it into the larynx, which, at a deep inspiration, will allow a certain quantity to pass betweeen the open cords. But if a full injection is to be given, the glottis will close rapidly at the entrance of the liquid, and to be effective, several such injections are necessary. I prefer to give only one injection of the desired quantity, from four to eight drachms each time. A few whiffs of a weak cocaine spray will materially facilitate the introduction of the cannula below the cords.

A number of syringes have been devised by different authors, of which I show you the syringes of Dr. Muir and Dr. Donellan. Both have metal cannulas, and especially the latter serves its purpose admirably. But I found that in some cases the stiff, unyielding cannula gave discomfort to the patient and interfered with the delicate sense of touch which we must preserve when intending to introduce the cannula well down into the trachea. I had, therefore, cannulas made of hard rubber, which are stiff enough for successful introduction, but create no unpleasant sensation when coming in contact with any part of the larynx or trachea. When we wish to reach the lower part of the trachea, a different curve is necessary, and it is best to have several cannulas, although by gently heating we can impart to the hard rubber cannula any curve we desire. The syringe itself is the well-known Hartmann ear syringe, holding one ounce, which quantity, in my opinion, ought not to be exceeded if we wish to avoid loss of solution by coughing or respiratory interference. Some patients do not cough at all after injections, but a moderate cough is not to be objected to, as it spreads the liquid into the bronchial ramifications. Sometimes at the commencement, and especially when patients are nervous and have an irritable throat, I use the small laryngeal syringe, called Hartwell's syringe, containing only a drachm, with which I can pass the cords and make the patients accustomed to the instrument and to the sensation of solutions in the trachea.

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THE PRESENT STATUS OF BLOOD EXAMINATION IN SURGICAL DIAGNOSIS.*

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WHEN Hematology emerged from its theoretical state into a science of practical utility to the clinician, the surgeon amongst others looked to it for aids in diagnosis and prognosis, and it is to the evolution of these and to the present status of their utility that I invite your attention. The most important sphere in which the examination of the blood promised aid to the surgeon, was as a guide to the existence and severity of an inflammatory process and to the presence or absence of a purulent exudate.

Since the beginning the number of leucocytes in a given quantity of blood has been looked to for this purpose, and many observers have carefully tabulated their leucocyte counts with the view of determining the degree of leucocytosis which indicates inflammation without exudate or with serous non-infectious exudate, that at which a purulent exudate may be expected, and finally that which would indicate a degree of systemic poisoning which would make any operative interference a hazardous procedure.

Twelve years ago, Sadler[1] claimed that leucocytosis was generally, though not invariably present in diseases attended with exudate of any kind, excepting in tuberculosis. Two years later Cabot[2] wrote an article calling attention to the significance of leucocytosis in suppurative conditions, having noted it in all cases in which pus was present, excepting two. He did not give the details of the counts at that time, and the article contains inferences now obsolete. A number of articles written during the next five years, deal more or less extensively with the subject of leucocytosis in suppurative conditions, but no actual figures are quoted, nor are the cited details pertinent to-day.

In 1899, Gries[3] stated that the relations of a leucocytosis to pus formation, when a normal or abnormal temperature is present, are equally interesting. He adds that a leucocytosis of 10,000 or more, in a woman in pelvic pain, after all acute symptoms have subsided, and eliminating diseased conditions elsewhere, is indicative of suppuration of some one of the pelvic organs.

Bloodgood,[4] in his article on blood examinations as an aid to surgical diagnosis, calls attention to the grave significance of a sudden drop in the leucocytosis in some cases, and in appendicitis advocates operation if within the first forty-eight hours the leucocyte count reaches 20,000.

Joy and Wright,[5] in an article on leucocytosis as point of prognosis in appendicitis, conclude tha the leucocyte count is a valuable aid to prognosis, and distinct from its diagnostic value. A high stationary or an increasing count indicates a morbi condition of increasing severity, which demand operation, no matter what the clinical symptom may be. A low stationary or a decreasing count indicates that the severity is abating. Cases in whic a falling count is accompanied by unmistakable sign of a bad condition form a rare exception, and th significance is obvious. No arbitrary set of value can be constructed, and a scheme should be followe in which one learns to have confidence.

At this point I wish to direct attention to som features concerning these older observations. Tha a leucocytosis was not invariably found in the suppurative lesions, and the comparatively slight leucocytosis which was believed to indicate the presenc of pus; both of these points at this stage giving rise to doubt as to the value of the procedure to the surgeon.

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* Read before the Surgical Section of the Academy Medicine, New York, February 3, 1905.

The paper by John B. Deaver[6] is an illustration of numerous publications of this kind, which have appeared during the last few years. His opening words are essentially as follows: "In the last few years there has crept into the profession the tendency to replace the bedside by the laboratory as a point from which to make a diagnosis; to substitute the highly magnified, but extremely limited field of the microscope for the broader view of the eye of the physician. This we regret, for in the majority of instances, the diagnosis must be made at the bedside without the aid of the microscopist, and any man who has no confidence in diagnosis made without the aid of the laboratory, limits his usefulness."

In the light of present knowledge, this seems a one-sided view, for I believe the truly conscientious man demands every possible aid available which may be of practical value, though he cannot be expected to use methods of questionable utility. The use of laboratory aids when at hand by no means lessens confidence in clinical methods, and is more apt to enhance the skill of diagnostician than to "limit his usefulness."

These adverse opinions as stated are chiefly based on the two points which I have emphasized; the absence of a leucocytosis in some cases in which pus is present, and inferring the presence of pus from a comparatively low degree of leucocytosis.

That there may be no increase in the number of leucocytes when a purulent exudate exists, was noted from the beginning, and this feature has been the greatest obstacle to progress, as it has discouraged observation. Leucocytosis is largely dependent on body resistance toward infection, and therefore the degree of increase can be no guide to the intensity of the pathological process. Good resistance will produce pronounced leucocytosis even in slight infections, and poor resistance but little leucocytosis in slight infections and possibly none at all in grave infections. No adequate clinical method exists by which this body resistance can be determined with sufficient accuracy to apply it as a factor to the leucocyte count, and this is the key to the disappointments encountered by the surgeon in utilizing these counts in diagnosis. It is also the reason why arbitrary leucocyte count standards indicating definite degrees of lesion cannot be fixed, and the statements indicating the significance of particular counts are, and must remain, subject to doubt.

Scarcely five years ago a leucocytosis of 10,000 under circumstances was looked upon by some as indicating the presence of pus, as I have stated, while since then the literature shows that the figure has steadily advanced. Cazin and Gros[7] state that 20,000 to 22,000 if at all stationary or if advancing to 25,000 indicates pus. This statement is followed by a number of German observers, who claim that a count of at least 25,000 is necessary before pus may be suspected. The last statement I have read is that of French,[8] who demands the presence of 35,000 before pus may be suspected, though pus is often present with much lower counts.

As a direct result of many blood examinations made in surgical diseases, I have been impressed during the last few years by the fact that the quantitative relation or differential count of leucocytes offers a far better guide to the status of an inflammatory process, and one which is not influenced to a perceptible degree by body resistance. Furthermore, that the leucocytosis present with a given differential count is a direct indicator of body resistance, which may also be of great clinical value.

I hesitated long before bringing these observations to your attention, but I am now prompted to lay them before you, owing to the rapidly increasing number of instances in which the blood picture looked at in this way, has successfully indicated the necessity for surgical interference, when the clinical manifestations were not so pronounced, and the leucocyte counts often misleading.

As it is my intention to remain on the practical side of this question, I will not burden you with a detailed consideration of the different varieties of leucocytes, their origin, or their specific use in the economy, especially as there are still many disputed points. Personal work with about 5,000 blood specimens carefully tabulated, gives me the following figures for healthy adults of the upper and middle classes of society of this city, and but few hospital patients. Leucocytes in 1 c.mm. of blood from 5,200 to 9,600, the average being 6,700. These figures were determined by use of Thoma-Zeiss chamber, almost invariable dilution 1:100 and actual count of corpuscles in 0.1 c.mm. of blood in most instances.

The same tables show a normal differential count of leucocytes to be as follows:

Leucocytes.	PERCENTAGES.			Actual number in 1 c.mm. based on average leucocyte count of 6,700.
	Low.	High.	Average.	
Small Lymphocytes......	24	35	28.0	1,876
Large Lymphocytes......	3	10	7.5	502
Polynuclear Neutrophiles..	59	68	62.0	4,154
Eosinophiles............	0.2	4	1.0	67
Basophiles..............	None.	0.4	0.2	7

These figures are based on percentages obtained from actual count of at least 500 corpuscles in the center and not on the margin of the blood smear.

The particular point in question is the relative percentage of polynuclear neutrophiles, the determination of which is neither difficult nor tedious, particularly in the cases in question. While it is true that the percentage of these cells varies somewhat in health, as I have shown, and probably in the different states of body resistance, still these fluctuations are within fairly narrow limits. An analysis of 1,415 blood examinations, which I have made in surgical cases, shows three distinct blood pictures in inflammatory lesions, as follows:

First.—A relative percentage of polynuclear cells below 70, with an inflammatory leucocytosis of any degree, excludes the presence of gangrene or pus, at the time the blood examination is made, and usually indicates good body resistance toward infection. Of the large number of instances in my records, I will briefly mention but two, which will illustrate the point.

No. 12,971.—A robust young woman. Red cells 4,900,000. Hemoglobin 82 per cent. (v. Fleischl). Serous otitis media, and owing to extreme pain, condition of pulse, etc., suspected acute mastoid disease. Leucocyte count 28,400. Polynuclear cells 59.7 per cent. Clinical picture and leucocytosis would have indicated immediate operation, but the normal polynuclear percentage led the aurist to wait, and a prompt recovery without purulent exudate made operation unnecessary.

No. 13,610.—A boy convalescing from severe attack of an acute infectious disease, presented a clinical picture of acute appendicitis and a leucocytosis of 25,100. While surgical interference seemed urgently indicated, the general condition made it a risk not to be incurred unless imperative. The polynuclear percentage of 63.5 induced the attending physician to wait, and while he spent anxious days in which the clinical signs and blood picture remained stationary, resolution without pus or gangrene resulted, and the child was saved an operation at a time when he was in very poor condition to stand it.

Second.—An increased relative percentage of polynuclear cells, with little or no inflammatory leucocytosis, is still an absolute indication of the inflammatory process, and the percentage is a direct guide to the severity of the infection. As above stated, in all the cases of which I have clinical record, no pus or gangrene was ever observed with a polynuclear percentage below 70. In children, where the polynuclear percentage is normally lower than in adults, I have seen pus or gangrene with the percentage as low as 73. In adults, a purulent exudate or a gangrenous process is decidedly uncommon with less than 80 per cent. of polynuclear cells, and the probability of their presence increases with the percentage. Eighty-five per cent. or over of polynuclear cells I have never seen without a purulent exudate or gangrenous process irrespective of the leucocyte count. Ninety per cent. of polynuclear cells has always indicated a very severe degree of cachexia, if I may use the term, and while I had one specimen of 95.2 per cent. where recovery followed operation, all other cases in which the percentage was over 94.5 resulted fatally. It is not wise, nor will I attempt, to establish narrow arbitrary limits, but I am quoting the above figures from the 1,400 surgical cases studied in this way.

This second type, of increased polynuclear percentage, with little or no inflammatory leucocytosis, is the most interesting one, as it particularly demonstrates the value of the procedure I am advocating, and the cases are usually in urgent need of operation on account of poor body resistance. Again, I will cite but few typical ones to illustrate:

No. 1,509.—A young woman in apparently good condition. Red cells 4,208,000. Hemoglobin 72 per cent. (v. Fleischl), has severe pelvic cellulitis from streptococcus infection, and somewhat vague manifestations of an abscess with a leucocyte count of 7,200. Her serious condition could be explained clinically by the intensity of the inflammatory process, but the polynuclear percentage of 87 indicated the necessity for immediate operation, which revealed a large collection of pus, and was followed by recovery.

No. 12,331.—A rather feeble elderly lady. Red cells 4,400,000. Hemoglobin 70 per cent. (v. Fleischl), with typical clinical evidences of appendicitis, where the attending physician and consulting surgeon advocated operation, but the consulting physician advised waiting. Leucocytes 13,200. Polynuclear cells 82.4 per cent. Owing to the latter feature, the surgeon insisted on operating, and found a perforated gangrenous appendix and spreading general peritonitis.

No. 13,702.—A young man apparently in good condition. Red cells 4,820,000. Hemoglobin 80 per cent. (v. Fleischl), convalescing from purulent otitis media and mastoid involvement, which had been operated, began to have evidences of meningeal irritation, with but slight clinical manifestations of acute inflammation. Leucocyte count 11,900. Polynuclear cells 82.3 per cent. Immediate operation revealed large abscess, and patient subsequently died of meningitis.

Third.—An increased relative percentage of polynuclear cells with a decided inflammatory leucocytosis. Most of the cases of inflammatory lesions, with or without purulent exudate, meet the specifications of this class. Here, as in the last series, the percentage of polynuclear cells was found an accurate guide to the status of the inflammatory lesion, and the figures quoted above apply here as well.

I have selected a few cases, each one of which shows one of the detailed characteristic features.

No.	Leucocyte Count.	Polynucl. Percentage.	Clinical Diagnosis.	Subsequent Course.
12,450	10,200	75.5	Cholecystitis.	No abscess or gangrene.
12,542	16,900	70.3	Pelvic Cellulitis.	No suppuration.
12,581	20,200	89.8	Appendicitis.	Perforation. Death from peritonitis.
12,616	18,700	71.0	Appendicitis.	No operation. Prompt recovery from attack.
12,622	21,500	74.0	Cellulitis of toe.	No abscess.
12,964	19,300	87.1	Appendicitis.	Gangrenous. General peritonitis.
13,223	29,800	95.2	Appendicitis.	Gangrenous. Operation and recovery.
13,391	20,800	70.7	Appendicitis.	No operation. Prompt recovery from attack.
13,421	15,200	84.1	Appendicitis.	Gangrenous. Operation. Recovery.
13,428	15,800	89.9	Appendicitis.	Gangrenous. Operation. Recovery.
13,702	11,900	82.3	Mastoid.	Abscess. Operation. Recovery.
13,748	15,700	81.6	Double Mastoid.	Abscess. Operation.
13,779	17,800	89.8	Appendicitis.	Gangrene. Peritonitis.
13,801	17,900	68.1	Appendicitis.	No operation. Prompt recovery from attack.
13,927	9,100	82.2	Appendicitis.	Gangrene. Operation. Recovery.

This table could be continued at length, but the above sufficiently illustrates the value of the advocated procedure.

The body resistance toward the infection is a most important point, and while the clinical manifestations are usually a good guide, this is by no means invariable. Good resistance—marked leucocytosis; poor resistance—little or no leucocytosis, is the old rule. A. M. Holmes[9] published a few days ago, a very interesting article on the nature and significance of leucocytosis. He judges body resistance by the small lymphocyte count. As stated above, the leucocytosis with a given percentage of polynuclear cells, is, I believe, the best indicator of this body resistance, when we accept the theory that the polynuclear percentage is the index of the degree of the inflammatory lesion.

For example, a patient has an inflammatory lesion without purulent exudate, and a polynuclear percentage of 75. If his leucocyte count is 25,000 the body resistance is much better than if the count is 10,000. Another case has an acute inflammation with abscess, and a polynuclear percentage of 84. If the leucocyte count is 30,000 the body resistance is much better than if the count is 15,000. The severely toxic patient with 92 per cent. polynuclear cells is combating his disease with greater energy and success if he has 40,000 leucocytes in 1 c.mm. than if they are only 20,000; and should the leucocyte count be 7,000, this is a clear indication of an absence of all systemic effort to overcome the infection. My records show many examples of the truth of the above assertion.

Iodophilia, or the iodine reaction, is noted in the blood in all inflammatory lesions, and its presence as well as intensity have been used as a guide to the character and severity of the inflammatory process.

Locke[10] is probably the most ardent advocate of this method, and his results merit close study. Other observers have not been so well satisfied with it, and find it difficult to recognize the different degrees of intensity in the reaction. I must confess that in my hands the results do not seem nearly as reliable as those obtained from the polynuclear percentage as detailed. A distinct iodophilic reaction is always obtained in a pronounced leucocytosis, and would erroneously indicate the presence of a suppurative process, while the polynuclear percentage would lead to a much more accurate conclusion. This error would be most likely in the class of cases which I have mentioned in Group I.

In carcinoma there is oftentimes a leucocytosis and an increase in the percentage of polynuclear cells on differential count, and these features were at one time supposed to be of value in diagnosis. Since these assertions were made the literature has been flooded with communications citing cases of cancer in which the number and relative proportion of leucocytes are unchanged. The consensus of opinion at present is, that the leucocytosis and polynuclear increase observed in many cases of carcinoma are due to the secondary infection, thus being a guide to the extent of the accompanying inflammatory process, and no indicator of the nature or extent of the primary lesion.

The arbitrary rule, that no surgical procedure is to be undertaken when the percentage of hemoglobin is below 30 is also in need of amendment. Determination of the amount of hemoglobin in these specimens poor in coloring matter is a very crude matter, and opinions concerning any operation in cases of severe anemia are much better when based on the complete blood picture, than if a necessarily crude estimate of the amount of hemoglobin alone is considered. The chlorotic girl with 30 per cent. hemoglobin, 4,500,000 red cells, a normal leucocyte count, and perhaps a slight relative lymphocytosis on differential count is certainly in much better condition to withstand an imperative operation than the case of secondary anemia, with 50 per cent. hemoglobin, but only 2,000,000 red corpuscles, a marked leucopenia, and a high relative lymphocytosis.

One more item before closing. Cases of acute leukemia in which a sudden increase in lymphatic tissue, interorganic hemorrhages, or both, with temperature and other clinical evidences, often closely simulate acute inflammatory lesions, and therefore are brought to the attention of the surgeon. As every article in the literature on this subject details one or more cases of this kind, it is not necessary to quote special references. While such operation can but hasten the invariably fatal outcome of these cases, an error is disagreeable, and this one is rapidly disappearing, solely because a blood examination, in this instance at least, establishes a correct diagnosis.

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PRELIMINARY REPORT ON THE TREATMENT OF CHRONIC DYSENTERY, BY IRRIGATION OF THE COLON THROUGH THE VERMIFORM APPENDIX OR AN OPENING INTO THE CECUM.

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There are very few surgeons in the army, who have had any tropical experience during or since the Spanish war, who have not met with a large number of cases of chronic dysentery, which have resisted treatment, and persist as dysentery, or have led to a condition of chronic colitis, with more or less extensive ulcerations, confined practically to the great intestine. These cases after undergoing the various methods of treatment with ipecac, quinine irrigations, long-continued strict dieting, rest, etc., reach a stage when they are fairly comfortable in hospital, but promptly relapse when they try to do any work or live on ordinary food. As many of these cases occur in young men, more or less ambitious, and anxious to get out of hospital and enjoy life; and as the results of all the methods hitherto suggested have been very unsatisfactory, anything that promises permanent relief is worthy of a thorough trial. A number of these cases after having exhausted the skill and ingenuity of their post surgeons, are discharged on surgeon's certificate of disability and drift into the Soldiers' Home, the last resort of the broken-down enlisted man of the regular army.

The most promising and rational treatment of chronic dysentery, and the bowel lesions left by it, was formerly the high rectal irrigations, carried out systematically and in some of the less severe cases, where the lesions were not too extensive, this seemed to have some beneficial effect. No hospital in the Philippines, however remote, was, or is complete without a good supply of rectal tubes and fountain syringes. This rectal irrigation, however, is not satisfactory. It is doubtful if the fluid ever reaches beyond the splenic flexure of the colon, and it soon becomes very distressing, and in many cases sets up a painful proctitis. The patients complain bitterly of the discomfort they suffer, and the treatment must be kept up a long time to effect any result; and a great many cases fail to improve except very temporarily, after the most persistent rectal irrigations.

I think it was Weir of New York, himself an ex-army surgeon, who first suggested the irrigation of the colon from the caput coli, utilizing the appendix as a tube through which to introduce the irrigating fluid.

While in New York in 1902 I saw Dr. McCosh of the Presbyterian Hospital perform the operation, and a patient upon whom Dr. Dawbarn had done it was shown at the Academy of Medicine, and good results were claimed in both cases. It certainly seems a rational method of getting at the seat of the trouble, the principal difficulty being that, if the ulcerations and cicatrizations are very extensive, a complete cure would be almost beyond hope. Still it was certainly worth trying, and a case coming under observation here, I operated, with such a good result, that I was encouraged to do it in other cases.

The first man upon whom I tried it was a young ex-soldier who had been treated off and on for three years. He had acquired the disease in the Philippines, had been discharged and finally reached the Soldiers' Home in very poor condition. He was emaciated, weak, unable to stand any active exercise or eat any but liquid food without bringing on a bloody-mucous diarrhea, not very painful, but debilitating. When I first saw this man he was having four to six stools a day, containing still a few active amebæ, blood, and mucus. Like many others, he could be kept tolerably comfortable by rest in bed and strict dieting. Any active exertion or attempt to eat solid food caused prompt relapse.

The operation was done July 27, 1903. It was found that the appendix was tied down in a mass of adhesions, and the cecum was so friable from ulcerations that any attempt to bring the appendix out through the wound was liable to do injury to the colon, so it was abandoned. The colon, just above the ileocecal junction, was stitched into the wound and forty-eight hours later opened, a catheter introduced and irrigations commenced. To destroy any lurking amebæ, a 1-2,000 quinine solution was used, 500 c.c. being poured in twice a day for six weeks. (Ice water and hydrogen peroxide 10 per cent. were tried in two subsequent cases, but the former caused some distress and depression, and the latter intestinal distension from formation of gas, and quinine solution is now depended on to destroy amebæ.) Examination of stools failed to show any amebæ after that period, and for six weeks more the same amount of a ¼ per cent. solution of silver nitrate was used. This patient improved rapidly and steadily, but he developed symptoms of insanity and was sent to the Government Hospital for the Insane. The fecal fistula closed spontaneously. He was discharged from St. Elizabeth's and went to his home. Within a month I have received a letter from him, stating that he is in excellent health, eighteen months after operation.

On October 4, 1904, the next patient was operated on. This patient was a large man of heavy frame, weighing 164 pounds, but he had five to eight bloody stools a day, loaded with motile amebæ containing red blood corpuscles. This case was similar to case No. 1, in one respect, *i. e.* the appendix was not freely patulous and it was necessary to do a colostomy. The results in this case have been excellent to date, three months after operation. The irrigations were discontinued January 2. The patient has gained 26 pounds, his stools are formed, his diet is unrestricted, and he is now employed as an orderly in the hospital.

Patient No. 3 was operated on December 1, 1904. At the time of operation he weighed 138 pounds. The appendix in this case was non-adherent and patulous, and the case presented no difficulty. It was brought out through the wound, stitched to the skin at three points, the sutures, of course, not being allowed to encroach on the lumen of the appendix, and forty-eight hours later the protruding part of the appendix (about two inches) was cut off, catheter introduced and irrigation begun. Five weeks after the operation this man had gained 15 pounds. He has stools only after irrigation. His general appearance is already markedly better, his complexion has changed from very sallow to a healthier color, and he has a feeling of general bienaise. His diet is not entirely unrestricted, but he can digest solid food in small amounts, and is entirely free from the distressing abdominal distension that before operation followed the ingestion of even the most easily digestible food. Altogether the case promises well, though it is too early to pronounce him cured.

Two more cases have been subsequently operated on, but as one was undertaken only a week and the other three days ago, it is impossible as yet to give a prognosis. In the first of these it can be said that the irrigations are not only painless, but that the patient says he feels better after each administration of the solution (quinine 1-1,500), and has asked for three instead of two irrigations each day.

The operation, if the appendix is not firmly bound down and is freely patulous is very simple for a surgeon, who is at all used to abdominal work. The usual incision is made as for appendectomy, the appendix is stitched to the skin. It may be a good idea to scrape the appendix slightly with a scalpel before stitching, where it comes in contact with the abdominal wall to ensure and expedite firm adhesions. The abdominal wall is securely stitched, layer by layer, down to the point where the appendix comes through, *i. e.* the lower end of the incision. Forty-eight hours later the protruding appendix is cut off, catheter introduced and irrigations begun at once. In a week all stitches are removed, the irrigating tube is left in, secured with a pinch cock, and changed from time to time as it becomes worn out.

It is not claimed that a cure has been found for all these distressing cases. The number treated here, five in all, with two just started, is, of course, too small to derive any safe conclusions from, but the treatment seems reasonable, and so many of these cases come under observation nowadays, that it is suggested that the operation be performed in a sufficient number of cases to test thoroughly its value. It can do no harm and offers a good chance of relieving a very distressing condition.

The advantages of this method of irrigation over the deep rectal injections are:

1. The irrigating fluid is delivered first at the point shown by experience at the post-mortem table to be the location of the most extensive lesions, and is carried from there by the natural peristaltic movement of the colon to the outlet. Rectal irrigations, to reach even the transverse colon, must overcome this natural tendency of the bowel to drive out any foreign substance.

2. It is entirely painless, and very much easier for the nurse to administer. Indeed, the patient can soon be taught to do the irrigating himself.

3. It is possible to keep it up much longer, for it is my experience that rectal irrigations soon become so distressing that they must be discontinued for long periods.

Very little, so far as I know, has been written on the subject. I would earnestly recommend that it be given a trial, as it certainly is rational in theory, easily done, and so far as a few cases can prove anything, has had good results.

When the tube is finally withdrawn, if the opening does not close spontaneously, it is a simple matter to loosen the adhesions around the appendix, draw it out, ligate, cut off, and sterilize the stump with the thermocautery point, and drop it back, closing the small opening in the abdominal wall with a single suture carried rather deeply.

The diet of these patients after operation is very gradually increased, a careful watch being kept to see if diarrhea returns. The irrigations are not discontinued until the patient can eat solid food without discomfort or any tendency to relapse, and is passing formed stools. He should be allowed to eat several meals of solid food as a test, before irrigations are finally discontinued and the fistula closed.

It is, I think, a good plan to allow the tube to remain in place without irrigations for a week before finally removing it. If the symptoms recur, irrigations can then be resumed. It seems to be safe, after a week without irrigation has gone by, the patient being on unrestricted diet and passing formed stools, to remove the tube and close the fistula.

Since writing this paper a sixth case has been operated on, January 20, 1905, and the patient is already improving and anxiously looking forward to the time when he may re-enlist.

I would add that the very careful, thorough, and intelligent after-treatment of these cases by the house surgeon, Dr. J. E. Meisenhelder, has been of great assistance in securing favorable results. Indeed, the operation itself is only the first step in the treatment. which, after all is said, is still in the experimental stage.

A WARNING AND A PROTECTOR FOR X-RAY WORKERS.

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RECENTLY the medical profession and the public were startled by the announcement of the death of two *x*-ray workers, due to carcinoma developing on their hands and forming metastases. Although repeated amputations were performed, yet the morbid process was not controlled. Since that time similar malignant neoplasms have developed on the hands of four well-known experts, and they have submitted to one or more amputations. On the hands of seven other *x*-ray workers, intractable, deep-seated, and suspicious ulcers, some of them causing pain in the underlying bone on pressure, have been present for months. The lesions show little tendency to heal under careful and faithful treatment. These cases are simply instances which have come under the writer's personal observation; doubtless there are many more. Through a feeling of delicacy, attention is not usually called to such cases, except in obituary notices. In one case, an epithelioma, which was verified microscopically, healed after complete withdrawal from the rays and under careful local treatment.

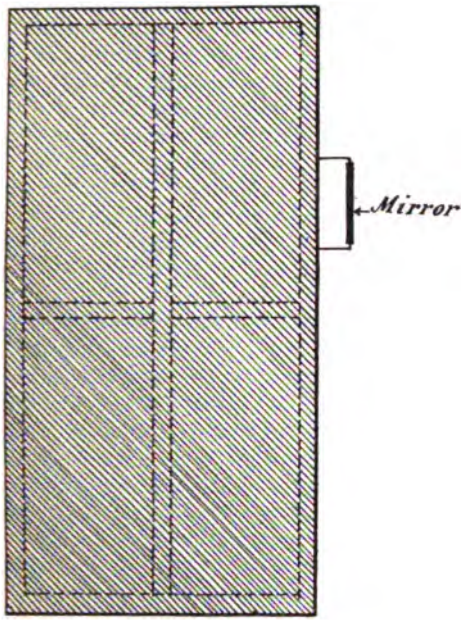

Fig. 1.—Lead Protecting Screen for X-ray Work.

On the very heels of this announcement of martyrs to science, the pathetic domestic details of which are here omitted, another surprise comes. Examination shows an azoospermatic condition among *x*-ray operators, even in some instances in which the radiologist has taken precautions to avoid needless exposure to an active tube by (a) directing the rays away from himself, (b) refraining from all fluoroscopic examinations, and (c) not remaining in the same room during radiotherapeutic treatments.

While the prospect of sterility is a shock to the individuals affected, particularly as they are usually unaware of any such change having occurred, the question of perhaps graver moment is, "What will develop next?" Röntgen's discovery was made a decade ago.

Those *x*-ray workers who have died from carcinoma were men who were among the earliest observers in this field, and the carcinomas developed in parts long exposed to the action of the rays. More recent workers, profiting by having seen these ulcerated hands, denied themselves the mysterious observations of their own bones seen by looking at their hands with the fluoroscope, and instead, looked through the patients' chests, or used various skiameters. Later, when a roughened condition of the skin about their eyes and over the bridges of their noses developed, even fluoroscopic examinations were abandoned. And yet the attacks of the insidious rays are not parried. Experiments on animals have shown that the earliest effects of exposures to the *x*-rays are shown in the lymphatic system, resulting in a degeneration and absorption of the lymphatic glands, also a degeneration of the Graffian follicles of the ovary, and epithelium lining the seminiferous tubercles of the testicle. It would behoove those who are subjected to the rays to note whether they can palpate their superficial glands; for instance, those in the inguinal region, which are normally palpable. What will the second decade of Röntgen's discovery reveal to us?

In the *x*-ray we have an agent which also causes dermatitis, the so-called "burns" of first, second, and third degrees, expoliation of the hair, nails, and other skin appendages, capillary endarteritis, telangiectasis, shows selective destructive action on the higher specialized cells (such as those in the sweat and sebaceous glands and hair follicles), and stimulates the lower organized connective tissue cells. This is well shown in the dry, parchment-like condition of skin long exposed to *x*-rays. Is it not possible that the cumulative effect of the prolonged exposure that the *x*-ray worker must submit himself to during years of work in the rays will result in a degeneration of the glands of the skin all over the body, and that, deprived of these important eliminative exits, the kidneys will become overworked, and subsequently become diseased? I will not pursue the field of supposition further, but these deleterious actions, and these possible dangers, should be carefully considered by all engaging in this work. The carelessness of the past may change to useless precaution in future, but certainly the *x*-ray worker should protect himself. That we have been dealing with a deeply penetrating agent has long been known; that it is also dangerous must cause apprehension.

Various protectors have been suggested, some to be worn by the operators, some to be placed on the tubes, and others to be interposed between the tubes and the operators. A metal of high specific gravity must be employed, and lead is the favorite. A lead suit of armor would be too cumbersome and heavy, while the practice of simply wearing a lead apron is insufficient protection. It will cover the abdomen and pelvis, but with an agent as powerful and dangerous as the *x*-ray has proved to be, one should not needlessly expose the liver, heart, kidneys, spleen, intestines, brain, blood, and lymphatic systems. Because of its weight, lead is also objectionable to place about a delicate glass tube, especially as most operators must judge the character of the *x*-rays by the appearance of the fluorescence of the tube, while

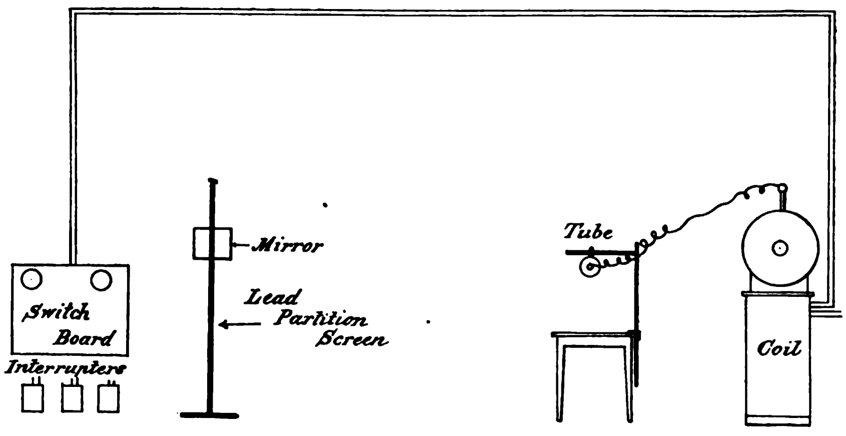

Fig 2.—Scheme for Arranging a Lead Protecting Partition in an X-ray Room.

safety prohibits the use of the fluoroscope, and even the skiameter.*

The most feasible protector, in the writer's opinion, is a lead partition between the operator and the x-ray tube. Such a protector can be arranged by having the switchboard mounted on the side of the x-ray room farthest removed from the x-ray apparatus, and placing a strong oak framed screen, covered with two layers of sheet lead, each 1-16 of an inch thick, between the operator and the x-ray tube. This screen should be about six feet high and three feet wide. A mirror can be arranged on pivot supports at one end of the screen, so that the operator can see the reflection of the fluorescing tube, and need not look directly at it.

Such a device gives more protection than most x-ray workers have been using in the past. It is too early to say whether it will secure absolute safety for the radiographer.

* Millamperemeters introduced in circuit with the tube may relieve the operator from even seeing the tube.

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Notes on "Climatic" Bubo.—F. H. A. Clayton calls attention to the fact that the etiology of this affection is still largely a matter of speculation. He cites several cases of indolent chronic buboes. The first patient looked anemic, though the hemoglobin was not measured. In the differential blood count the eosinophilia were estimated at 22 per cent. The motions were examined for parasites, but none were found. The bubo was in the right groin, with no apparent cause. Later, a patch of dhobie itch in the perineum was discovered, and the patient admitted having had it at intervals for some time. Thus a quiescent focus of irritation was present. Two other cases of indolent chronic buboes were cited without obvious cause, although neither patient was especially anemic, nor had any febrile symptoms. Another case had the horizontal glands in both groins enlarged. The only possible source of irritation was some indurated papules on the thighs, the remains of a severe attack of furunculosis of the previous year. None of them, however, showed any signs of activity. The temperature was elevated, but the patient was perfectly comfortable. He was not markedly anemic. Search was made for malarial organisms, with negative results. The glands were incised, and a tube inoculated with the pus, again with negative results. Eosinophilia was marked. The patient became very haggard and anemic looking, but the buboes finally healed and the patient recovered. Two of these patients were at Wei-hai-Wei, and two at Hong Kong. The writer, in seeking for the cause of these buboes, states that venereal disease can be definitely excluded in all of these cases. So can any active source of irritation, in the area drained. In three of the cases, however, there were the remains of what had been foci of irritation, quiescent at the time, nevertheless. The writer believes this to have had some part in determining the localization of the adenitis. By itself, however, it was not capable of causing the condition. These glands do not of necessity suppurate. When this does occur, it is indolent. Cantlie believes that these are really cases of pestis minor and allied to true plague. In the fourth case, repeated examination showed no organism resembling that of plague. The possibility is suggested that the phenomena here discussed are produced by some circulating toxin, whether or not originally manufactured by bacteria. The localization of the enlarged glands might then be readily determined by some previous irritation or trauma. This would explain the common involvement of the inguinal glands. Although bacteriological evidence is valuable, isolation of even a definite organism does not prove that it is the cause of the condition.—*The Journal of Tropical Medicine.*

The Management of Acute Peritonitis.—J. Garland Sherrill speaks of the two forms of infection—acute septic peritonitis and general suppurative peritonitis. In the first form, the patient dies from a profound toxemia before the local changes have progressed to the point of pus formation. In the second form, pus is found free in the peritoneal cavity without any localization of the process. Many cases result fatally, especially those of the septic type, regardless of the time when they are seen or the treatment employed. Various lines of treatment have been advocated. This is generally considered a bacterial disease, and various forms of organisms have been found in different cases. At the beginning it is always a local infection, and in the large majority of cases the treatment is surgical. In cases due to perforating ulcer of the stomach, absolute rest of the stomach is indicated. Enemata should be used to unload the lower bowel and relieve meteorism. Colon lavage is safe, followed by nutrient enemata as indicated. The use of heat or cold locally can be tried. When the perforation is lower down, and in cases of obstruction with danger or possibility of a rupture, gastric lavage can be safely employed, but purgation and enemata are very dangerous. Nothing should enter the stomach after it has been cleansed. Small enemata can be used to empty the rectum, and small nutrient enemata may be given at proper intervals. In cases which follow puerperal infection, surgical operation, the rupture of an abscess, and rupture of the appendix, a different plan of treatment should be employed. In the latter condition, in ruptured abscess, and in post-operative cases, purgatives are indicated. A large source of infection can be removed by elimination of the feces. Leeching is perhaps worthy of trial in cases of peritonitis. Careful stimulation should be given in all forms. As to surgical treatment, great stress should be laid on operation as a measure for the prevention of general peritonitis. The writer declares that the outcome of a case will depend upon the following factors without reference to the special steps in the operation or the subsequent care: The virulence of the infection, the quantity of the infecting medium, the resistance of the patient, the activity of the eliminating organs, the time at which the patient comes to operation after the poison enters the cavity, the dexterity and thoroughness of the surgical procedure, no matter what the method. In cleansing the abdomen, the writer prefers the method of flushing. The septic form of this disease demands very early operation. Otherwise it should be treated like the suppurative type. After operation these cases should be managed like any other abdominal section.—*Annals of Gynecology and Pediatry.*

The Absorption of Carbon Dioxide from the Stomach.—Loening says that although a great deal of work has been done on the therapeutic effect of beverages containing carbon dioxide, but little is known as to the actual behavior of the gas when introduced into the stomach. Several authors have published observations on the question, but their results are conflicting and incomplete. He introduced varying quantities of distilled water charged with the gas into the stomachs of dogs and of patients, and after longer or shorter intervals determined the amount of gas that had been absorbed. The experiments showed that the stomach possesses to a marked degree the property of absorbing carbon dioxide in the presence of water. Absorption is very prompt, so that over half the gas is taken up during the first five minutes and three quarters at the end of from ten to fifteen minutes. After this, absorption becomes very slow, and after an hour only a very small residuum of the gas remains, which is taken up very slowly or not at all. This is in accord with the observations of Schierbeck, who found that the stomach gives off carbon dioxide if filled with water entirely free from the gas. Experiments conducted with carbonated alcoholic beverages gave similar results. The observations also demonstrated the fact that the stomach appears to be wholly incapable of absorbing water.—*Zeitschrift für klinische Medizin.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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COPPER SALTS IN THE PURIFICATION OF WATER SUPPLIES.

THE use of copper salts to purify water has not as yet been tested on a sufficiently wide scale to admit of a definite opinion being formed as to its value. To condemn utterly the method would be as unwise as to offer indiscriminating praise. That these salts have their place in the list of water purifiers would seem to have been more or less proved, but at the same time that their use is limited would appear to be just as obvious, and that their extensive employment may be dangerous to the health of the community has not yet been satisfactorily disproved.

The *Yale Medical Journal* for February, 1905, contains an article by Professor H. E. Smith, in which the matter is discussed at some length. The writer draws attention to the fact that the practical value of copper salts has been demonstrated as regards the destruction of certain organisms which pollute public water supplies, and especially of the most troublesome and common of these such as the various confervæ. These appear to be readily destroyed by copper sulphate in dilutions of one part in from one to ten million parts of water. It is stated that during the past year fully fifty reservoirs have been thus treated, the method having been successful in controlling the objectionable growths.

As Professor Smith points out, however, there are two questions which naturally suggest themselves, viz., what becomes of the copper? and what danger is there of copper poisoning to the people using a copper-treated water? As to the fate of the copper little definite information can be obtained, but from evidence gathered Professor Smith thinks we may conclude that there is a tendency for the copper to disappear rapidly from solution, and that this is probably accomplished through the agency of the organisms themselves. With regard to the presence of copper salts in water as a menace to health, the writer states that "from considerations on the toxicology of copper one must conclude that there is no apparent danger from poisoning in the use of water treated with such amounts of copper sulphate as are used in the Moore method for the destruction of the most objectionable organisms, and that this would be so even if the copper remained in solution. The present limited experience confirms this conclusion as to the safety of the method, for in several cases the water has remained in use during the treatment and no bad effects have been noted."

The employment of copper salts in the purification of water supplies must be regarded rather as an adjunct to treatment, than as a practical remedy in itself. As to whether the method might be of value for the destruction of pathogenic organisms can only be a matter for surmise. True it is known that copper sulphate has a destructive action upon typhoid bacilli and cholera germs in water, but these facts have been gathered chiefly from laboratory experiments, and under conditions which do not ordinarily prevail in water reservoirs, and it would be distinctly unwise at present to trust solely to such means for purifying public water supplies, in spite of reports made from time to time, of the apparent success of the method in various places. Other well tested methods must still be relied on, while copper salts might possibly be used under certain precautions in the emergency treatment of a polluted water supply.

MILITARY HYGIENE.

PREVENTION of disease is the watchword of medical practice in these days. General hygiene has made great strides within the past few years, so much so, indeed, that in certain communities in which its principles have been carried out carefully and thoroughly, typhoid fever has practically ceased to exist. But although satisfactory progress is being made in the hygiene of civil life, it can scarcely be stated with truth that a corresponding advance is going on in military hygiene. Modern armies in times of war are still decimated by typhoid fever and other preventible diseases, albeit in the present struggle, the Japanese Army Medical Department would seem to have come nearer to a successful solution of the problem than has been reached by the Army Medical Service of any other army. Nevertheless, so far as military hygiene, generally speaking, is concerned, the science is yet in its elementary stage.

The *Journal of the Military Service Institution* for January and February, 1905, contains a paper on military hygiene by Captain Peter E. Traub, being the Seaman prize essay. In this paper it is clearly shown that little or no attention is paid to the subject either at West Point or at Annapolis, and that of the Postgraduate schools, only the Infantry and Cavalry School at Fort Leavenworth, Kansas, makes any effort to give adequate instructions in military hygiene. Captain Traub advances the following conditions, the carrying out of which would tend to promote the intelligent practice of military hygiene in our army. (1) If the Medical Corps of the army succeeded in securing and retaining the best young doctors obtainable from civil life, and if, after entry into the corps, these doctors were made so to devote themselves to study and practice as to become and to show that they were experts in military, sanitary, and hygiene matters. (2) If the line officers from the second lieutenant to the general were properly and systematically educated, instructed, and trained to meet their responsibilities in preserving the health of the men and were made to show, in their examinations for promotion, that in both theory and practice they understood and could apply this most important part of their duty. (3) If the enlisted men were, by instruction and training and discipline, imbued with a due sense of responsibility in the part they must play to preserve their own health and the health of their comrades. (4) If, in the purchase, expenditure and accounting of material and safety prohibits the use of the fluoroscope, and even the skiameter.*

The most feasible protector, in the writer's opinion, is a lead partition between the operator and the *x*-ray tube. Such a protector can be arranged by having the switchboard mounted on the side of the *x*-ray room farthest removed from the *x*-ray apparatus, and placing a strong oak framed screen, covered with two layers of sheet lead, each 1-16 of an inch thick, between the operator and the *x*-ray tube. This screen should be about six feet high and three feet wide. A mirror can be arranged on pivot supports at one end of the screen, so that the operator can see the reflection of the fluorescing tube, and need not look directly at it.

Such a device gives more protection than most *x*-ray workers have been using in the past. It is too early to say whether it will secure absolute safety for the radiographer.

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* Millamperemeters introduced in circuit with the tube may relieve the operator from even seeing the tube.

125 West Fifty-eighth Street.

Notes on "Climatic" Bubo.—F. H. A. Clayton calls attention to the fact that the etiology of this affection is still largely a matter of speculation. He cites several cases of indolent chronic buboes. The first patient looked anemic, though the hemoglobin was not measured. In the differential blood count the eosinophilia were estimated at 22 per cent. The motions were examined for parasites, but none were found. The bubo was in the right groin, with no apparent cause. Later, a patch of dhobie itch in the perineum was discovered, and the patient admitted having had it at intervals for some time. Thus a quiescent focus of irritation was present. Two other cases of indolent chronic buboes were cited without obvious cause, although neither patient was especially anemic, nor had any febrile symptoms. Another case had the horizontal glands in both groins enlarged. The only possible source of irritation was some indurated papules on the thighs, the remains of a severe attack of furunculosis of the previous year. None of them, however, showed any signs of activity. The temperature was elevated, but the patient was perfectly comfortable. He was not markedly anemic. Search was made for malarial organisms, with negative results. The glands were incised, and a tube inoculated with the pus, again with negative results. Eosinophilia was marked. The patient became very haggard and anemic looking, but the buboes finally healed and the patient recovered. Two of these patients were at Wei-hai-Wei, and two at Hong Kong. The writer, in seeking for the cause of these buboes, states that venereal disease can be definitely excluded in all of these cases. So can any active source of irritation, in the area drained. In three of the cases, however, there were the remains of what had been foci of irritation, quiescent at the time, nevertheless. The writer believes this to have had some part in determining the localization of the adenitis. By itself, however, it was not capable of causing the condition. These glands do not of necessity suppurate. When this does occur, it is indolent. Cantlie believes that these are really cases of pestis minor and allied to true plague. In the fourth case, repeated examination showed no organism resembling that of plague. The possibility is suggested that the phenomena here discussed are produced by some circulating toxin, whether or not originally manufactured by bacteria. The localization of the enlarged glands might then be readily determined by some previous irritation or trauma. This would explain the common involvement of the inguinal glands. Although bacteriological evidence is valuable, isolation of even a definite organism does not prove that it is the cause of the condition.—*The Journal of Tropical Medicine.*

The Management of Acute Peritonitis.—J. Garland Sherrill speaks of the two forms of infection—acute septic peritonitis and general suppurative peritonitis. In the first form, the patient dies from a profound toxemia before the local changes have progressed to the point of pus formation. In the second form, pus is found free in the peritoneal cavity without any localization of the process. Many cases result fatally, especially those of the septic type, regardless of the time when they are seen or the treatment employed. Various lines of treatment have been advocated. This is generally considered a bacterial disease, and various forms of organisms have been found in different cases. At the beginning it is always a local infection, and in the large majority of cases the treatment is surgical. In cases due to perforating ulcer of the stomach, absolute rest of the stomach is indicated. Enemata should be used to unload the lower bowel and relieve meteorism. Colon lavage is safe, followed by nutrient enemata as indicated. The use of heat or cold locally can be tried. When the perforation is lower down, and in cases of obstruction with danger or possibility of a rupture, gastric lavage can be safely employed, but purgation and enemata are very dangerous. Nothing should enter the stomach after it has been cleansed. Small enemata can be used to empty the rectum, and small nutrient enemata may be given at proper intervals. In cases which follow puerperal infection, surgical operation, the rupture of an abscess, and rupture of the appendix, a different plan of treatment should be employed. In the latter condition, in ruptured abscess, and in post-operative cases, purgatives are indicated. A large source of infection can be removed by elimination of the feces. Leeching is perhaps worthy of trial in cases of peritonitis. Careful stimulation should be given in all forms. As to surgical treatment, great stress should be laid on operation as a measure for the prevention of general peritonitis. The writer declares that the outcome of a case will depend upon the following factors without reference to the special steps in the operation or the subsequent care: The virulence of the infection, the quantity of the infecting medium, the resistance of the patient, the activity of the eliminating organs, the time at which the patient comes to operation after the poison enters the cavity, the dexterity and thoroughness of the surgical procedure, no matter what the method. In cleansing the abdomen, the writer prefers the method of flushing. The septic form of this disease demands very early operation. Otherwise it should be treated like the suppurative type. After operation these cases should be managed like any other abdominal section.—*Annals of Gynecology and Pediatry.*

The Absorption of Carbon Dioxide from the Stomach.—Loening says that although a great deal of work has been done on the therapeutic effect of beverages containing carbon dioxide, but little is known as to the actual behavior of the gas when introduced into the stomach. Several authors have published observations on the question, but their results are conflicting and incomplete. He introduced varying quantities of distilled water charged with the gas into the stomachs of dogs and of patients, and after longer or shorter intervals determined the amount of gas that had been absorbed. The experiments showed that the stomach possesses to a marked degree the property of absorbing carbon dioxide in the presence of water. Absorption is very prompt, so that over half the gas is taken up during the first five minutes and three quarters at the end of from ten to fifteen minutes. After this, absorption becomes very slow, and after an hour only a very small residuum of the gas remains, which is taken up very slowly or not at all. This is in accord with the observations of Schierbeck, who found that the stomach gives off carbon dioxide if filled with water entirely free from the gas. Experiments conducted with carbonated alcoholic beverages gave similar results. The observations also demonstrated the fact that the stomach appears to be wholly incapable of absorbing water.—*Zeitschrift für klinische Medizin.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., Editor.

PUBLISHERS
WM. WOOD & CO., 51 Fifth Avenue.

New York, March 25, 1905.

COPPER SALTS IN THE PURIFICATION OF WATER SUPPLIES.

The use of copper salts to purify water has not as yet been tested on a sufficiently wide scale to admit of a definite opinion being formed as to its value. To condemn utterly the method would be as unwise as to offer indiscriminating praise. That these salts have their place in the list of water purifiers would seem to have been more or less proved, but at the same time that their use is limited would appear to be just as obvious, and that their extensive employment may be dangerous to the health of the community has not yet been satisfactorily disproved.

The *Yale Medical Journal* for February, 1905, contains an article by Professor H. E. Smith, in which the matter is discussed at some length. The writer draws attention to the fact that the practical value of copper salts has been demonstrated as regards the destruction of certain organisms which pollute public water supplies, and especially of the most troublesome and common of these such as the various confervæ. These appear to be readily destroyed by copper sulphate in dilutions of one part in from one to ten million parts of water. It is stated that during the past year fully fifty reservoirs have been thus treated, the method having been successful in controlling the objectionable growths.

As Professor Smith points out, however, there are two questions which naturally suggest themselves, viz., what becomes of the copper? and what danger is there of copper poisoning to the people using a copper-treated water? As to the fate of the copper little definite information can be obtained, but from evidence gathered Professor Smith thinks we may conclude that there is a tendency for the copper to disappear rapidly from solution, and that this is probably accomplished through the agency of the organisms themselves. With regard to the presence of copper salts in water as a menace to health, the writer states that "from considerations on the toxicology of copper one must conclude that there is no apparent danger from poisoning in the use of water treated with such amounts of copper sulphate as are used in the Moore method for the destruction of the most objectionable organisms, and that this would be so even if the copper remained in solution. The present limited experience confirms this conclusion as to the safety of the method, for in several cases the water has remained in use during the treatment and no bad effects have been noted."

The employment of copper salts in the purification of water supplies must be regarded rather as an adjunct to treatment, than as a practical remedy in itself. As to whether the method might be of value for the destruction of pathogenic organisms can only be a matter for surmise. True it is known that copper sulphate has a destructive action upon typhoid bacilli and cholera germs in water, but these facts have been gathered chiefly from laboratory experiments, and under conditions which do not ordinarily prevail in water reservoirs, and it would be distinctly unwise at present to trust solely to such means for purifying public water supplies, in spite of reports made from time to time, of the apparent success of the method in various places. Other well tested methods must still be relied on, while copper salts might possibly be used under certain precautions in the emergency treatment of a polluted water supply.

MILITARY HYGIENE.

Prevention of disease is the watchword of medical practice in these days. General hygiene has made great strides within the past few years, so much so, indeed, that in certain communities in which its principles have been carried out carefully and thoroughly, typhoid fever has practically ceased to exist. But although satisfactory progress is being made in the hygiene of civil life, it can scarcely be stated with truth that a corresponding advance is going on in military hygiene. Modern armies in times of war are still decimated by typhoid fever and other preventible diseases, albeit in the present struggle, the Japanese Army Medical Department would seem to have come nearer to a successful solution of the problem than has been reached by the Army Medical Service of any other army. Nevertheless, so far as military hygiene, generally speaking, is concerned, the science is yet in its elementary stage.

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Sargent portrait, but will enable the London Committee to present a substantial honorarium to Señor Garcia.

The Epidemic of Cerebrospinal Meningitis is gradually extending to cities east and west of New York, while in this city it shows no signs of abating. New Haven, Yonkers, Philadelphia, and Scranton, Pa., are all suffering from the ravages of the disease. Children are not the only ones attacked, and the deaths of adults are becoming more and more numerous. In New Haven Dr. James A. Moore, and in Philadelphia Dr. Albert B. Craig, have fallen victims, having contracted the disease during attendance upon malignant cases. Professor Addison E. Verrill, curator of the Yale Zoological Collection, has ventured the suggestion that the pathogenic microorganism may be conveyed to healthy persons by the bites of infected fleas. This method of infection, he thinks, would best explain the scattered and irregular distribution of the cases and the greater frequency of the disease in unsanitary localities. Dr. Darlington, Health Commissioner of New York, has appointed a commission of seven medical men to investigate the present epidemic, with a view to drawing up special prophylactic regulations. The Board of Estimate has appropriated $5,000 to defray the expenses of the investigation. The commission is composed of the following: Dr. William M. Polk, Chairman, Dean of Cornell Medical College; Dr. Walter B. James, Professor of Medicine in the College of Physicians and Surgeons; Dr. William P. Northrup, Professor of Children's Diseases in the University and Bellevue Hospital Medical College; Dr. Simon Flexner, of the Rockefeller Institute; Dr. Joshua M. Van Cott, Pathologist at the Long Island College; Dr. E. K. Dunham, Pathologist of the Carnegie Laboratory, and Dr. William K. Draper, visiting physician at Bellevue and Minturn Hospitals.

Increased Prevalence of Typhoid Fever in Philadelphia.—A steady increase in the number of cases of typhoid fever reported to the Philadelphia Bureau of Health has been noted during the three weeks of the month of March. Thus, for the week ended March 4 there were reported ninety-two cases with eleven deaths; for the week ended March 11, 178 cases with twelve deaths, and for the week ended March 18, 247 cases with nineteen deaths. The increased number of cases is especially noteworthy in wards provided with unfiltered water.

Missouri State Sanatorium for Tuberculosis Patients.—The Legislature of Missouri has passed a bill providing for the establishment of a sanatorium for the treatment of tuberculosis in its early stages. The institution will be located in the Ozark Mountains on a plot of land containing not less than 160 acres, and at an elevation of at least 1,000 feet above the sea level. The site will be selected by a commission to be appointed by the Governor, two members of which will be practising physicians. The bill carries an appropriation of $50,000, to be dispersed under the direction of the commission.

Breakdown of the Russian Medical Service in Manchuria.—A despatch from St. Petersburg to the *Petit Parisien,* dated March 14, says that some of the Russian surgeons remained at Mukden to care for the wounded who had to be left behind. The sanitary service there was completely disorganized. Chloroform and antiseptics were lacking, and the sick were piled up on uncovered railway trucks. The mortality among them was frightful. Civil doctors had been requisitioned, and were operating without cessation. The railway station at Harbin had been transformed into a vast amphitheater, where the dead, the dying, and the wounded were, so to speak, abandoned. The confusion was indescribable. The same condition of things prevailed at Tieling. Another despatch to the same journal, dated March 20, says that the mortality in the Russian army at the front is frightful. Five thousand men succumbed to wounds or disease last week at Harbin. The greater number of the railroad cars and trucks upon which the wounded are piled are brought into the station and left upon the sidings without having their human freight removed. The station exhales a terrible stench, having become a combined hospital, refuse heap, and charnel house.

Bill to Prohibit the Sale of Morphine and Opium.—A very sensible bill has been introduced into the Illinois Legislature for the purpose of regulating the sale of morphine and opium, providing that these drugs may be sold only on prescription of a duly licensed physician. One clause in the bill is that a druggist shall not refill a prescription unless so directed by the physician who wrote the original prescription. The author of the bill makes the statement that close to 50 per cent. of the inmates in State insane asylums are suffering from the effects of these drugs.

Resignation of the Lying-in Hospital Staff.—Eleven members of the medical staff and one of the governors of the Lying-in-Hospital recently sent in their resignations because of dissatisfaction with the medical director of the institution. The board of governors, with the exception of the one who subsequently resigned, sustained the medical director, and resolved to fill the places of those who had resigned with new appointees.

Appropriation Authorized to Build New Bellevue Hospital.—The Board of Estimate and Apportionment has authorized an issue of $850,000 of corporate stock, and as soon as the Board of Aldermen approves the measure, work will be begun on the new Bellevue Hospital building. The money to be appropriated is to be used by the trustees of Bellevue and allied hospitals in building the southeast wing of the proposed new building, which will provide space for 365 new beds. The entire building will cost between $9,000,000 and $10,000,000, and it is estimated that it will be completed within five years if the appropriations for the various sections of the new building are forthcoming from time to time, as required, without delay.

Civil Service Examinations for the State and County Service.—The State Civil Service Commission announces general examinations to be held April 8, 1905, including the following medical positions, for which application must be made on or before April 3. Assistant in Clinical Laboratory, Pathological Institute; Pupil Nurse, Erie County Hospital; Male Officer, State Charitable Institutions; Physician, Fourth and Sixth Grades, State Hospitals and Institutions, Regular and Homeopathic Schools; Women Physician, Homeopathic School.

Fire in the Presbyterian Hospital.—A small fire occurred early in the morning of one day last week in the administration building of the Presbyterian Hospital. The hospital employees extinguished the blaze, using the hose from a standpipe, before the firemen arrived and without waking any of the sleeping patients or officials.

Christian Scientists Not Seeking to Come Within the Law.—Referring to the attempts of mental healers of various shades of mentality and of healing virtue to obtain a license from the State granting them permission to think therapeutically, the Christian Science Publication Committee writes us that the Christian Scientists in this State have never sought and do not now seek to gain recognition under the medical or other laws of the State.

Dr. Frank Parsons Norbury, editor of the *Medical Fortnightly,* was operated upon for appendicitis on February 23. We are glad to learn that his recovery from the disease and from the operation is now complete.

A New Training School for Nurses has been started at the French Hospital, 450 West 34th street, New York. The course is to be of two years' duration, including a two months' probationary term, and will include experience in obstetrics and diseases of children, as well as all branches of general medicine, surgery, and gynecology. Applicants are not required to speak French, but will receive instruction in the language as a part of their course.

Cincinnati Academy of Medicine.—On March 13 the installation of the newly-elected officers took place. Dr. Magnus A. Tate, the new president, in his inaugural address, urged that the older members who were secure in their hospital and college positions, should not sit content with their titles, but should write the papers which their positions and clinical opportunities enabled them to do. He outlined the work of the Academy for the coming year. The vote of the Academy was taken as to whether in the future the Ohio State Society, of which the Academy is a part, should publish its transactions in book form, as heretofore, or start an official journal. An overwhelming majority was given to the present method.

Against Cigarettes in Wisconsin.—A drastic anti-cigarette bill passed the Wisconsin Senate on St. Patrick's Day. It had previously been passed by the Assembly. It makes unlawful the sale, gift, or importation into the State of cigarettes or cigarette materials.

The New Mount Sinai Hospital of Philadelphia was formally dedicated on March 12 with appropriate ceremonies. The new building is a four-story and basement brick structure, situated in a populous district, and well equipped for dispensary work and the indoor care of patients.

Dr. Antonio Fanoni of this city has been made a Knight (Chevalier) of the Order of the Crown by the King of Italy.

"The Journal of Experimental Medicine," formerly edited by Dr. Welch of Baltimore, will hereafter be published under the auspices of the Rockefeller Institute for Medical Research, New York, and will be edited by Drs. Simon Flexner and Eugene L. Opie. The scope of the *Journal* will suffer no alteration by reason of the change of management, and it will continue to cover the field of experimental medicine. It is proposed to issue numbers of the *Journal* at bimonthly intervals, six numbers to constitute a volume.

Bequests to Hospital.—By the will of the late Miss Helena Hubbell of Philadelphia, the sum of $5,000 is bequeathed to the Trustees of the University of Pennsylvania for the endowment of a free bed in the D. Hayes Agnew Memorial Orthopedic Ward in the University Hospital. By the will of the late James Dundas Lippincott of Philadelphia the sum of $5,000 is bequeathed to the Children's Hospital as a memorial to his mother, Agnes Dundas Lippincott. The bulk of the estate is devised to the widow and a nephew, on the death of whom without issue it is to be divided equally between the Pennsylvania, University, Jefferson, and Episcopal Hospitals.

The Eastern Illinois Ophthalmological and Otological Society was organized in Danville, Ill., at a meeting held March 7. The following officers were elected: *President,* Dr. Cassius M. Craig of Champaign; *Secretary,* Dr. Chas. P. Hoffman of Danville; *Committee on Fee Bill,* Drs. I. E. Huston and Elbert E. Clark of Danville.

Bill to Prevent the Solicitation of Damage Suits.—A bill has passed the Legislature of Illinois which prohibits attorneys from soliciting personal or other damage cases. It was introduced by a Mr. Burnett, after having been endorsed by the State Bar Association. It is directed largely against shyster lawyers who are constantly on the search for cases of this character against members of the medical profession.

Spitting in Street Cars.—At a recent meeting of the Maryland Society for the prevention of tuberculosis held in Baltimore, Dr. John S. Fulton presented cards which he had prepared for distribution among the public. The object is to collect "sputistics" regarding expectoration in public places, and those interested are requested to fill out the cards as a record of their observations and mail them to the secretary of the society.

An Academy of Medicine in London.—The project of uniting all the medical societies of London into a Royal Academy of Medicine, of which each society will form a section, has been revived, with good prospect of being carried into effect.

Dr. Osler's Successor.—It is reported that Dr. William T. Councilman will be recalled to the Johns Hopkins from Harvard, where he is now professor of pathology, to fill a vacancy created by the removal of Dr. Osler to Oxford. Whether Dr. Welch will take Osler's chair, Councilman taking Welch's, or whether Councilman himself will take the chair of practice vacated by Osler, is not stated. Dr. Councilman was formerly at the Johns Hopkins, and went from there to Harvard a few years ago.

Obituary Notes.—Dr. William H. McPheeters, the oldest physician in St. Louis, died at his home in that city on March 15 at the age of 89 years. Dr. McPheeters was born in Augusta County, Virginia, and was educated in North Carolina and Philadelphia. He graduated from the University of Pennsylvania in 1840. After serving in the hospitals of Philadelphia for a year he went to St. Louis, and remained in that city continuously until his death. During the Civil War he was chief of the medical staff of General Sterling Price's Confederate Army Corps. In 1843 he was chosen professor of clinical medicine and pathological anatomy in the St. Louis Medical College, and in 1844 became an associate editor of the St. Louis *Medical and Surgical Journal.* During the cholera epidemic in 1849 he remained in the city and took an active part in the care of cholera victims and in efforts to destroy the plague. Later he published an exhaustive and valuable review of that epidemic. He was one of the founders of the Missouri State Medical Association.

Dr. George W. Edison of Quincy, Ill., died March 10, after a long illness, at the age of 88 years. He was born in Vienna, Ontario, and was graduated from the Medical Department of Toronto University in the class of 1844. He removed to Quincy in 1859. During the war he was surgeon on the Mississippi River hospital boats plying between Vicksburg and St. Louis.

Dr. **John A. Gregg** of Somerville, Mass., died March 14 at the Massachusetts General Hospital, Boston, of disease of the heart, at the age of 56 years. He was born in Boston, and was graduated from the Dartmouth Medical School in 1883.

Dr. **Herbert Ellis**, senior house surgeon at the Good Samaritan Hospital, Cincinnati, died March 11, following an operation for appendicitis. He was 27 years old, and was graduated from the Medical College of Ohio in 1904.

Dr. **Hugo Koethe** of Brooklyn died on March 16 of disease of the heart at the age of 53 years. He was a graduate of medicine of the University of Erlangen in 1874.

Dr. **Felix C. W. Printz** died at his home in St. Louis on March 10. He was graduated from the Medical Department of Washington University of St. Louis in 1898, and was instructor in diseases of the nose and throat in that institution. He was a member of the Medical Society of the City Hospital Alumni and the Physicians' Club of St. Louis.

Dr. **L. F. Chaffin** of San Antonio, Texas, died in Austin on March 5 at the age of 64 years. He was born in Tennessee and went to Texas with his parents when five years old. During the war he served as medical officer with the Eleventh Texas Cavalry.

Dr. **Joshua Larendon** died at his home in Houston, Texas., on March 6 at the age of 66 years. He was born in Charleston, S. C., and went to Texas upon graduating from the Medical College of the State of South Carolina in 1861. During the war he served as medical officer in the Confederate Army.

Dr. **J. H. Fleetwood** of Thibodaux, La., died on March 7, of pneumonia, at the age of 75 years. He was born in Tennessee and was graduated from the Medical Department of Tulane University in 1872.

Rear Admiral **George Adams Bright**, U. S. N., retired, a surgeon in the Civil War, later a medical director and at one time head of the Navy Hospital, died on March 17, at the age of 67 years, at the Garfield Hospital, Washington. He was born in Bangor, Me., and was graduated from the Medical Department of Bowdoin College.

Dr. **G. E. Keene** died at Providence, R. I., March 13, at the age of 52 years. He graduated from Brown University in 1875 and from Harvard Medical School in 1879, after which he served in the Boston City Hospital for eighteen years. He was one of the Rhode Island Hospital staff for six years, when he became superintendent of the State institution at Cranston.

Dr. **A. W. Scofield**, a well-known physician of Dayton, Ky., suffered a stroke of apoplexy while on his way to see a patient, and died a short time afterward. He had practised medicine in Dayton and vicinity for twenty-five years. He was a graduate of the Medical College of Ohio in the class of 1873.

Dr. **Worthington W. Myers** died at Philadelphia on March 11, at the age of 60 years. He was graduated from the Maryland University Medical College, and entered the United States Navy at the outbreak of the Civil War. He was for twelve years medical inspector of the Philadelphia Board of Health.

Dr. **Wm. T. Dunlap** of Cincinnati died March 16, of chronic nephritis, at the age of 56 years. He was a graduate of the Cincinnati College of Medicine and Surgery, in the class of 1868.

Dr. **Benjamin C. Lenoir** died at Loudon, Tenn., of pneumonia, on March 14, at the age of 84 years. He was a graduate of the Jefferson Medical College in the class of 1846. Dr. Lenoir was of a distinguished East Tennessee family and had practised medicine in that section for over half a century.

Dr. **Allen Fowler** of Union City, Tenn., died on March 11, after a short illness. He was a graduate of the Medical Department of the University of Tennessee in 1891.

Dr. **Edwin J. Howe** of Newark, N. J., died suddenly on March 14, at the age of 55 years. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1873.

Correspondence.

THE COUNSEL OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

To the Editor of the Medical Record:

Sir: Will you kindly allow me to say in your columns that it is some years since I ceased to be the counsel of the Medical Society of the County of New York and of the New York State Medical Association, and that I have no connection with the case of the People *v.* Conrad, reported in the *Law Journal* of March 17, or with another similar case recently reported in the lay press.

Hitherto I have corrected privately, as occasion arose, a persistent impression in some minds that I am still the County Society's legal adviser; nevertheless I find the conduct of the Conrad case attributed to me, notwithstanding the court's explicit mention by name of Mr. Andrews, the County Society's present efficient counsel, as the attorney who arranged that prosecution. It seems, therefore, advisable, in fairness both to him and to me, to make this correction publicly.

During the period of my retainer the County Society enforced only the provisions of the Public Health Law forbidding medical practice to the ignorant and unqualified, and did not undertake to prosecute violations of the general criminal law by medical practitioners.

W. A. Purrington.

59 Wall Street, March 21, 1905.

OUR LONDON LETTER.

(From Our Special Correspondent.)

AFTER APPENDICITIS—BLOOD GLANDS—STIGMATA IN EPILEPSY—SIR W. J. COLLINS ON MICROBES AND SANITATION—CONVALESCENTS' INSTITUTIONS—ORTHOPEDIC HOSPITAL—WATERLOO HOSPITAL—THE JUBILEE HOSPITAL AGAIN—A DENTIST'S CLAIM.

London, March 3, 1905.

A full dress discussion at the Royal Medical and Chirurgical Society was opened on Tuesday by Sir Frederic Treves, the subject being the subsequent course and later history of cases operated on for appendicitis. He discussed it under two heads: (1) imperfect relief or imperfect recovery after operation; (2) complications attending operation, which may be regarded as accidental or independent of the direct surgical result. He based his remarks chiefly on his private cases, but supplemented his records by statistics of the London Hospital prepared for him by Mr. Hugh Lett. These latter cover a consecutive period and embrace 1,000 cases, and Mr. Lett has not only transcribed notes of these, but has written 797 letters to discharged patients in order to complete after histories. Sir F. Treves said he believed these would form the most important contribution to the statistics of the disease which has yet been made. All operators may therefore be expected to study them and they are too extensive to detail in a letter. Among imperfect results after removal of the appendix in the quiescent period, Sir Frederic enumerated and commented on appendix imperfectly removed (two cases), ovarian complication (nine), persisting or relapsing colitis (eight), persistent local pain (seven), neurasthenia or hypochondriasis (five), continued attacks (nine). Of these last, three were traced to gall stones, two to colic, two to moveable kidney, and one to stone in kidney. There were also five cases in which a tender mass was found in the right iliac fossa; of these, one was inflammatory thickening, three were due to impacted feces, and the other to tuberculous glands. These cases therefore amount to forty-five. The other class, those following the evacuation of a perityphlitic abscess, contained one hundred cases; of these, 40 per cent. were due to persistent sinuses, 24 per cent. to recurrent abscesses, 16 per cent. to recurrent attacks of appendicitis, 12 per cent. to fecal fistulæ, and 8 per cent. to inflammatory deposits in the right iliac fossa. In this series perhaps the most interesting point relates to the fecal fistulæ, concerning which Sir F. Treves holds that (1) while it remains another attack of appendicitis is exceedingly uncommon; (2) the fistula, unless due to cutting or tearing, has a tendency to close spontaneously, though it may take many months to do so; (3) that fistulæ which appear some days after operation do better than those evident at the time; and (4) a still diseased appendix or a retained concretion is often the cause of the persistence of the fistula. A very important question as to these abscess cases is whether, when they have been simply evacuated, the appendix should be removed in a quiescent period. Many surgeons, among them Mr. Battle, favor a second operation. But it appears that 83 per cent. of the cases have no further trouble, and although the second operation is often easy, it is often both difficult and dangerous. Sir F. Treves does not consider the risk justifiable unless trouble is experienced, when he would remove the appendix. Among the complications, thrombosis of the left femoral vein was met in twelve cases. Why the left should be thus affected is not easily explained. The right thigh is kept at rest, but the left is much used in the necessary movements of the patient in bed.

Sir Wm. Broadbent was to follow, but he recognized the purely surgical nature of the discussion and contented himself with remarking that he seldom heard of the patient after the surgeon had been called in, and rather congratulated himself that when unpleasant results followed the patient usually returned to the operator.

Mr. C. J. Symonds, in seventy-two private cases, had had one of femoral thrombosis (left), one of cardiac embolism, one of non-fatal pulmonary infection, and one of pelvic abscess. Of the seventy-two patients, seventy-one were now in good health. In fifty hospital cases he had traced four with after trouble; two of them having pain in the right fossa, and two being renal. He had not met with thrombosis and was inclined to attribute the exemption to the fact that he encouraged sitting up and movement of the legs at a rather early stage. In acute cases, if the patient was septic, the appendix must be removed or the infection would remain. In the absence of septicemia it was best to lay open and drain the abscess.

Sir T. Lauder Brunton said sometimes a patient returned to the physician suffering from a colitis which had existed before the operation.

Mr. Pearce Gould had had 300 cases. He knew that it was not seldom difficult to remove the appendix, but he also knew the sad results that might follow imperfect removal. As to abscess, only 10 per cent. had any recurrence after drainage, and, therefore, it was wise to wait before undertaking a further operation, until symptoms demanded it. If a surgeon was not called in until suppuration had taken place in acute appendicitis a serious reflection rested on those in charge. The mortality of 27 per cent. in abscess and peritonitis would be reduced to 2 per cent. by early operation. An abscess ought not to be allowed to develop about a diseased appendix.

At this point the discussion was adjourned.

At the last meeting of the Pathological Society, Dr. Arnold Lorand read a communication on "Blood Glands as Factors in the Production of Diabetes and Obesity." He has discovered that after extirpation of the pancreas in dogs, the thyroid shows an abnormal amount of colloid in its spaces, and sugar appears in the urine. If then the thyroid is also removed there is no sugar. The dogs thus deprived of both pancreas and thyroid only survived the second operation three or four days. Dr. Lorand, therefore, thought the functions of pancreas and thyroid were interdependent. The internal secretion of the pancreas is probably produced by the Langerhans islets, which resemble the parathyroids, the medullary part of the adrenals and the interstitial cells of the testicles. The secretion of the islets is probably controlled by a nervous mechanism, which may account for cases of diabetes without pathological appearances in the pancreas. Degeneration of the pancreas has been met with in cases of Graves's disease and acromegaly with glycosuria. Degeneration of the thyroid produces obesity, as does removal of the sexual glands. Atrophy of the pituitary may also be followed by obesity without acromegaly. Obesity from changes in the blood glands differs from that due to overfeeding; in the former glycosuria is rare, but in the latter frequent. In twenty cases of diabetes serum from thyroidectomized sheep had been beneficial. Dr. Pavy referred to three cases of diabetes associated with myxedema in children, but he had not himself met with such a case. His experiments tended to show that pancreatic internal secretion increased the assimilation of carbohydrates and that in healthy animals sugar passed through the circulation in a combined form. Dr. Lorand replied that the Philadelphia cases were not conclusive, the age of the patients was a suspicious point, and they had been treated with thyroid extract.

Dr. Alden Turner communicated to the Medio-Chirurgical Society, on February 14, the result of a statistical investigation as to whether the structural stigmata of degeneration exercised an influence on the progress of epilepsy. He referred to stigmata as structural deviations from the normal arising during the periods of development and brain growth in the subjects of hereditary predisposition to degeneration. From an examination of 100 cases in the epileptic colony he concluded that there is a close association between the degrees of mental impairment and the presence of neuropathic stigmata, a fact which favors the view that the interparoxysmal mental condition is really a part of the disease. Dr. Bond said his statistics supported those brought forward and suggested that grouping in age periods would render them more valuable. Mr. Stephen Paget thought some of the stigmata were almost universal among London poor. Dr. Shuttleworth said a single stigma was of no importance, but two or three afforded evidence of degeneration. Hatters found facial asymmetry particularly common among the upper classes.

"The Man *vs.* the Microbe" was the title of a lecture given last week by Sir Wm. Job Collins, M.D., at the Polytechnic Health Society, Professor MacFadyen presiding. Taking Queen Victoria's reign as the era of sanitary reform, Sir W. Collins referred to the work of Sir E. Chadwick, who might be called the father of sanitary science, and who had the powerful support of Dr. Southwood Smith and Jeremy Bentham. He then contrasted their views with those of the bacteriologists who hold that specific germs are the source of certain diseases which sanitarians formerly and some now attribute to unhealthy conditions of life, overcrowding and filthy surroundings. Sir William displayed a distinct leaning to the latter view, which might have been expected from his antecedents. He quoted the fact that in the model dwellings of the County Council the death rate is only 10 per 1,000, whereas in the slums which they have replaced it was 40 per 1,000. He quoted Lister, Koch, Virchow, and others, and advised medical men to take broad views, as the tendency of some was to attach too much importance to microbes and germs and too little to predisposing causes and the soil into which the microbe intruded. The hopes, he added, of the advocates of protective inoculations in the lower animals had not been fulfilled, as the Board of Agriculture's Report proved that sheep inoculated against anthrax had succumbed to the disease. Sanitation was not pushed off by bacteriology, but had come to stay. Cleanliness, healthy dwellings, pure water, and fresh air were the best means of preventing disease, it neutralizing the action of injurious germs.

It was decided yesterday at a conference of delegates of the chief convalescent institution to form a central association, in touch with the hospitals and homes, in order to coordinate the work, to effect such changes as may be necessary in consequence of the advances in medicine and surgery and to promote economy and efficiency. Sir W. Church pointed out that at present all convalescents were treated alike and supposed to look after themselves, whereas special treatment and special diet were necessary for the various cases. Mr. Tweedy, Sir Thomas Smith, Sir D. Powell, and Dr. Fowler were among the speakers supporting the proposal. The Earl of Lytton, as chairman of the proposed Home of Recovery, which I announced a fortnight ago as about to be established, heartily supported this movement, and said his committee was endeavoring to raise an endowment fund which could be applied to existing institutions.

At the annual meeting of the National Orthopedic Hospital, it was stated that, in consequence of the amalgamation now nearly completed, the surgical staff was increased from four to six, and a new operating room had been provided to meet the increased work. The amalgamation with the Royal will involve other changes. The hospital now is unquestionably the chief of its kind in this country.

The Duchess of Albany presided at a reception at the Waterloo Hospital for Women and Children, on Tuesday. The Archbishop of Canterbury made an earnest appeal for funds, for the need he declared to be huge, and the surroundings exactly of the sort in which those needs were most certain to be felt. The Duchess said the hospital afforded an unlimited field for kindly thought, energetic work, and liberal donations.

The "Queen's Jubilee Hospital" is again in trouble, if, indeed, its short career can have been at any period described as other than such. A week ago we were told that all the staff had resigned in a body as a protest against the mismanagement, etc. Yesterday the committee stated that all the vacancies have been filled, which looks as if the committee were prepared with a list in case the staff actually resigned, and which seems to show that there are men in the profession who will take any appointment under any circumstances. The affair should interest the King's Fund.

The "glorious uncertainty of the law" has been illustrated in a dentist's claim being bandied backwards and forwards between the courts. The dentist sued a patient for £45 for "bridge work," advice, etc. He was unregistered, and, therefore, at the time could not sue for dental operations or advice, but has since become registered. Meantime, £20 had been paid on account, and he claimed that he could appropriate this to the services for which he could not recover at law, and could sue for the remainder as material supplied (gold, etc.). The lawyers seem to have been more interested in the question of appropriation than the right to practise. At last the Appeal Court has decided that the dentist could elect to appropriate the sum paid to any part of his claim he pleased. So here is a person avowedly incapable of suing as a dentist, unregistered under the act, permitted to recover for the material he used in carrying on unlawful practice. The result seems to support Sam Weller's opinion of the law.

OUR PARIS LETTER.

(From Our Special Correspondent.)

APPARATUS FOR THE ADMINISTRATION OF CHLOROFORM—EULOGY ON PANAS—KNIFE WOUND OF THE RIGHT VENTRICLE, SUTURE, RECOVERY—EMPLOYMENT OF SCOPOLAMINE AS A GENERAL ANESTHETIC IN SURGERY—CONFERENCES CONCERNING NURSLINGS—TREATMENT OF DERMATOSES BY RADIUM—IMMEDIATE EFFECTS OF DECAPSULATION OF THE KIDNEY IN NEPHRITIS—NOMINATION OF PROFESSOR SEGOND TO THE FACULTÉ DE MÉDECINE.

PARIS, February 28, 1905.

AT the Academy of Medicine, the question of apparatus for the administration of chloroform, and especially for the simultaneous administration of chloroform and oxygen, is receiving much attention. Lucas-Championnière advocates the use of the Roth-Guglieminetti apparatus, which presents the advantage over other apparatus of not yielding a constant and fixed mixture of air and chloroform. The dose employed may be modified at any instant of the process. Besides, the addition of oxygen to the mixture seems to be an important step in the improvement of the method. It is to this combination of qualities that the happy results attending the use of this apparatus are attributed. Reynier objects to the preceding apparatus because the mixture that it holds is not made up of definite volumes of the constituents. He showed an apparatus constructed according to the ideas of Dupont and his followers, which was so arranged that its mixture was made up of definite proportions. This apparatus has given him excellent results.

The Société de Chirurgie has held its annual session. Professor Segond, the general secretary of the surgical society, delivered a eulogy on Professor Panas, who died two years ago. In this discourse, Segond reviewed the scientific work of this learned ophthalmologist, indicating the important position which Panas occupied as well in general surgery, as in ophthalmology, properly speaking.

The study of various pieces of apparatus for the administration of chloroform filled up the programme of several sessions, and from the discussions which took place, it was concluded that the administration of chloroform by means of the simple compress ought to be definitely and completely abandoned. Among apparatus the most highly praised, we mention that of Roth-Dreger-Guglieminetti, which is characterized by the fact that the patient breathes a mixture of oxygen and chloroform in constantly varying proportions. Of other pieces of apparatus, more simple, and easier of management, were those of Reynier and Ricard. In the latter the patient inspires a mixture of ordinary air and chloroform vapor. The fundamental principle of Ricard's apparatus is the same as that of the apparatus for "carburation." In the bottom of the vessel is the chloroform which gives out its vapors. These vapors are breathed by the patient, and, according to the necessity of the moment, they are mixed with air in definitely increasing or decreasing proportions.

Professor Delorme presented to the society an interesting observation by Riche, a hospital surgeon. The patient was a young woman pregnant four months, who had received a knife wound in the region of the heart. The blade had penetrated the right ventricle. Riche was at the hospital when the woman was brought in about two hours after the accident. He sutured the wound in the heart, and the patient recovered, after having passed through serious complications, such as pericarditis, pleurisy, and generalized bronchial catarrh.

Professor Terrier read a report on the work of Desjardins on the employment of scopolamine as a general anesthetic in surgery. Scopolamine is extracted from Scopolia japonica. It is in the form of prismatic crystals, fusible at 59° C. It changes rapidly in the air and in light, and is most often used in the form of a salt, the bromhydrate of scopolamine. Anesthesia is produced by its subcutaneous injections, made by an ordinary Pravaz syringe. The first injection is made four hours before the operation; a second, two hours before; and a third, one hour before. After the third injection, sleep is complete, as a rule. The duration of sleep varies between four and five hours; besides this, a remarkable fact is that the anesthesia persists, when the cerebral functions have become intact. The patients generally come to without the slightest malaise; they can drink and even eat soon after waking. The great advantage of scopolamine over the other anesthetics is its harmlessness. Two inconveniences are noted, however, in this method of general anesthesia; first, the inconstancy of action of the anesthetic according to the patient, the case, and the product used. Again, there is the vasodilatation, which, for certain operations, necessitates detailed precautions in the way of hemostasis.

At the Société de l'Internat, Professor Budin gave a very interesting talk on the conference of nurslings. He pointed out the importance of the question of the establishment of these conferences, as much from the point of view of social hygiene, as from the point of view of the increase of population. It has been well proved that in the first two years of life the principal cause of death is gastrointestinal troubles of the infant. The chief object of these conferences is to give to mothers good and useful medical advice, to teach them the extreme value of breast feeding, and to give them useful advice about the sterilization of milk, about the care of the nipples, and the quantity of milk. According to Budin, the quantity of milk suitable to give, according to the age and the weight of the infant, is 100 gm. of milk to 1 kilo. of weight of the infant. The happiest results have followed the holding of such conferences, and in every village in which they have been instituted, infantile mortality has decreased in goodly proportions.

Replacing Professor Tillaux, deceased, Professor Paul Segond has been nominated to the chair of operative medicine. The well-known works of Segond on gynecology have made him worthy of this honorary title, and the Faculté de Médecine de Paris is happy to count among its members a man as active, a surgeon so distinguished, a spirit so liberal.

At the Société Médicale des Hôpitaux, Danlos spoke concerning the treatment of dermatoses by radium. He concludes from his personal researches that up to the present, radium has shown a true therapeutic action only in three affections; lupus vulgaris, pearly epitheliomata, and vascular nevi. The action of radium appears to be practically inferior to that of the *x*-rays. The great therapeutic value of radium is shown, however, when it comes to the treatment of cavities inaccessible to the Röntgen rays.

Henri Claude and Pierre Duval have studied the immediate effects of the decapsulation of the kidney in nephritis. They conclude that the decapsulation of one kidney only is sufficient to determine a notable increase of elimination, and a lowering of arterial pressure. The decapsulation appears to be especially indicated in subjects afflicted with chronic sclerosing nephritis, whose kidneys are relatively permeable, but which may become insufficient under the influence of acute congestive attacks.

THE PHYSICIAN'S AIM.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: All the new forms of quackery—and their name is legion—begin and end their propaganda with an attack upon the medical profession. From these and other sources medical men are constantly subjected to misrepresentation and abuse. Physicians do not usually care to reply to attacks of this character, and as a result, the laity has either a dim or a distorted conception of the principles that control in the practice of medicine. As a silent educator, I have hung in my reception room the following brief statement of the ethics and ideals of the medical profession. It is entitled "The Physician's Aim":

"To be accurate in diagnosis and painstaking in prescribing; to allow no prejudice nor theory to interfere with the relief of human suffering and the saving of human life; to lay under contribution every source of information, be it humble or exalted, that can be made useful in the cure of disease; to be kind to the poor, sympathetic with the sick, ethical toward medical colleagues, and courteous toward all men; to regard his calling as that of one anointed to holy office, firmly convinced that no nobler work can be given to man, and to go forth to his labor with love for humanity, inspired with a reverent assurance that for this cause came he into the world."

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Progress of Medical Science.

New York Medical Journal, March 18, 1905.

A Case of Acute Turpentine Poisoning.—The patient of G. Hausser was a man of thirty-seven years, who in order to rid himself of a tapeworm, took upon his own initiative one tablespoonful each of spirits of turpentine and castor oil every 3 hours, taking in all from four to five ounces. Severe abdominal pain and bloody stools led him to seek medical advice. He was stupid, dizzy, with unsteady gait, flushed face, dilated pupils, no fever, tender abdomen and frequent and painful mictrition. Urine showed red and white blood cells, bloody hyaline and granular casts and renal epithelium. Was ordered flaxseed tea and enemata of the same, with milk, barley water and eggnogg. Next day a slight cystitis had developed which soon yielded to tincture of belladonna and acetate of potash. By the fourteenth day all symptoms had disappeared and his condition was apparently normal. The tapeworm was not completely expelled and new segments were passed some weeks later. A dose of lannate of pelletierine effected its complete removal.

The After Treatment of Abdominal Sections with Eserine Salicylate.—The dose of this remedy recommended by D. H. Craig is one-sixtieth of a grain, repeated if necessary, but if the patient has previously suffered from chronic constipation the dose may be doubled or even trebled. The remedy should never be given except in connection with atropine which antagonizes all the former's undesirable effects. The time of its administration is of prime importance. The atropine should always be given, as it is so commonly used by surgeons generally, before the anesthesia, first, because its action is slower than that of eserine, and, secondly, because when so used it gives great aid to the anesthetist in doing away with most if not all of the excessive pharyngeal secretion excited by the first inhalations of the ether. Craig gives the atropine in a dose of one one-hundredth of a grain by the mouth, one hour before anesthesia when there is time, otherwise one-one-hundred and fiftieth of a grain subcutaneously immediately before. The object of the medication is to prevent intestinal paresis. The salicylate is the only reliable salt to employ. The solution should be freshly made. Many of the stock tablets as purchased in the open market have proven inert. Under the influence of the eserine the patient is comfortable. Morphine has been very rarely needed or even desired, except for distinctly extraabdominal pain, but when so demanded either morphine or codeine can be given with greater freedom than without the eserine as there is less danger of obnoxious constipation following its use.

Medical News, March 18, 1905.

The Impertance of the Physical Examination of the Back in General Diagnosis.—J. P. Arnold believes that examination of the back is much neglected. Many disorders present marked indications found by inspection of the spine in the region supplied by the posterior primary divisions of the spinal nerves, corresponding to those segments of the cord from which the parts affected derive their innervation. In chronic diseases there is usually evident in the areas, referred to a deficient vascular tone. In cases of disturbed stomach function, indications will be found by an examination of the back between the fourth and tenth dorsal segments of the spinal cord; and in cases of chronic constipation, accompanied as they are most frequently, by disturbances of the functions of the stomach, additional indications will be found in the lower dorsal, lumbar and sometimes in the sacral regions of the cord. This class of cases is simply quoted as an example of what may be found in an examination of the back, and is applicable to all of the diseases acute or chronic, which come under the observation of the physician, varying only in the localization along the vertebral column which corresponds to the disturbed part. These indications are marked by slight lateral deviations of the spinous processes, atrophied erector spinæ muscles, irregularly contracted bundles of muscle fiber, which are nearly always tender to the touch when rolled under the palpating finger, and relaxed interspinous ligaments indicated by prominence or depression of one or more spinous processes. As these indications are always found in the region of the posterior primary divisions of the spinal nerves which arise from the segment of the cord which supply the organ or part affected, it seems logical to assume that they are indications of disturbances of the functional activity of those segments, and this assumption is borne out by our more recent knowledge of the functions of the spinal cord. The remainder of the paper is devoted to a brief description of the nervous mechanisms of the different parts of the body and the segments of the cord from which they arise.

Local Anesthesia by Cataphoresis and by Mechanical Pressure.—W. J. Morton gives the history of cataphoresis medication and describes special apparatus he has devised for its employment. It is possible to administer by this method cocaine, eucaine, orthoform, mivanin, chloreton anl similar remedies. One operation for removal of a nevus, done under cataphoresic anesthesia is described in full. A favorite combination of remedies is that of cocaine and adrenalin in guaiacol. The term "pressure anesthesia," refers to the forcing of medicated solutions into the tissues by the pressure of vapors and gases or by mechanical pressure. It has been in use for some years by the dentists who have filled a tooth cavity with a cotton pledget dipped in cocaine-guaiacol to which an equal amount of sulphuric ether has been added. The cavity has been immediately covered with a soft rubber filling. In a few minutes the sensitive contents of the cavities have become anesthetized, the evaporating ether forcing the anesthetic into all the tooth recesses. In minor surgery, the same plan may be followed by the substitution of a watch crystal, cupping glass or test tube, over the area to which the anesthetic has been applied.

American Medicine, March 18, 1905.

Cholecystitis as a Complication of Lobar Pneumonia.—J. M. Anders reports three cases. Although an analysis of these cases does not warrant drawing any general conclusions still the clinical observations may serve to direct attention to cholecystitis as a complication in rare cases of lobar pneumonia. The local symptoms and physical signs are characteristic, but the type of the condition is not severe. It is to a great extent overshadowed by the pneumonic condition. Although no general or constitutional symptoms, distinctive of the lesions, are recognizable, Anders is pretty fairly convinced that the clinical course of pneumonia cases is not, as a rule, materially modified by the complications of catarrhal cholecystitis except in cases in which chronic hepatic disease existed previously, when the toxemic symtoms may be intensified by the development of an acute, widespread cholangitis and cholecystitis. Two of the cases terminated in recovery but Anders states this result was not due to any special method of treatment, as attention was mainly bestowed upon the serious primary affection. A mild saline laxative was employed in one of the cases and small doses of mild mercuric chloride in the other. In the case which terminated fatally, nothing but the general treatment of the pneumonia was carried out, because the grave pneumonic features and the cardiac and pulmonary complications called for active measures.

Primary Tuberculosis of the Female Breast.—G. W. Spencer reports the case of a woman aged 20, in whom the entire breast was amputated, together with the axillary glands, fat, and fascia. Pathologic and microscopic examination of the mass showed tuberculosis of the breast with associated involvement of neighboring lymph-nodes. There were no tuberculous foci in other parts of her body. Spencer concludes radical operation is indicated in every case of unquestionable tuberculosis of the breast. The breast, together with the skin overlying the tuberculoma, the glands, fat, and fascia from the axilla, should all be removed as one piece. This appears the safest way to prevent recurrence and dissemination. Such was his procedure and thus far it has proved most satisfactory in every respect.

Surgical Treatment of Bright's Disease.—W. Hershey Thomas, after a thorough review of the literature, concludes that with two exceptions (nephrotomy for renal calculi and the drainage of abscess, and nephrectomy for the excision of renal tumors), renal decapsulation is preferable to all other surgical proceedings upon the kidney for the following reasons: (1) No damage is done to the important secreting structures; (2) there is less danger of hemorrhage, and (3) other things being equal, it should be preferred on account of the greater simplicity of wound treatment.

Calcium Chloride in Postoperative Nasal Hemorrhage.—Reynold Webb Wilcox reports a striking example of the brilliant results from the use of what Wright has designated the "physiologic styptic" in a case of incontrollable hemorrhage. Although the physiological demonstration was made in 1894 it has attracted but little attention in this country. The author endorses the results of laboratory experimentation that calcium chloride increases the fibrin in the blood and its coagulability.

The Journal of the American Medical Association, March 18, 1905.

Harelip and Cleft Palate.—G. V. I. Brown, after a classification and description of the varieties of these defects, condemns the radical operation in the young infant on account of the high death rate, the danger of meningitis, the unsatisfactory cosmetic results at that age, the risk of too great approximation of the turbinates, occluding the nasal passage and producing mouth breathing, etc. If conditions are favorable he would use adjusted strips to prevent the action of the lower jaw from forcing the maxillary bones apart and to cause an opposite effect when the child laughs or cries. Of course the child should be mouth fed; the sucking habit should be overcome. The proper age is after the full eruption of the deciduous teeth and before the speech habit has been fully acquired. He would then use a screw appliance, which is illustrated, to approximate the bones and would also use proper treatment for the diseased oral surfaces. In young patients this will probably be sufficient, in older patients some crushing operation may be required. It is most desirable to bring the anterior portions into direct contact so as to allow freshening, not only of the soft borders, but the bony tissues as well, thus securing complete circulation to nourish the flaps when the final mucoperiosteal operation is performed. He emphasizes the importance of having needles selected with curves suiting each part of the operation. The fuller details of the technic of his method are left for a future article. The importance of after-treatment is especially dwelt on, and he particularly mentions singing as one of the best practical aids to speech improvement. The patients are often neurotic and the complicating neuroses must be considered in the treatment. With his method he thinks the restoration of the palate in its nearly perfect form can be obtained. The difficulties of oral asepsis are noticed, and he says his postoperative sheet anchor for the mechanical cleansing of the parts is dioxygen, which, with a 2½ per cent. of carbolic acid solution, should be used alternately each hour during the day and at least four times at night. For this he uses a hospital syringe and injects with force enough to dislodge little particles of débris, but not enough to do injury. Wiping with cotton wool applicators is required also three or four times a day, and nebulizing some of the oil preparations are used as supplementary after the washings throughout the course of treatment.

Alcoholic Borderline Psychoses.—F. P. Norbury gives the history of two cases of alcoholic mental derangement; one of typical alcoholic delusions of infidelity following the stoppage of alcohol in a steady drinker, and the other of acute alcoholic maniacal attacks following excesses. Both cases are discussed at some length. His conclusions seem to apply more particularly to the latter type, which he considers as properly classed among the minor psychoses of alcoholism. He says that from an experience with several hundred such cases, including the polyneuritic psychoses marked by amnesia, paramnesia and confusion, with marked hallucinations, he has been led to the following conclusions regarding these mental disorders: (1) They are rare in acute alcoholism, but may appear in adolescents of neurotic type. (2) They are more frequent after adolescence and up to 40 or 45 years of age. (3) They occur both in continuous drinkers and in periodic delinquents. (4) The prognosis is variable, depending on inherited frailties and on moral development. (5) Early treatment is advisable as a prevention of major psychoses. (6) Treatment is successful in the majority of cases, providing the physician has the earnest co-operation of the patient and can have him under his care for a protracted period. (7) Such cases should be distinguished from ordinary chronic alcoholism and should be treated from the standpoint of mental disease.

The Blood Changes in Pneumonia.—In blood cultures from 175 cases of lobar pneumonia, E. C. Rosenow found pneumococci in all but 15. In eleven of the fifteen cases the second culture was not possible. In the other four, repeated cultures failed, though in one careful search of the smears directly from the blood revealed pneumococci. Leucocytosis was high in all four, and he was inclined at first to suspect a phagocytic action, but later research showed that the negative cultures were made later in the disease, thus indicating a diminution in numer or viability, or both, of the pneumococci at the time of crisis. Rosenow does not seem to consider the blood cultures of great prognostic value in this disease, though he says, other things being equal, a high leucocytosis appears to be a favorable sign rather than otherwise. The agglutination test of the pneumococci he does not think of much practical value. The point he considers of most importance is the reaction changes; a well-marked acid reaction, associated with a voluminous sediment appearing in cultures of pneumococci in pneumonic and not in normal serum. He asks, in view of this fact, whether some of the symptoms of pneumonia may not be due to an acid intoxication of the system, and, in support of this theory, he adduces experiments which have been made with the alkaline treatment for a year past in Dr. Frank Billings' clinic, in the Presbyterian Hospital. From one to three drams of sodium bicarbonate in at least four ounces of water, were given by the mouth or in still larger doses by the rectum. No other treatment was employed except heart tonics, catharsis or venesection whenever required, which was seldom. Judging from the results this alkaline treatment seems rational.

Laryngeal Papillomata in a Child.—L. D. Brose reports the successful removal of papillomatous laryngeal growths from two children, aged 11 years and 19 months, respectively. The diagnosis of these conditions is easy if laryngoscopic view is possible. Otherwise the vocal and respiratory disturbances, aphonia or altered voice, difficulty of breathing, especially during sleep, etc., will have to be relied on. If the patient is old enough to co-operate with the physician and an endolaryngeal operation is possible, life can generally be saved and the voice restored, but recurrence is to be expected in 25 to 50 per cent. of the cases. When an endolaryngeal operation cannot be successfully done the only recourse is in external laryngotomy, preferably after tracheotomy. Thyrotomy in a child is tedious and difficult, and the mortality is high when done for papilloma.

The Lancet, March 4, 1905.

The Treatment of Severe Curvatures in the Tibia by Means of Manual Osteoclasis.—Personal experience in 30 cases is detailed by T. H. Openshaw, who illustrates his method by clinical history of one case with photographs and x-ray pictures. He regards the operation as far superior to cuneiform osteotomy for the following reasons: In the first place the bone is broken exactly at the spot and along the plane which is absolutely the proper one in order to allow the bone to become straight. It is impossible precisely to ascertain where this plane is situated until the bone has been broken. It is only by straightening the bone and allowing it to break that the proper line of fracture can be determined. Every operator knows how difficult it is to remove by cuneiform osteotomy exactly the proper-sized wedge, and to remove it from exactly the correct plane in the bone. Secondly, the bone is lengthened instead of being shortened by the excision of a wedge-shaped portion. Thirdly, instead of an open wound with much damaged bone and periosteum a simple intraperiosteal greenstick fracture is produced, which is firmly healed and allows the child to walk in three weeks. Finally, the operation can be performed and the child treated as an out-patient. He believes, also, that the tibia must be actually broken in order to insure a straight limb. The operation is applicable to any case in a patient not over ten years of age.

The Cause of Pain in Cases of Gastric Ulcer and its Bearing on the Operation of Gastro-Jejunostomy.—According to C. W. Mansell-Moullin, the pain in gastric ulcer is not due to mere contact of food with the mucous surface of the organ, but to the movements of the stomach affecting the sensory nerves distributed around it. Sensory nerves derived from the intercostals are distributed in abundance in the parietal peritoneum, or rather in the subserous cellular tissue underlying it. The least drag upon this is instantly resented. The painless ulcer that forms almost without a symptom and suddenly ruptures into the general peritoneal cavity is nearly always situated on the anterior surface far away from the parietal peritoneum and the sensory nerves. The ulcer that causes the most suffering is either on the lesser curvature or at the pylorus, unless it has already contracted adhesions to the parietal peritoneum elsewhere, so that it can drag upon it directly, and the pain increases as the movements of the stomach become more energetic during digestion and ceases when they do. Whether there are other accessory causes or not, there can be no question that dragging upon the parietal peritoneum as the stomach moves during the process of digestion is the chief source of the pain in cases of dyspepsia and gastric ulcer. What is true of pain in cases of ulcer, is also true of tenderness on deep pressure. All these facts have an important bearing on the success of the operation named in the title. The object here is to drain the stomach and place it at rest. If this can be accomplished the vomiting and pain cease. If the pain continues it means that there is still dragging upon the sensory nerves under the parietal peritoneum around, and that the operation has failed in one important particular. To accomplish this in all cases is no easy matter. If the ulcer is comparatively small, so that it can be excised and merely a thin linear cicatrix left without any puckered bands or adhesions, success is fairly certain. But in the majority of cases, by the time a surgeon is allowed to operate, course after course of medical treatment has been tried, and has failed, and the wall of the stomach has become so far involved that excision of the ulcer means a fairly large gastrectomy. In such cases there is usually no option if gastrojejunostomy is contemplated. The opening in the stomach must be made where it can be. But when there is a choice, the opening should either be made quite at the cardiac end, so that the pyloric portion has no work to do; or if it is made near the pylorus there must be a very free division of the circular muscular fibers, as in the case of simple gastrotomy.

A Case of Acute Intussusception of the Sigmoid Colon Due to a Subserous Polypoid Lipoma; Laparotomy; Excision of Pylorus; Recovery.—The patient of J. H. Ray was a woman of thirty years, who had had abdominal pain in the left lumbar and iliac regions for six months before coming under observation. On one occasion she had severe pain after the bowels moved, and was somewhat collapsed.

An enema given the next day was followed by a violent expulsive effort during which a polypus as large as a medium-sized orange protruded through the anus. This was regarded as the apex of the intussusception, a view, confirmed by operation, which is described in full. The intussusception measured about one foot in length, the neck being over the left sacroiliac synchrondrosis. Reduction was fairly easy. The last part to unfold was at the junction of the middle and outer thirds of the omega loop, and this was brought out of the laparotomy wound and found to contain a tumor that completely blocked the lumen of this part of the colon. The colon having been incised the tumor was exposed and found to be the same mass that had protruded through the anus. The tumor was removed and it was necessary to cut through the wall of the bowel completely to effect removal, thus opening into the mesocolic angle. The wounds in the bowel were sutured with celloidin thread and the abdominal wall was closed in four layers, leaving a small drainage-tube at the lower angle of the wound so as to reach the bottom of the pelvic cavity. The after-treatment was simple and the subsequent progress of the case was uneventful.

British Medical Journal, March 4, 1905.

The Prospects and Vicissitudes of Appendicitis After Operation.—Sir Frederick Treves discusses this subject under two heads: The degree of imperfect relief, or of imperfect recovery after operation; and the complications which may attend operation, and which may be regarded as accidental or independent of the direct surgical results of the case. The writer has records of forty-five cases in which the operation of removing the appendix during the quiescent period, had more or less completely failed. A few of these cases he was directly interested in. The various causes of this condition are classified as follows: In two of the cases, the appendix had been imperfectly removed. Coexisting ovarian trouble existed in nine cases. There is a close anatomical relation between the vermiform appendix and the right ovary, especially in the matter of their lymphatics. Both organs are commonly simultaneously inflamed. The writer believes that it is often almost impossible to distinguish clinically betwewen chronic appendicitis and chronic ovaritis. It is very desirable in operations upon women, to systematically examine the right ovary when the appendix is being removed. Eight patients suffered from colitis. The association of colitis and appendicitis is common. In seven patients there was persistent pain in the right iliac fossa. Five cases were pronounced neurotic or hyperchondriacal. In nine instances, "attacks" were reported to have continued without improvement after the operation. In three the pain was proved later to be due to gall-stones, in two to colic, in two to movable kidney, in one to renal calculus, while in one the cause was not explained. In five cases a tender mass appeared in the right iliac fossa some time after the operation. One instance was simply inflammatory, which condition finally disappeared; in three others the tender lump was a fecal mass, while in the fifth it was due to tuberculous glands. Under the heading of imperfect results after the evacuation of a perityphlitic abscess, the writer tabulates—persistent sinuses, 40 per cent.; recurring abscesses, 24 per cent.; recurring attacks of appendicitis, 16 per cent.; fecal fistula, 12 per cent.; inflammatory deposits in the iliac fossa, 8 per cent. In the London Hospital Series of one thousand consecutive cases, a number of complications appear. There were forty-nine cases of fecal fistula, seventeen of bronchopneumonia, fourteen of pleurisy with effusion, twelve of thrombosis of the femoral vein, ten of intestinal obstruction. Of abscess, there were twelve cases of secondary and eleven cases of residual. There were a few cases of empyema, acute bronchitis, pulmonary embolism, pleurisy without effusion, nonsuppurative parotitis and pylephlebitis. In six of the one thousand cases, the appendicitis was associated with pregnancy. It can be seen from this review that excepting fecal fistula, intestinal obstruction and the persisting or extending abscess, the principal complications are those of septic infection.

Some Peculiarities of Appendicitis in the Female Sex.—George Heaton states that appendicitis is about three times as common in the male as in the female. Although various causes have been assigned to explain this fact, it is more probable that a developmental or anatomical difference is the real cause. Pregnancy does not seem to predispose to a primary attack of appendicitis, but if a patient has previously suffered from this disease, and afterward becomes pregnant, the pregnancy may light up another attack. Pregnancy greatly increases the risks and dangers of appendicitis. The fatality depends partly upon the stage of pregnancy, and partly upon the severity of the attack. The further advanced the pregnancy is, the worse is the prognosis, especially if pus has formed. Suppuration increases the risk of life enormously. According to Abrahams, the mortality of cases of perforative appendicitis even when operated upon with no delay, is as high as 58 per cent., with a mortality of the fetus of 90 per cent. However, mild attacks of appendicitis may occur in the early months of pregnancy and the inflammation completely subside and pregnancy go on uninterruptedly to term. The writer believes that it ought to be an almost invariable rule in cases of pregnancy, to remove the appendix almost as soon as the diagnosis is made. In all cases of appendicitis in married women, it should be ascertained at once whether pregnancy exists, for in such cases the prognosis and treatment will be materially altered. In cases of pregnancy in which miscarriage occurs, careful examination should be made to determine whether appendicitis exists. The writer believes that the appendix is probably responsible for a very large proportion of so-called attacks of right-sided pelvic peritonitis in women. The explanation of the greater frequency of right-sided salpingitis and ovaritis over left-sided affections, is obvious when it is realized that in many cases the inflammation of the tube or ovary is an extensive form of a diseased or disordered appendix. In removing the appendix in women, in cases in which no suppuration is present, it should always be a rule to examine the right uterine appendages before closing the abdomen.

The Relationships Between Colitis and Appendicitis from a Surgical Point of View.—C. B. Lockwood declares that it is not open to doubt that any form of colitis may be associated with appendicitis. He speaks of those cases in which at operation the end of the ileum, the cecum and the right colon are obviously inflamed. Besides, there is tenderness along the right colon and rigidity of the abdominal wall. The relationship here is a mere question of extension by proximity, facilitated perhaps by identity of vascular supply. The bowels soon recover when the appendicitis has ceased. In certain cases, colitis may be the prominent feature so much so that the appendicitis may be obscured and overlooked. It is quite possible that appendicitis may cause coprostasis by interfering in some way with the nervous mechanism of the bowels. In cases of mucous colitis associated with coprostasis, in which there is no evidence of appendicitis, the patients should be examined under an anesthetic. The writer cites two cases in which the diagnosis was difficult, because of absence of pain and tenderness about the site of the appendix. The inflamed appendix was found to be hidden away behind the right colon. After a period of rest in bed, careful dieting, and enemas, the diagnosis became clear. As to mucomembranous colitis, the writer declares that it can cause appendicitis, but he does not know whether appendicitis can cause mucomembranous colitis.

Berliner klinische Wochenscrift, February 27, 1905.

The Value of Neumann's Orcin Test for Sugars in the Urine.—Mann reports on a series of control observations undertaken to determine the reliability of Neumann's recently described orcin reaction. On examining thirty-five diabetic urines, it was found that a positive reaction for dextrine was always obtained, and in three cases in which the sugar had been reduced by diet to such a degree that Nylander's and Trommer's tests and the polariscope gave negative results, it was still possible to obtain a good dextrose reaction with orcin. The test was also found of value for the differentiation of levulose, and one hundred and fifty nondiabetic urines gave negative results except two, in which levulose was shown to be present, once owing to the ingestion of a large amount of raspberry jam, and in the other case owing to unexplained reasons. Albuminous urines give less clear results, and it is always advisable to remove the albumen before applying the test. Urates and phosphates are without influence. The author concludes that the reaction is clinically valuable owing to its delivery and its ability to differentiate a number of sugars by a single test.

The Nature of Hay Fever Toxin and Antitoxin.—Prausnitz says that of 505 patients treated with Dunbar's hay-fever antitoxin pollantin, whose histories had been reported to the Hamburg Hygienic Institute up to the end of 1904, 299 were rendered completely immune by the treatment, while in 143 the cure had been only partial, and in 63 there had been no improvement. Counts of the number of floating pollen grains in the air showed that the occurrence of these particles was exactly in proportion to the rise and fall of the hay fever season. It was found possible to extract the toxin from all the thirty varieties of pollen so far tested by maceration in salt solution, and subsequent precipitation with alcohol, or by dialysation. The substance obtained, termed pollentoxin, gives all the albumin reactions and is so potent that in the case of one patient the application of 1-40,000 mg. to the conjunctiva was sufficient to give rise to a well-marked attack. The methods employed in standardizing the antitoxin obtained by injecting pollen into horses are then described. The essential feature of the process consists in determining the amount of antitoxin which, when added to the toxin, will neutralize it so that no reaction takes place when the mixture is applied to the conjunctiva of a susceptible person.

Observations are also detailed which tend to show that pollentoxin and pollantin represents a true toxin and antitoxin, just as is the case in diphtheria and tetanus.

Münchener medizinische Wochenschrift, February 28, 1905.

The Use of the Esophagoscope in Diagnosing and Removing Foreign Bodies from the Esophagus.—Starck and Reizenstein both discuss this subject and draw conclusions extremely favorable to the method. Starck has collected seventy-three cases in which foreign bodies were successfully removed by the aid of the instrument and only four failures have been reported. He describes a number of his cases in which large pieces of bone, fish bones, etc., were the offending bodies, and sums up his position as follows: Esophagoscopy affords the most reliable diagnostic measure in cases of suspected foreign bodies in the esophagus. The examination may be facilitated by the preliminary use of the *x*-ray and the soft stomach tube. Exact knowledge of the topographical relations of the foreign body is to be obtained only by esophagoscopy. The method should be employed in all cases and as early as possible. Extraction through the instrument is the safest and most satisfactory procedure for removal, and other means, such as attempts to push the object into the stomach, are to be avoided. If extraction through esophagoscopy is not possible either esophagotomy or gastrotomy becomes necessary. Reizenstein describes a number of difficult cases in which artificial teeth plates and bones were impacted, and expresses similar views concerning the utility of the method and emphasizes the importance of resorting to it early, before changes in the mucous membrane have taken place.

Distention of the Esophagus for Removal of a Foreign Body.—Franck, while ship's surgeon, had occasion to treat an arteriosclerotic man of sixty, who had swallowed a large lump of tough meat, which stuck in his gullet and occasioned him severe distress. Attempts to push it down with the stomach tube had to be desisted from owing to the excessive reflex irritability of the patient's throat and the state of his blood-vessels, which rendered the retching caused by the procedure very dangerous, and also owing to the pitching of the boat. Under expectant and palliative treatment the patient's condition grew steadily worse, until on the third day he was exhausted and apathetic, but refused all mechanical means of relief. Believing that by distending the esophagus with gas the obstruction might be forced down, the two halves of a seidlitz powder were administered separately, with directions to retain the gas by holding the mouth and nostrils shut. After a few moments a sudden feeling of relief was experienced by the patient and it was found that the offending mass had been driven into the stomach by the pneumatic pressure.

The Technique of Laparotomy.—Müller has devised an appliance intended to protect laparotomy wounds from infection during the course of the operation, by the hands, drop infection from the breath in speaking, intestinal or tumor contents, purulent exudates, etc. In spite of all possible care it still sometimes happens that clean wounds are infected and the means in use to prevent this are not adequate. The author's device consists of a series of metal spring clips placed every 3 cm. along the length of a sheet of thin rubber tissue, and intended to be slipped over the edges of the incision. By this means the cut surfaces and the skin for a considerable space round about are covered with a sterile layer of rubber which is not in the way, can be readily replaced if soiled and which protects the exposed tissues from mechanical injury as well. The material is made and sold by the meter, so that it is an easy matter to cut off the amount needed for each incision.

Deutsche medizinische Wochenschrift, February 16, 1905.

The Value of Alcohol Dressings.—Brugger commends this form of dressing most highly and advises its more universal application. The affected part is covered with gauze saturated with alcohol and applied in about eight loose layers. Over this comes a thick layer of absorbent cotton, and outside of this some impervious material in which a few holes have been pierced. It is important to make the dressing a generous one which will cover a large, healthy area on either side of the diseased tissues. Salzwedel, the originator of the method, used ninety-six per cent. alcohol, but the author believes that equally good results follow the use of about fifty per cent. alcohol, though below this strength the action is less efficient. The skin should be dry and not macerated before the dressing is applied, otherwise there is danger of caustic action, and open wounds should be protected from immediate contact with the alcohol by packing with sterile gauze. The dressing should be kept moist but not wet, and it is advisable to change it about once in twenty-four hours. The measure gives most gratifying results in all forms of inflammatory conditions of the skin and lymphatics, such as phlegmons, panaritium, furunculosis, lymphangitis, etc., and not only curtails the infection but has a markedly anodyne effect. It is important not to apply the dressing too tightly, and to caution the patients as to the inflammable nature of the alcohol vapor.

The Prophylaxis and Abortive Treatment of Gonorrhea.—Finger discusses these two questions and reaches the conclusion that the methods employed to accomplish the desired results are not satisfactory. So few patients come under observation at a stage when the organisms have not yet penetrated the deeper epithelial layers and are, therefore, still accessible to the action of antiseptics, that the percentage of successfully aborted cases is very small. It is the author's practice even if the case is seen early, to proceed in the systematic way by prescribing injections of some of the non-irritating silver preparations. The cases that would prove successful under the ordinary abortive measures, react well to the routine procedure and are always mild in course. The attempts at prophylaxis by antiseptic injections after connection are condemned by the author, in the first place on account of their unreliability and secondly, because when long continued they give rise to chronic irritative and inflammatory conditions of the urethra, which are almost equal in importance to the lesions following gonorrheal infections.

Enhancing the Agglutinating Power of Typhoid Bacilli.—Sehrwald has found that poorly agglutinating cultures of typhoid bacilli frequently show marked increase in agglutinating power after cultivation on potato or media containing potato juice. On return to potato-free media, the agglutination value drops again. By using bacilli grown on potato or potato-water media it is possible to shorten materially the time necessary for the Widal reaction or for identifying suspected organisms by their agglutination reactions. In growth on potato media the organisms frequently develop in long rods or threads, and this phenomenon, as well as the increase in agglutinating power, seems to depend on the fact that on potato the bacilli suffer a certain amount of impairment of vitality. Similar changes may be observed in paratyphoid and dysentery bacilli after cultivation on potato.

French and Italian Journals.

Milk of Tuberculous Cows.—A considerable part of the milk that is sold day by day, is furnished by tuberculous cows. Even up to the present time it has been declared that there is no danger in the consumption of milk given by tuberculous cows providing the breasts of the animals are not diseased. Moussu reports that he has been able in his experiments to cause tuberculosis in animals by feeding them commercial milk furnished by tuberculous cows whose breasts were not diseased. This investigator believes that this element of danger ought to be eliminated, and proposes a very simple plan. He would oblige the milk dealers not to use any milk but that furnished by animals absolutely healthy and free from tuberculosis.—*Gazette des Hôpitaux Civils et Militaires,* February 16, 1905.

Syphilis Acquired by a Child of Ten Years.—Oltramare reports this case. The child had been sent away from school on account of alopecia and was referred to the writer for treatment. The patient on being examined, was able to describe the manner of the loss of hair. It had fallen out in small, irregular and disseminated patches as in syphilitic alopecia. Further enquiry discovered the fact that there had been former generalized eruptions of papular aspect, while examination of the present condition revealed mucous patches and pigmentation of the neck. The alopecia was a syphilitic manifestation, not diagnosed, by reason of the age of the patient. Oltramare declared, that if in ten or fifteen years this patient presented the symptoms of tabes or of general paralysis, one would be justified in considering them non-specific if the true diagnosis had not been made in so clear a manner.—*La Presse Médicale,* February 8, 1905.

Subcontinuous Pneumonia Complicated by Pernicious Delirium.—Giuseppe Baschieri-Salvadori, under this heading, describes a case of a healthy girl, who has lived for some years in a malarial region near Rome, but had been away from that region in the mountains for eighty days before her attack of sickness. This begun with symptoms of pneumonia; high fever, dyspnea, bloody sputum and signs of consolidation, which lasted only a few days. They then disappeared and were succeeded by a sudden attack of severe delirium, with pain in the head, with a temperature of 96.8°, and a much enlarged spleen. After a deep sleep the patient awoke sane, with a temperature of 100.4°, and a pulse of 120. Cough and bloody expectoration, pain in the chest and râles at various points now recurred. This condition lasted only one day, when the patient appeared entirely well. As no blood examination was made, nor enough quinine given to destroy malarial parasites, had they been present, the author inclines to the belief that the lung symptoms were merely those of a temporary congestion. This condition he names subcontinuous pneumonia.—*Gazzetta Medica di Roma,* January 1, 1905.

Book Reviews.

The Effects of Tropical Light on White Men. By Major Chas. E. Woodruff, A. M., M. D., Surgeon, United States Army. New York: Rebman Company; London: Rebman, Limited, 1905.

This is an exceedingly interesting work on a novel subject written by one who, besides having had practical experience as an army surgeon in the Philippines, has evidently given much thought and study to questions of tropical hygiene, and speaks, therefore, with all the authority of an expert. The origin of the work, he tells us, was in an attempt to prove or disprove von Schmaedel's theory that the skin pigmentation of man served to exclude the short or actinic rays of light whose action is to destroy living protoplasm. If this theory is true it will explain at once many anthropoligical riddles. We find in it a reason why Europeans, at least northern Europeans, while capital colonizers in cold or temperate regions and sagacious administrators of tropical colonies, have failed when they attempted themselves to colonize in hot countries; why blond types prevail in the cloudy, almost sunless regions of the north of Europe, brunette types in the dazzingly light countries bordering on the Mediterranean, and the negro in Central Africa; and why the type of man living in the tireless city is less blond that that of the countryman who has during a large portion of his outdoor life the protection of woodland and orchard.

Dr. Woodruff soon convinced himself of the truth of von Schmaedel's theory, and this book contains the results of his investigations and the deductions made therefrom. It is disappointing to those of us who love the sun and the light to learn that he is not the beneficent deity we thought him to be as we worshipped, but that he delights in sacrifices and slays ruthlessly those who trust in him. It is hard to believe that man does not need the light, and it is almost a shock to be made to realize that "the vast majority of land animals live in absolute darkness." Yet the author leaves us little excuse to doubt his statements, for besides the cogency of his reasoning from universally accepted facts his pages fairly bristle with authorities whom he cites in support of his position. The only consolation is that light is a stimulant, and if taken in the moderate doses which only are possible to us in the north the good it does may outbalance the possible harm of occasional excess.

The closing chapter in this book contains practical hygienic rules for white men residing in the tropics. These are based upon the author's experience and are in harmony with the actinic theory developed in his treatise. The book is one that every white man going to the tropics can read with profit as well as interest, for it will teach him what some of the dangers are which he is to encounter, and how he may avoid them. Not the least of the benefits to medicine which have followed the North American invasion of the tropics are the many contributions, made by members of the medical corps of the army stationed in our new possessions, to the subject of tropical hygiene. One of the most practical and useful of these, as well as one of the most interesting to read is this work by Major Woodruff. The book is remarkably free from typographical errors, and we have noted but two or three in a careful reading of the volume from cover to cover. A curious misprint, however, is that on p. 177, in which Dr. Simon Flexner is accredited to the University of Paris. Doubtless he will be given his proper berth in the succeeding editions, of which we hope there will be many.

Précis du Paludisme. Par J. Crespin, Professeur Suppleant à l'Ecole de Médecine d'Alger, Médecin de l'Hôpital de Mustapha, Lauréate de l'Institut (Académie des Sciences). Paris: A. Maloine, 1904.

This is a useful little work, comprising within small compass a very complete summary of the latest researches into the nature and origin of malaria and the treatment of its various manifestations. It is a curious fact, to which the writer calls attention, that very little has been written on this subject in France, and, indeed, he claims that the present brochure is the first in the French language to treat fully of the subject since Laveran's work, published nearly seven years ago. The author is evidently familiar with malaria in all its forms and he possesses the happy faculty of being able to impart the knowledge, gained through practical experience, in an interesting manner.

L'Œuf Humain et les Premiers Stades de son Développement. *Eléments* d'Embryogénie, par J. Potocki, Professeur Agrégé à la Faculté de Médecine de Paris, Accoucheur des Hôpitaux; et A. Branca, Professeur Agrégé à la Faculté de Medécine de Paris. Préface de M. le Professeur Pinard. Avec 100 figures et 7 planches. Paris: G. Steinheil, 1905.

In this volume, which is intended as an introduction to obstetrics, there are brought together data which have not hitherto been accesible to the physician, they having been scattered in the pages of journals devoted to pure science. The intention of the authors has been to describe the development of the human egg, and not to write a textbook of embryology. They take up seriatim: The Sexual Products, The Sexual Apparatus and Life, The First Beginnings of the Embryo (as far as the development of the embryonal layers), and The Embryonal Annexa. The illustrations are excellent, including seven beautiful colored plates. Altogether, the work appears to be an excellent one for the subject to which it relates.

Principles of Physiological Psychology. By Wilhelm Wundt, Professor of Philosophy in the University of Leipzig. Translated from the Fifth German Edition (1902) by Edward Bradford Titchener, Sage Professor of Psychology in the Cornell University. Vol. 1, with 105 figs. in text. London: Swann, Sonnenschein & Co.; New York: The Macmillan Co., 1904.

The author traces very interestingly the growth of the science of psychology from its mental and moral philosophy swaddling clothes, and emphasizes the vast difference between its status at the time of the first edition and the present time. The great increase in data and the immense development of the science of late years has necessitated a thorough recasting of the subject matter so that the present edition represents really a new work. It is not a mere compilation, but an interpretation from the author's standpoint, an exposition of his own experiences and convictions, though use is everywhere made of the work of others. Though all possible curtailment has been made, the two volumes of the last edition have grown to three. The present volume contains the Introduction and the Bodily Substrate of the Mental Life. The name of Prof. Titchener, who was formerly a pupil of Wundt, is a sufficient guarantee of the accuracy of the translation, concerning the difficulties of which he speaks in his preface. This volume has an index of its own.

Ten Lectures on Biochemistry of Muscle and Nerve. By W. D. Halliburton, M.D., F.R.S., Professor of Physiology in King's College, London, and Editor of Kirkes's "Handbook of Physiology." Philadelphia: P. Blakiston's Sons & Co., 1904.

This book, of 160 pages, comprises lectures on the chemical aspects of muscle and nerve phenomena, delivered by the author at the University of London, and also on the Herter foundation at the New York University and Bellevue Hospital Medical College, in this city. Those who heard those lectures will welcome them in book form. Professor Halliburton displayed a rare gift of making plain difficult points, combined with a happy success in showing that many experiments in this field are much more easy of performance and less abstruse than one would naturally suppose. The chapter headings will give a good idea of the scope of the work. They treat of: The Composition, The Heat Rigor, The Pigments and Ferments, The Extractives, and The Chemical Changes Accompanying the Contraction of Muscle; The General Composition of Nerve Tissues, Their Metabolism. The Coagulation Temperatures of Their Proteids, The Chemical Pathology of Certain Nervous Diseases, and the Degeneration and Regeneration of Nerves. A bibliography of the subject is prefixed, and the work is well indexed, and it is illustrated where necessary.

L'Anesthésie locale pour l'extraction des dents. Par le Docteur E. Sauvez, Dentiste des Hôpitaux, Professeur à l'Ecole dentaire de Paris. Paris: Vigot Frères, 1905.

The author of this book expresses surprise that the dental operators of England and America continue to cling to nitrous oxide as anesthetic for extractions, and the little volume is devoted to an exposition of the view that the injection of cocaine, combined in some cases with local refrigeration, forms the most satisfactory method of painless operating. Used in one per cent. solution, according to the recommendation of Reclus, there is no danger of intoxication with the alkaloid, but it appears that stovain is only half as toxic as cocaine and seems just as efficient, so that it promises better as a substitute for the natural alkaloid than the various other bodies that have been recommended for the purpose.

Précis de Chimie physiologique. Par Allyre Chassevant, professeur agrégé à la Faculté de médecine de Paris. Paris: Félix Alcan, 1905.

This is a volume of 424 pages, in which the essentials of physiological chemistry are briefly outlined. It has been the author's aim to make the volume a practical reference book for physicians, and he has succeeded admirably, although for English or German readers the work has no advantages over books on the subject in these languages.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

194th Regular Meeting, Held March 3, 1905.

The President, Dr. Charles Stedman Bull, in the Chair.

Extensive Fatty Necrosis with Apparently Remittent Characters, with Involvement of the Pancreas; an Illustrative Case, Mistaken for Cholecystitis.—Dr. Joseph D. Bryant reported the case of a widow, 52 years old, well nourished, with a decided general adipose development, especially of the abdominal region, and in all respects, excepting that of her special infliction, in an apparently good physical state. She had never been injured, nor had she ever before suffered aught of a severe nature excepting that which she denominated her "present illness." From attacks of this illness she had been afflicted with more or less severity at irregular intervals for three or four years. Of these attacks, three had been quite severe, especially the last one, from which she had suffered for a week. When the patient was admitted to the hospital, she complained of an acute pain, of sudden onset, which was referred mainly to the right hypochondriac and upper part of the right lumbar regions. Frequently, also, it was referred to the epigastrium, and sometimes to both at once. The pain had been present for three or four days. With the severe attack there was constant abdominal tenderness, and well-marked tension, especially in the right hypochondriac region, and later, but in a lesser degree, in the epigastrium. The tenderness was most severe and persistent below the free border of the ribs, in the neighborhood of the gall-bladder, gall ducts and the pyloric end of the stomach. Some of her previous attacks had been trivial, to which no especial attention was given, and for the relief of which only domestic remedies were employed. In all instances, the pain came on suddenly, without premonition, and in the last attack, vomiting and diarrhea were added to the list of previous symptoms. The stools were of an alternating brown or yellow color, occurring from twice to four times per diem for the first few days; afterwards less frequently.

Besides the tenderness and rigidity over the right side of the abdomen, which was most marked at a point a little below and to the left of the tip of the ninth costal cartilage, a round, movable mass was felt in this region. It was about the size of a small orange, tender to the touch and dull on percussion. Underneath it was another mass, broader, less tender, extending to the right, and movable independently of the lesser one above. The latter could be moved from side to side without disturbing the deeper one, and also was markedly depressed by a full inspiration, while the movement of the deeper body was much less noticeable. The patient complained of a dragging sensation referable to the smaller tumor on turning from side to side. When she was placed in the knee and elbow position the superficial growth pressed forward against the abdominal wall, while the deeper one appeared to be but little disturbed. The anterior tumor could be traced upward with the finger and by percussion beneath the free border of the ribs in the line of the ninth costal cartilage.

The superficial tumor was regarded as being a distended, tender, and inflamed gall-bladder by all who examined the case. It was thought that pus was present in the gall-bladder or elsewhere, because of the pronounced iodophilia test that was applied repeatedly by Mr. Goldhorn, of the Carnegie Laboratory. The deeper tumor was regarded as being inflammatory in origin, and connected with the fatty capsule of the kidney, but as to the exact nature of this especial feature of the case no one felt inclined to express a positive diagnosis. The tenderness and distention of the gall-bladder were believed to be due to cholecystitis, the result of an infection dependent no doubt on the presence of gall-stones in the sac, where they had been for an indefinite length of time, and had possibly frequently contributed to the periodical sufferings of the patient. Perhaps, now and then a gall-stone had escaped by way of the common duct into the intestine.

Before entering the hospital, the patient had suffered severely from nausea and vomiting, and as the stomach entirely refused the presence of nutriment, supporting enemata were given at proper intervals, until at last small portions of koumys and matzoon were borne by the mouth. On admission, her temperature was 102° F.; pulse, 96; respiration, 24. There was no jaundice present at this time, nor was there a history of jaundice previous to this time. A blood count showed 16,000 white cells. The urine was acid; clear; sp. gr., 1,020; it contained a trace of albumin and a few hyaline casts; no sugar nor bile. When the patient's condition had sufficiently improved, an exploratory incision was advised, but on the day set for the operation she developed a thrombosis of the left femoral vein, with all of its characteristic signs and symptoms After these had subsided, the abdomen was opened in the median line. The gall-bladder was found to be normal in all respects as to size, location, appearance, and contents, so far as could be made out. The omentum was extensively indurated, and contracted into hard, irregular masses of varying size, the uppermost mass being the tumor that had been mistaken for the gall-bladder, while the lower proved to be the deeper tumor connected with the fatty capsule of the kidney. The connection between these two masses was composed of smaller tumors. These growths were all freely movable. Some portions of the indurations were highly vascularized, bleeding readily, and were adherent to the visceral and parietal peritoneum. This indurated mass extended across along the course of the pancreas, with which it appeared to be closely connected. Running along the surface of the mesentery and omentum were orderly rows of lentil-shaped bodies, closely associated, and feeling like strings of small beads covered with a thin, smooth membrane. Inspection of some of these bodies presenting in the line of incision disclosed lentil-shaped, yellowish colored, separate growths, of firm consistency and linear arrangement, covered with a thin membrane, suggestive of a tuberculous or malignant deposit in regular order in the lymphatic vessels. Numerous small glands were felt in the peritoneal and retroperitoneal regions. The hepatic and gall ducts were so imprisoned in the deforming adhesive masses as to prevent examination without undue delay and great danger of hemorrhage. The appearance of the lesions suggested tuberculosis or malignant disease as the probable cause of the induration, neither of which, however, would explain the long history of the patient's repeated attacks, and they were, therefore, regarded as secondary complications of something which at the time was not determinable. Many of the local changes observed were old, and apparently in a retrogressive stage, while others were recent, highly vascularized, and of active growth. A small portion was removed from between two ligatures, to prevent bleeding, and preserved for subsequent examination. The abdomen was closed without drainage, and the wound healed rapidly, leaving the patient in a fairly comfortable condition. On the fifth day after the operation, however, apparently without premonition, the patient suddenly experienced a deep sense of suffocation and promptly died from what was then regarded as a probable pulmonary embolism.

That fatty necrosis, dependent on some potent cause referable to the pancreas, was present in this case, Dr. Bryant said, was self-evident. Exactly how the fat-splitting agent of the pancreas gained access to the contiguous fat, and apparently exercised a transforming influence on similar areas at a considerable distance from the pancreas, was a matter of great importance. It had been abundantly demonstrated that injury of the pancreas, infection of its ducts, or occlusion of the same, had been followed directly and indirectly by the fat-splitting process. The appearance of the process at a distance from the organ, and the orderly arrangement of the manifestation, which had been noted in this and in other cases, seemed to warrant the belief that the pathological agent was transmitted, in some instances, at least, by way of the lymphatics, as simple diffusion would hardly result in such orderly and well-graded lesions.

The fragment of tissue removed in the case reported above was submitted to Dr. Harlow Brooks for microscopical examination, and Dr. Bryant said that the result of his investigation, together with the autopsy findings, would be presented by Dr. Brooks.

Dr. Harlow Brooks gave a detailed report of the autopsy findings in the case reported by Dr. Bryant. He stated that the omentum was retracted into a short, thick roll, and its entire mass was studded with yellowish bodies varying from one millimetre to one centimetre in diameter. Some of these were very hard, but not calcified, and were generally spherical or oval in contour. They were united by a greatly thickened stroma, evidently of inflammatory origin. The mesentery was similarly thickened and invaded, but in every instance the endothelial covering of both mesentery and omentum appeared to be intact, as was also that of the general peritoneum. The entire retroperitoneal fat, as well as that about the kidneys and pancreas, and even the pelvic fat was literally filled with these yellow bodies, bound together by dense strands of highly vascular connective tissue. The retroperitoneal tissues were so extensively involved as to present, with the hyperplasia of the connective tissue, a complete tumor-mass of considerable size located about the pancreas and the celiac axis. The gall-bladder contained about 15 c.c. of thick, mucoid golden bile, in which were suspended numerous small, black calculi. The wall of the sac was greatly thickened, apparently as the result of the presence of a large calculus, measuring 2 x 1.5 cm., oval in form, and so situated as at times evidently to obstruct the flow of bile into the duct, though at times probably permitting its free passage, acting in the nature of a ball valve. The presence of this stone was not suspected until the bladder had been incised, owing to the smooth but thickened walls. The common duct, as well as the cystic and pancreatic ducts near their juncture, were open and normal in appearance, and the papilla of Vater in the duodenum presented no apparent lesion, it being easy to force bile from the bladder through the ducts into the gut. The pancreas was large. Though the fat surrounding and infiltrating it was extensively involved by the masses described, these appeared to take no part in replacement of the pancreatic tissue proper. The organ showed a general connective tissue hyperplasia, and the pancreatic artery was enlarged, its walls showing marked fatty degeneration. The pancreatic duct presented no gross changes. Though the fat surrounding the kidneys and adrenal glands was extensively invaded by the nodules, neither organ seemed to be itself involved.

The immediate cause of death was undoubtedly pulmonary thrombosis, and this lesion was clearly secondary to the iliac thrombosis. Microscopical examination demonstrated the yellow nodes to be typical fat necrosis. Associated with this was very marked hyperplasia of the connective tissue stroma of the peritoneum, with occasional areas of marked cellular infiltration, plasma cells being very abundant in places, while necrotic areas immediately impinging on the peritoneum were covered by a mass of proliferating endothelial cells, strongly suggesting an endotheliomatous growth, but clearly of inflammatory origin. Microscopically, the extent of the necrosis was found to be much greater than indicated macroscopically. The pancreas showed very extensive necrosis, affecting practically all the fat contained in its interstitium, and in addition, extensive degeneration of the parenchyma cells was apparent in many places, the endothelium breaking down into a diffuse mass of granular detritus. The walls of the pancreatic duct showed extensive degeneration in many places, and the larger channels contained numerous calculi. Areas of hemorrhagic extravasation were found to be very frequent both in the pancreas and also diffusely throughout the fat elsewhere. The hypertrophic lymph nodes showed a simple, acute hyperplastic lymphadenitis, with marked anthracosis.

Dr. Francis P. Kinnicutt said another possible explanation of the pathogenesis in the extraordinarily interesting case reported by Dr. Bryant, suggested itself to him. Opie's experiments had demonstrated that the penetration of bile into the pancreas produced hemorrhagic and gangrenous pancreatitis. Flexner had shown that a similar result followed the introduction of other foreign matters. Necrosis of the parenchymatous cells and hemorrhage represented the primary action of the bile; an inflammatory action speedily followed.

A biliary or a pancreatic calculus lodged in the diverticulum of Vater too small to obstruct the orifices of the common bile duct and the pancreatic duct, but too large to pass the papilla, converted the two ducts into a continuous closed channel from which neither the bile nor the pancreatic juice could escape into the duodenum. The bile would therefore pass into the pancreas or the pancreatic juice force its way into the biliary ducts. Both the bile and the pancreatic juice were secreted at about the same (low) pressure and any difference in pressure, Opie argued, would be overcome by the muscular gall-bladder. The length of the diverticulum of Vater varied from 7 to 8 mm.; the average diameter of its duodenal orifice was 25 mm. A calculus 3 mm. in diameter, the size which obtained in Halstead's case of hemorrhagic pancreatitis, lodged in the diverticulum would therefore be too small to obstruct the orifice of the common bile-duct and the pancreatic duct, and yet too large to pass through their common opening into the duodenum. In Halstead's case the duodenal orifice was only 1 mm. in diameter.

In view of the history of long standing cholelithiasis in the present case, of the lesions of the pancreas, of evidence of the occurrence of a fat necrosis at varying intervals, Dr. Kinnicutt thought that the supposition of temporary lodgments of small biliary or possibly pancreatic calculi (numerous calculi were found in the ducts within the pancreas at autopsy) at varying intervals, in the diverticulum of Vater, offered a reasonable pathogenetic explanation in the case related.

A number of cases had been reported in which there was pathological evidence of the *recent* lodgment of calculi in the diverticulum, although no stone was found at autopsy. It should also be borne in mind that a calculus no more than 3 mm. in diameter lodged in the diverticulum might readily escape other than the closest search.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held March 2, 1905.

DR. CHARLES L. DANA IN THE CHAIR.

UNDER THE AUSPICES OF THE SECTION ON PEDIATRICS.

Gonococcus Infection in Children.—Dr. L. Emmett Holt presented this paper. He said the subject was one that interested the genitourinary surgeon, the obstetrician, the gynecologist, and the oculist as well as the pediatrist. He gave a very complete history of his experience with the gonococcus infection in the Babies' Hospital during the past eleven years. During the first five years of this time the number of cases ranged from 10 to 15 a year. There was a larger percentage of cases of vaginitis than of any other form of this infection. There were a few cases of ophthalmia and one case of arthritis which developed in the hospital. Examinations of vaginal discharges were made in 1896 for the first time in the history of the institution. The number of cases seemed to increase, probably because more were detected. During the summers of 1899 and 1900 they had epidemics of vaginitis in their country home. Dr. Holt described the ways in which they originated and the efforts made to stamp out the disease, which was exceedingly difficult to control. At one time from three cases that were unintentionally admitted to the country home 22 secondary cases developed. Shortly after moving into their new hospital, in 1902, one case of ophthalmia was admitted, and within the next few weeks, with absolutely new, clean wards, 11 fresh cases developed, including three of gonococcus arthritis in boys under two and one-half months old. In the year 1904 a rule was adopted that no female child should be admitted to the hospital without a microscopical examination of the vaginal secretion. The record for this year was 52 cases of vaginitis, but many of these could not have been diagnosed without the bacteriological examination. He had sought to find out to what extent vaginitis existed in other institutions, gaining his information from head nurses and hospital superintendents who came to him to ascertain how they might eradicate the disease from their institutions. The fact that children received from other hospitals and day nurseries were infected showed that the disease was prevalent elsewhere than in the institution with which he was connected. His investigations had convinced him that it was almost constantly present in children's wards. He gave detailed statistics of his investigations in order to make it evident that in the gonococcus infection one had to deal with an organism which was very widely spread and highly contagious, and one very difficult to eradicate. Dr. Holt considered the clinical manifestations of gonococcus infection in the three principal forms in which he had observed it, viz., vaginitis, ophthalmia, and arthritis. His observations were made on children under three years of age. The cases in which the infection manifested itself in other forms than those mentioned were very few. In well marked cases of vaginitis the discharge was moderately abundant, yellow or greenish yellow and occasionally tinged with blood. Extension to the uterus, tubes, and peritoneum was not observed, nor was cystitis met with; urethritis was not common and seldom severe. In mild cases the discharge might be so slight as to escape detection. Constitutional symptoms were few and insignificant. The temperature scarcely ever exceeded 101 degrees. The gonococcus was a diplococcus which decolorized when stained by Gram's method. It was necessary to find it in the pus cells in order to make a diagnosis. In vaginitis due to this infection it was usually the only bacterium present. If many leucocytes were present in the vaginal discharge of infants he regarded the cases as suspicious. A non-specific purulent vaginitis was uncommon. The use of proper local measures was difficult in young children and the disease sometimes lasted six or eight weeks. He reported 26 cases of gonococcus arthritis which he considered the most interesting phase of gonococcus infection in children. Of these cases 19 were male and 7 female. In five cases a single joint only was involved, in 16 cases three or more joints were involved. The superficial symptoms were a rapidly developing articular swelling, early redness, acute tenderness, and, in cases going on to suppuration, usually fluctuation at the end of a week. The usual characteristics were those of acute pyemic arthritis. The fever frequently reached 103° and sometimes 104° or 105°. It lasted anywhere from one to eight weeks. Wasting, prostration, and exhaustion were also usual symptoms. In many of these cases death was due to marasmus and not to pyemia. In children whose condition was fairly good incision and washing out of the affected joints usually sufficed for rapid cure. This disease closely resembled acute articular rheumatism, but as the latter was exceedingly rare in children under one year the symptoms enumerated should suggest gonococcus arthritis. He said that the most obvious means of spreading the infection was through napkins. It was customary to soak the napkins in a disinfectant, boil them in suds, and put them through a steam sterilizer. Thermometers, nipples, and bottles should be kept separate with the greatest care. Sponges and wash cloths should be interdicted in institutions and even bathtubs should be dispensed with where there was any case of this nature. The most scrupulous precautions should also be taken with reference to the nurses' hands. In cases of arthritis he suspected that the bacteria might gain entrance through the mouth. In cleansing the mouths of infants the nurse should use a toothpick wound with absorbent cotton, and not the finger. Upon the admission of children to institutions, a bacteriological examination should be required, but where this was impracticable a fold of gauze placed between the labia would be found to show even a very slight discharge. Quarantine of both child and nurse was the only means by which the spread of the disease could be checked. After an outbreak in a ward as much thoroughness in fumigation should be employed as after an outbreak of scarlet fever.

The speaker, in concluding his paper, said that (1) We must recognize gonococcus vaginitis as a very frequent disease and one to be constantly reckoned with in institutions for children. It was also very frequent in dispensary and tenement practice and not uncommon in private practice of the better sort. (2) In its milder forms and in sporadic cases it was extremely annoying because so intractible; in its severer forms it might be dangerous to life through setting up an acute gonococcus pyemia or infection of the serous membranes, and in its epidemic form it was a veritable scourge in an institution. (3) The highly contagious character of gonococcus vaginitis made it imperative that children suffering from it should not remain in wards or dormitories with other children. A similar danger though less in degree existed with the gonococcus ophthalmia and acute gonococcus arthritis or pyemia. (4) It was practically impossible to prevent the spreading of the disease if infected children remained in the wards with others. They must either be excluded from the hospital, or, if admitted, immediately quarantined. (5) Cases of gonococcus vaginitis could only be excluded from hospital wards by the systematic microscopical examination of a smear from the vaginal secretion of every child admitted. If a purulent vaginal discharge was present, such examinations were imperative and should be as much a matter of hospital routine as the taking of throat cultures in children with tonsillar exudates. In the absence of a bacteriological examination a purulent discharge in a young child might be assumed to be due to the gonococcus. (6) The quarantine to be effective must be extended to the nurses and attendants as well as the children. Napkins, bedding, and other clothing of infected children must be washed separately from that of the rest of the house. (7) When the gonococcus was found with no vaginal discharge, or with a very slight discharge, children should also be quarantined, although it was possible to say to what degree such cases might be dangerous in the ward. One of the greatest difficulties in connection with the gonococcus vaginitis arose from the prolonged quarantine rendered necessary from the fact that these cases were chronic in character and very resistant to treatment. (8) The danger to nurses from accidental infection, especially in the eyes, was very considerable. At the present time they were not sufficiently instructed in this respect.

Dr. F. C. Wood said that cultural procedures for the isolation and identification of the gonococcus were so complicated and difficult of execution that they must be left to the trained bacteriologist. The practitioner must always depend upon the morphological identification of the organism in smears. Dr. Wood said he took advantage of the sharp morphology of the organisms when stained by means of the Jenner blood stain. The smear should be spread very thin, and, when dry, should be stained in the alcoholic mixture for three minutes, when the bacteria would be fixed and stained. If the smear was taken from a case of gonococcus infection, he said it was easy to find the characteristic organisms in the bodies of the leucocytes. The Jenner stain gave a specially good differentiation because the cell body stained reddish while the gonococcus took a deep blue stain. Other cocci, such as the micrococcus catarrhalis, which had been found in the urethra, might assume the biscuit shape and also be found in the bodies of the leucocytes. It was advisable to keep some stained smears containing undoubted gonococci to control the microscopical findings. The micrococcus catarrhalis was also negative to Gram, so that this procedure offered no differential points. If after some search organisms were found which were in the pus cells, but which did not correspond to the morphology of the gonococcus, it was convenient to do a Gram stain on top of the Jenner preparation. The slide should be ringed with some waterproof ink, or the position of the doubtful cells marked on the coordinates of the mechanical stage, and preferably after fixation of the slide by heat, a Gram stain could be carried out in the usual manner. The same group of organisms could then be re-examined and their relations to the Gram stain determined. This was somewhat more convenient than making a Gram stain first, as it was more difficult to find the organisms than with the Jenner. Special care should be taken in obtaining the material so that the difficulties of diagnosis were not increased by the presence of a large number of saprophytic bacteria which were frequently present in the vulva region. In the case of children with an abundant discharge of pus, it was advisable to pass a small platinum loop into the vagina aud urethra if possible, and thus obtain the material uncontaminated. Regarding disinfection of linen in these cases of gonococcus infection of the vagina in children, the most suitable method seemed to be the use of one of the more penetrating disinfectants, such as formaldehyde or carbolic acid, for the preliminary disinfection. All clothing should afterwards be boiled or thoroughly steamed. The gonococcus was known to be one of the most easily destroyed organisms, but sometimes a superficial disinfection with a nonpenetrating disinfectant, such as bichloride of mercury, might leave living organisms inside of a mass of mucus or pus.

Dr. J. Clifton Edgar said that from the obstetrician's standpoint, gonococcus infection in infants concerned the eyes, the mouth, the stump of the umbilical cord, and the vulvovaginal canal. These were all infections of the mucous membranes except in the case of the umbilicus, in which the infection was directly into the lymphatics or veins of the stump of the umbilical cord. Gonococcus infection of the eyes was by far the most frequent in the experience of the obstetrician. This was due to the fact that the delicate mucous membrane of the eye in the newly born offered little resistance to gonorrheal infection, and then the eyes might be injured during rough vaginal examination or during labor in face and brow presentations or in extractions of the aftercoming head in breech presentations. Our knowledge of gonococcus infections of the mouth, umbilical stump, and vagina in the newly born was very meagre, which might be due to the fact that the subject was divided among obstetricians, pediatrists, and ophthalmologists, each specialist caring only for a particular aspect of the subject. Recent writers made scarcely any distinction between gonococcus of the newborn and the same disease in young infants in general. In 1891 Rosinski first described gonorrheal stomatitis, and in 1903 Baginski first described gonococcus infection of the umbilical stump, it having been previously assumed that umbilical infection was due to ordinary pyogenic cocci. Aichel, in 1891, maintained that gonococcus infection in the vagina in the newly born had been recorded only a few times. Dr. Edgar believed that gonococcus infections, intra partum or directly post partum, of the mouth, umbilical stump, and vulva and vagina were rarely met with, because of the ligature of the cord and the nonexposed condition of the mucous membrane of the mouth and vagina. Modern prophylactic measures had reduced the frequency of gonorrheal ophthalmia from 12 per cent. to less than 2 per cent. During the past five years at the Bellevue Emergency Hospital there had been no instance of serious cord suppuration; there were four cases that had yielded readily to treatment. Several mothers who showed evidences of vaginal inflammation after labor were transferred, and in most of these cases the infants had purulent ophthalmia. No cases of sore eyes were transferred. Among 800 cases of delivery in the Out-door Tenement Service in Seventy-sixth Street, five cases of ophthalmia were recorded, and several superficial local infections of the cord. There was one death from probable gonococcus cord infection. Dr. Edgar said that the interest of the obstetrician centered in the prophylactic treatment of gonococcus infection in the newborn. The bactericidal action of the vaginal mucus did not extend to the gonococcus. According to Winckel, the fetus might be infected in utero and be born with a well-developed conjunctivitus. If the vagina was sterile usually it needed no preparation for labor, but if it was not sterile it did, and in hospital practice he believed that routine antiseptic preparation of the vagina was necessary to prevent ophthalmia neonatorum. In private practice he was not accustomed to use ante-partum vaginal irrigation; this was a concession to the belief that there was less gonococcus infection in private practice. Occasionally one met a case of gonococcus ophthalmia in spite of Credé's nitrate of silver method of prevention. Ante-partum vaginal preparation and Credé's nitrate of silver method would greatly reduce the percentage of gonorrheal ophthalmia, but they could never abolish it. The obstetrician knew of no method that would positively prevent the occurrence of gonococcus infection of the fetus when a woman was the subject of such an infection.

Dr. R. B. Kimball said the paper was particularly interesting to him because he had seen many of these cases, and shared in the vicissitudes encountered at the Babies' Hospital. The cause of the serious time there was, in all probability, the fact of the admission of babies and children with gonorrhea, although no symptoms of it were present, and the only possible way to rid the institution of the infection was in preventing the entrance of more cases. One year ago last summer, at Sea Bright, a gonococcus infection broke out; the children were isolated and the facilities for isolation were good, but in spite of every precaution the infection spread, and he believed it to have been mainly through the night nurses, who had so many changes to make during the night that it was impossible for them to keep their hands clean. One could never realize the insidious nature of the infection unless he had served in an institution for infants. It seemed strange that in the Babies' Hospital no cases were met with in the adult females, who numbered about thirty. It was also surprising that the importance of the infection was not recognized by the Health Department.

Dr. Koplik said that when he assumed charge of the Mt. Sinai Hospital service for children there was not a female child on that service who was not the subject of gonococcic infection. He said he knew of nothing more baffling than efforts to rid children of this infection, and when children were once infected he believed they were really more or less crippled for life. Because of the widespread prevalence, he was compelled to find some means to control the disease and finally he devised one of the most perfect systems of prophylaxis and isolation ever practised in this city; at the same time the system was an expensive one, 140 diapers being used in the wards daily, and the annual cost was $1,500 for this item alone. After being soiled, the diapers were burned. He visited different institutions in this city, and said he could confirm what had already been stated, that there was not an institution in the city devoted to the care of children that was not the seat of gonococcus infection, endemic and epidemic. In every instance their system of prophylaxis was imperfect. Because of his system of prophylaxis there had not been a single case of vulvovaginitis for at least two and a half years in his service. Every gonococcal case that came into his service was immediately isolated, given a separate bed, special nurses, and utensils, and the beds were marked with red ribbons to distinguish them. Every child had its own thermometer, bed pan, liquid soap, wash rag, comb which could be boiled, and wash-basin. He did not believe that diapers could be disinfected, chiefly because the nurses and other ward help could not be depended upon except for a short time to carry out the proper measures.

Dr. T. S. Southworth said that such infectious scourges as diphtheria, scarlet fever, etc., could be stamped out by well recognized measures, isolation and quarantine, but this was not the case with an outbreak of a gonococcus vaginitis, because this disease might be latent and break out at any time. This disease among children was without doubt on the increase, and he did not believe that there was an institution in New York City that was devoted to the care of infants and children but had, at some time during the year, some cases. So soon as a single case entered the building there was danger of an epidemic unless the utmost vigilance was exercised. He considered it unsafe to admit female children from certain institutions which were known to be full of gonorrheal vaginitis. Irrigations with solutions of bichloride of mercury, nitrate of silver, or other salts of silver, were efficient when properly performed; irrigations alone, however, were not so efficacious as when they were followed by the introduction of a gauze wick, for otherwise the solution did not remain long enough in contact with the parts. He advised soaking the gauze in a five or ten per cent. solution of ichthyol, or a four to ten per cent. solution of an organic silver salt; the introduction of this prevented the walls from coming in apposition, facilitated drainage, and kept up continuous medication. The speaker emphasized the necessity of keeping on a bandage or diaper, without which the child might easily carry infection to the eyes.

Dr. ARNOLD KNAPP said the diagnosis of a gonococcus infection of the conjunctiva in the newborn could not be made early in every case from the clinical picture; there were cases of very severe forms of conjunctivitis due to the pneumococcus or streptococcus and quite mild forms due to the gonococcus; therefore, a microscopical examination of the pus should always be made. Metastasis from the eye he did not believe occurred unless the infection traveled along the nasolacrymal canal. Many eyes had been saved through the use of the Credé method, but he considered this too severe treatment for general use. He advocated the careful cleansing of the eyelids after the birth of the child as the most important prophylactic measure. An organic salt of silver could be instilled and it acted as well as nitrate of silver as a preventative and was far less irritating. The treatment of gonococcus infection of the eyes consisted in the use of ice compresses, frequent irrigations of the conjunctival sac, and, in the later stages, silver nitrate, which he did not think could be replaced at this time by any of the recent silver preparations.

Dr. JOHN E. WEEKS said that infections of the conjunctiva were among the diseases most frequently met with by the ophthalmologist in very young children, but not so frequently among those between the ages of three and ten years. He did not believe there was an institution in New York City that was devoted to the care of young children but had had an epidemic of gonorrheal infection during some time of its existence, especially in those devoted to the care of little girls. He spoke of an interesting experience he had had in a residential school for girls, in which seven or eight cases of gonorrheal ophthalmia were discovered, and he learned of the existence of one case of vaginitis. He then requested the visiting physician to make an examination of all the girls in the institution, 87 in number, and discovered that there were as many as 22 cases of gonorrheal vaginitis. In looking over the records, he learned that, among 83,000 admissions to the Manhattan Eye and Ear Infirmary there were 400 cases of ophthalmia neonatorum. Of these 400, 60 or 70 had some palpebral lesion as well. In 80 per cent. of the cases both eyes were involved. The mode of infection was from the vaginal discharge during the birth of the child. He divided the cases into primary and secondary —primary when infection took place before or during the birth of the child, and secondary when it occurred after birth. He said cases were on record showing that infection of the eyes had occurred before rupture of the membranes. The time of onset in these cases was during the first five days after birth as a rule. When the conjunctiva was attacked late the disease was not so severe, as a rule, as when it was attacked early.

The cases that occurred later were usually due to gonococci whose virulence was attenuated and were much milder in character. The gonococcus attacked the healthy conjunctiva, might penetrate the subepithelial tissue and enter blood vessels and lymphatics. Gonorrheal arthritis was mentioned as a complication of ophthalmia neonatorum. He referred to a case in which the arthritis developed two weeks after the onset of the ophthalmia and another in which it developed three weeks after. Corneal ulcer in gonorrheal inflammation of the eye might be due to the straphylococcus or streptococcus after interference with the nutrition of the corneal epithelium by the toxin of the gonococcus. In referring to prophylaxis, he expressed the opinion that in the organic silver salts remedies were at hand which could be used after the manner of Credé, and which were fully as efficient and much less irritating than the two per cent. solution of nitrate of silver. Frequent cleansing of the eyes with a saturated solution of boric acid, and the well advised use of nitrate of silver or of an organic silver salt would seldom fail to promote recovery without impairment of vision.

Dr. WISNER R. TOWNSEND said that in the Hospital for Ruptured and Crippled they met with but few cases in infants, the indoor patients consisting of children between the ages of four and fourteen; but in the dispensary patients of all ages were met with. Considering the topic from the orthopedist's standpoint, there were three classes of cases: (1) the periarthritic, (2) those with simple effusion into the joints, and (3) cases of mixed infection with the gonococcus present. A bacteriological examination was necessary in order to arrive at a correct diagnosis, especially in the cases where the vulvovaginitis or urethritis was not marked. In children plaster casts or braces he considered necessary, because it was an important part of the treatment to completely immobilize the affected joints. When pus was present in a joint he thought it best simply to incise but not to do a very extensive operation, even though the bone itself was infected. The prognosis in arthritis occurring in children he said was better than in adults, as asepsis was better tolerated and their recuperative powers were better. As a rule in the cases met with in the Hospital for Ruptured and Crippled with a gonorrheal vulvovaginitis very few joint complications occurred.

Dr. A. JACOBI believed that gonorrheal infections in children should be recognized by the local Board of Health, but he questioned the advisability of bringing this matter to the attention of the New York Health Department before more had been done by the members of the Academy. Two or three years should elapse first, and during this time records should be had from the various hospitals and dispensaries regarding the number of cases; then when ample material was obtained the Health Board should be asked to act officially.

Dr. PRINCE A. MORROW thought it would be useless to present the matter to the Department of Health, because it knew of the existence of the evil and regarded it as a *noli me tangere.*

Roof Playgrounds on City Roofs.—Dr. WILLIAM P. NORTHRUP read this paper, which was a description of the improvement that occurred in the children of a single family as the result of roof playgrounds for them. Photographs of playgrounds and children were shown.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held February 3, 1905.

DR. SAMUEL LLOYD IN THE CHAIR.

Chronic Osteomyelitis of the Femur Treated by Iodoform Wax Filling.—Dr. C. A. ELSBERG presented these patients. The first was a man 31 years of age, who entered the Mount Sinai Hospital June 14 last for chronic osteomyelitis of the lower end of the femur. In this he made use of the iodoform-wax filling, of which he said he would speak later. The patient was out of the hospital on June 30. The second case was in a boy on whom he had operated on

June 24 of this year for osteomyelitis of the femur, in which he got the same results. The patient was shown with the iodoform-wax filling still in place.

Faciohypoglossal Anastomosis.—Dr. A. S. Taylor presented a boy upon whom he had operated three and one-half months ago for a paralysis, which occurred following a mastoid operation. A facial anastomosis with the hypoglossal nerve above the posterior belly of the digastric was made. It was now some fifteen months since the operation was performed. Drawings were passed showing the results of operation, and also pictures to show the rapidity of its progress. After the operation there was a considerable degree of paralysis of the tongue on the right or paralyzed side. The patient was presented last year, when it was stated that in all probability the paralysis was due to the traumatism inflicted upon the nerve by the technique employed. He therefore designed certain instruments for the purpose of diminishing the degree of traumatism to the twelfth nerve, and a special knife was made for going beneath a portion of the temporal bone. The doctor presented these instruments. His last operation was done two weeks ago, by the use of these instruments, and there was practically no damage whatsoever to the twelfth nerve. He therefore felt that the operation could be done without increasing the amount of paralysis, and he also felt that, with the degree of improvement shown, one was not justified in making a transverse section of the twelfth nerve, because of the resulting permanent palsy. With this improvement that he had gotten he did not feel that he was justified at all in sacrificing the function of the twelfth nerve in order to augment the power of the seventh.

Dr. Taylor showed a similar case occurring in a lady, in whom there was some response to the electrical current, and, therefore, on whom he felt justified in peforming faciohypoglossal anastomosis, with the assistance of the instruments presented. Only two weeks had elapsed since the operation, and yet she was able to move her tongue in all directions, which showed that the twelfth nerve had not been damaged. For a few days after the operation there was a slight difficulty in talking, probably caused by the handling of the nerve. He called attention to the fact that the scar left was hardly perceptible, the greater portion of it being behind the ear and in the neck along the line of natural cleavage.

Dr. L. Pierce Clark said, regarding some of the objections that had been made to implantation of the facial on the hypoglossal, that the twelfth would be obliged to take up its own function as well as the seventh, therefore weakening the muscles supplied by the seventh as well as the twelfth would follow, because that nucleus would have to do double duty, were all theoretical objections, and not particularly borne out in practice, because of the fact that the twelfth nucleus was several times larger than any other nucleus in the medulla, and, therefore, could take up its own work as well as that of the seventh. He called attention to the fact that the seventh was a nerve of expression and not of mastication. At first he was inclined to think that the hypoglossal nerve would be damaged seriously by this operation, but Dr. Taylor's perfected technique had fully persuaded him that this nerve need not suffer any loss of function as the result of the operation.

Dr. Howard Lilienthal had always thought that it would be better to use the spinal accessory rather than the hypoglossal nerve, but now thought that he would have to change his opinion, because this nerve was so easy to get at for the purpose of anastomosis.

Dr. Elsberg referred to a patient 30 years old who had had complete palsy since childhood, with contraction of muscles, etc. A faciospinal-accessory anastomosis was performed, and the results so far had been very satisfactory, and he hoped to show the patient soon.

Dr. John F. Erdmann asked why the hypoglossal was used.

Dr. A. S. Taylor said that the hypoglossal was more easily accessible. In one of these operations by Frazier of Philadelphia the twelfth nerve was gotten below the belly of the digastric. As to why he had chosen the twelfth and not the spinal accessory nerve, he did so not only because it was more accessible, but because of certain disassociation, for long periods of time, of shoulder motions. Emotional movements of the face were accompanied by disfiguring motions of the shoulder. Another good reason for choosing the twelfth was found in the fact that the centers for the seventh and twelfth were more closely associated in the cortex than the centers for the spinal accessory and the seventh. He emphasized the fact that the cortical centers needed education after transplantation.

Dr. Erdmann referred to a case in which he had performed faciospinal-accessory anastomosis. The patient now had his face movements, but they were associated with movement of the shoulder girdle muscles.

Treatment of Chronic Osteomyelitis and of Chronic Bone Cavities by the Iodoform-Paraffin Wax Filling.—Dr. Charles A. Elsberg read this paper, in which he stated that one should never leave cavities or dead spaces in bones when it could be avoided. In some tissues when cavities were left behind the walls would collapse and come in contact with each other; but in bones where the walls of the cavities were rigid, firm, and unyielding, such would not happen, and fluid material would gain access which would serve as a nidus for bacterial growth. Long bones healing by granulation required months of treatment, and the only way to succeed in getting a speedy recovery was by keeping the cavity aseptic, and changing the dressings as frequently as possible. He then referred to the various attempts made to obliterate these cavities by the introduction of substances of various kinds into them. But none gave satisfactory results except in a very few cases. The materials used often caused increased secretion or caused extrusion, and had to be removed later. Impressed by the claims made of a certain method lately exploited, he determined to give it a trial. He then described the technique of the operation, and emphasized the importance of getting the walls of the cavity perfectly dry, and thoroughly sterilized, and clearing away all dead or infected material from the hard as well as the soft tissues. Then the filling should be introduced, which consisted of a mixture of idoform 60 parts, spermaceti and sesame oil, of each 40 parts. This mixture was poured in. It required from two to three minutes for the mixture to become hard. The soft parts were then closed, except possibly with some drainage, and dressings were applied, which were not removed for from seven to fourteen days. These wounds should heal by primary union, and the patient be discharged in from two to four weeks. The iodoform-paraffin-wax filling slowly disappeared as the new tissue appeared in the cavity, and this could be well followed by *x*-ray pictures, the iodoform making the shadow. The wax mixture in some cases became extruded in a very few weeks. Iodoform poisoning was never encountered, although small amounts of iodine could be found in the urine for a few days after operation. He said this method was applicable in all forms of chronic bone disease, but not in those acute forms in which the cavities could not be rendered aseptic. This method had been employed in fifteen cases at the Mount Sinai Hospital, but the results had not been so good as those reported from abroad, although much improvement was shown over the former methods of treatment, so much so that he felt warranted in recommending it. Among the improvements that he advocated were the following: the Esmarch bandage should be removed from the limb before filling the cavity; the cavity should be flushed with peroxide of hydrogen, and then a small amount of adrenalin gauze introduced to aid in drying the cavity; he never used more than 20 per cent. iodoform in the wax; the wax should be somewhat hardened in cold water before introducing it, for he believed that by so doing he could by pressure cause it to fill more completely the little offshoots from the cavity. While his results were still far from ideal, he thought this might be due to a lack of thoroughness in preparing the bone cavity. His results were far superior than those he had previously had, and he thought that the method should have a further trial.

Dr. Virgil P. Gibney said that he had never used the iodoform wax at all in these cases, but that he had used powdered iodoform packed in tightly as a dentist would fill a tooth. What failures he had had he thought were due to a faulty technique, either because he did not hammer it in well enough, or else because the iodoform was not sufficiently powdered.

Dr. Howard Lilienthal said that the impression given by the reader of the paper was that he was not as enthusiastic as the results of his work would warrant.

Dr. Alex V. Moschcowitz had tried this treatment outlined by Dr. Elsberg, but his results had not been so good. The operation was very tedious, and required long attempts to stop the hemorrhage and to get the cavity as dry as was necessary for ultimate success. He believed that they were using something that would not mix with blood serum, and, therefore, he employed a substance which entered into closer relationship with the blood, such as a 4 per cent. solution of agar.

Dr. Elsberg said that agar had been used for this purpose before, and that it should be remembered that in animal experimentation what held true in the cavity of the bone of a rabbit did not hold true in the bony cavity of a human being.

Treatment of Keloid by the X-Ray.—Dr. Henry Perkins Moseley said that comparatively few cases of keloid treated by the *x*-ray had appeared in literature. After describing his technique, he said that the *x*-ray afforded a valuable means of treatment of this condition, probably the most satisfactory now known. To be effective the *x*-ray must be pushed to the point of burning. So far there had been no tendency for the keloid thus treated to recur. The effects of the exposure continued for weeks after the treatment was stopped. He reported four cases.

The first case was that of a man 35 years of age who, in 1900, had a nevus of the right cheek removed. A keloid appeared, and on February 15, 1903, the patient presented a keloidal appearing mass about four inches long running downward and forward on the cheek. In all twelve treatments were given, extending from February 15 to May 19, exposures to the *x*-ray being of ten minutes' duration and employed three times a week. On May 15 an erythema began to appear, and the skin became inflamed, and the keloid became quite flattened. The patient could now shave himself with perfect freedom. The color had changed from red to white, and the sensitiveness, which had been at first very marked, had entirely disappeared.

A second case was in a young woman, a teacher in the public schools, who in 1902 had a so-called fibrous tumor removed from the anterior chest wall, which was at once followed by a keloid. During the winter and spring of 1904 she had been exposed to the *x*-ray and radium without effect. The keloid was two by two and one-half inches in extent, and raised about one-half an inch above the surface of the skin, slightly red, and not tender. Twenty-three treatments were given from July 19 to September 29. The skin was very resistant, and the treatment was pushed with fifteen-minute exposures. After September 29 no treatment was given for some weeks, and when she was next seen there was a marked diminution in the size of the keloid.

A third case occurred in a Japanese who, in October, 1901, as the result of treatment of a boil, had developed a keloid the size of a quarter of a dollar. It had been excised three times, but always returned. He was *x*-rayed from September 5, 1903, for one year, having had nineteen exposures. He had been purposely burned several times and after each period of burning he was given a long rest from treatment. The thickness had nearly disappeared, and there was still a tendency for the scar to become somewhat tender.

A fourth case was that of a man, a laborer, 28 years of age, who came to the hospital with a thickening on the anterior chest wall in 1901. In 1903 the thickening was excised, but returned larger than ever. He was given thirty-eight treatments by the *x*-ray, and was still under observation. At present the keloid was much flatter and less indurated.

Healed Keloid.—Dr. A. E. Gallant reported a somewhat unusual case. The patient was first seen November 13, 1901. His cheek had been cut by the breaking of a bottle; three weeks later the cut was opened and a small piece of glass removed. On January 21, 1902, a keloidal growth was removed. A recurrence followed, and in June, 1903, the patient reported that the operation was not successful. Without further interference the keloid disappeared spontaneously.

Dr. Arthur L. Fisk said he had been working with the *x*-ray for six or eight years, but no case of keloid had ever come to him for treatment. In looking over the literature, he found that but a very few cases had been reported, certainly not over twelve. He thought that some distinction should be made, and when we spoke of keloid and its treatment by the *x*-ray, reference should be made to the keloid scar. Many of these keloid scars would often disappear in time, but it took a long while. In some of the cases reported it did not seem that the use of the *x*-ray caused a very hasty disappearance of the keloid scars. It did relieve, though, the pain and the tenderness in the scar, in much the same way that the *x*-ray did in malignant disease.

Dr. Charles W. Allen said that a distinction should be made between the true and the pseudokeloid. The *x*-ray had a decided effect upon the true keloid, but it should be remembered that the true keloid, as well as the surgical keloid, occasionally disappeared spontaneously. He had seen true keloid go away without any treatment whatever. Although he had treated a number of scar keloids during the past three or four years, he had never had a single case of true keloid come to him for treatment. In cases of true keloid, when the *x*-ray had been used, decided benefit had been attained. In his experience with cases of pseudokeloid the *x*-ray had been used, and entirely eradicated the disease. He had employed it in keloid of the face, following a syphilitic lesion, in which there was marked facial disfigurement, with the best results. He referred to one case of keloid which followed an abscess associated with acne on the back of the neck, the abscess being the size of a small egg; this was entirely eradicated by the use of the *x*-ray. He did not believe it was so necessary to produce a marked dermatitis to cause a disappearance of the pseudokeloid.

Dr. Robert T. Morris reported the case of a young girl who had chickenpox with a scar developing just above the upper part of the sternum. Dr. Abbe had operated upon her, and a keloid occupied the site of the scar shortly afterwards. Dr. Morris operated subsequently, but the entire field of his operation became the seat of a keloid. He referred her to Dr. Morton, who made a number of *x*-ray exposures, which caused its entire disappearance. This was one of the most satisfactoy results he had ever seen. He also spoke of another case he had seen in which a keloid developed upon the back of the neck; the *x*-ray caused a rapid disappearance and an immediate cure of the trouble.

Dr. Moseley, closing the discussion, said that it was very important that these people should be burned with the *x*-ray if good results were to be expected.

The Present Status of Blood Examination in Surgical Diagnosis.—Dr. Frederic E. Sondern read this paper. (See page 452.)

Dr. Edward Quintard said that he had had several cases which bore out what Dr. Sondern had stated in his paper, especially in appendicitis, or in gangrenous cases. The medical man should be exceedingly careful of the leucocyte count. He said that Dr. Cabot had quoted six cases of purulent peritonitis in which there was no leucocytosis whatever. If a count of the polymorphonuclears had been taken in those cases, he believed it would have been high indeed. Another series of cases in which one should be very careful was where there was a comparatively high count, 25,000, and where the leucocytosis did not go down; as a rule this meant pus. Again, in cases where the leucocytosis was progressive, without any fever or other symptoms, it probably meant the existence of pus somewhere.

Dr. **Francis C. Wood** said, regarding the value of the differential leucocyte count, that a case seen recently by him was strikingly in favor of Dr. Sondern's position. He reported this case.

Dr. Sondern, closing the discussion, said that in most of the textbooks and papers at present the increasing leucocytosis was often referred to. One count was not sufficient; there should be several counts, and if it was found that the count was upward, it should be concluded that pus was present, and that it was time to operate. Many counts could, of course, be made in hospital work, but not in private; seldom in private work did one have opportunity to make more than one count. Even where he had made successive observations, and there had been progressive increase in the number of leucocytes, if the percentage of polynuclears did not go up, it really meant nothing.

Chicago Surgical Society.

At the February meeting, Dr. **Emil Ries** reported a case of ankylosis of the jaw in a young man, 21 years of age, who was sent to him six months after he had acquired syphilis, and described the operation he performed. He also reported at length a case of extensive strictures of the rectum. Dr. S. C. **Plummer** reported a case of stricture of the esophagus following typhoid fever; also a case of colloid carcinoma of the cecum. Dr. **Joseph F. Smith** showed skiagraphs of stones in the kidney. He passed around a print, also a negative, showing several small stones congregated in the lower pole of the kidney, and two larger stones in the upper portion of the renal pelvis. The patient was operated upon, and the two larger stones were found above, and the lower mass seen in the skiagraph, which looked somewhat granular, was found to consist of eight or ten separate stones, the size of a small French pea. He showed a negative which illustrated an interesting condition. The patient had been under the care of Dr. Billings, and it was suspected that the man had a tumor in the iliac fossa. A thickening could be felt in the region of the iliac fossa on the right side; the man had a great deal of pain; he was losing weight rapidly, and it was suggested that a skiagraph be taken of this region. On examining the iliac fossa on the right side, a circular area, two and a half inches in diameter, could be seen, which was very irregular, showing that the bone was partly excavated in an irregular manner, and there was also a rather definitely outlined tumor probably of periosteal origin. The skiagraph showed the circumscribed nature of the tumor. Dr. E. C. **Dudley** reported a case of sarcoma which had developed from a uterine myoma, and showed a gross specimen, with some microscopical slides. It was evident from the gross appearances of the specimen that the sarcoma had developed from a uterine myoma. Before operation the sarcomatous structure filled the uterine cavity, and felt on intrauterine palpation like a retained placenta; in fact, it was so pronounced by two excellent diagnosticians. Microscopical sections, taken from various parts of the growth showed it to be a small round and small spindle-cell sarcoma, the sarcomatous cells being substantially of the same size as the red corpuscles. The interesting features of the specimens were: (1) A rather sharp demarkation between the sarcomatous cells and the myomatous cells. (2) Presence in many parts of the sarcoma of clearly defined blood-vessel walls. (3) The transition in the character of the blood-vessels from those which had walls to those which were mere blood spaces. In this case complete abdominal hysterectomy was performed on November 17, 1904. There was nothing unusual in the operation, or in the subsequent recovery of the patient.

College of Physicians of Philadelphia.

At a stated meeting held March 1, Dr. **Robert N. Willson** read a paper entitled "The Relief of Uremic Hemiplegia and Other Uremic States by Lowering Intracranial Pressure." He pointed out that the uremic state is due to the action of one or more toxins and probably also in some measures to intracranial pressure. He had observed a series of cases attended with coma convulsions and paralysis in which symptomatic relief at least was afforded, at times for considerable periods, by draining the cerebrospinal fluid by means of lumbar puncture. Dr. T. L. **Coley** read a paper entitled "The Famous Controversy Concerning the Internal Use of Cantharides—An Hisorical Sketch." Dr. **Alfred C. Wood** read a paper entitled "Gallstone Obstruction of the Bowel; Report of a Case; Removal of the Stone by Operation; Recovery." The patient was a woman who was seized with symptoms of intestinal obstruction, for the relief of which abdominal section was performed. A calculus weighing nearly 200 grains was found in the lower portion of the ileum and removed. Exploration disclosed the presence in the common bile-duct of a second calculus weighing 135 grains and a second incision was made and the stone removed. The pylorus was opened accidentally in the course of the operation and had to be closed by suture. Recovery was retarded by minor complications. Dr. **John B. Roberts** read a paper on "The Gardener's Spade Deformity and the Silver Fork Deformity in Fractures of the Carpal End of the Radius." He dwelt upon the importance in cases of fracture at the distal extremity of the radius of preserving the normal palmar concavity and of the necessity, in order to attain this end, of exerting considerable manual force in adjusting the fragments. If the distal fragment was displaced backward, as more commonly occurred from falls upon the palm, the well-known silver-fork deformity resulted, whereas if the distal fragment was displaced in a palmar direction, as occurred less commonly from falls upon the dorsal aspect of the radius, the deformity that Dr. Roberts designated as gardener's spade resulted. The picture yielded to the x-ray was the same in both instances if taken from before backward, but the difference between the two became evident when pictures were obtained also from side to side.

Alterations in the Suprarenal Capsules in Death from Burns.—Augusto Moschini gives us the results of experiments made on rabbits to determine the changes in the suprarenal capsules after extensive burns of the skin.[1] It has been demonstrated that these glands have the function of neutralizing or destroying poisonous products resulting from muscular work; also those of uremic poisoning, and of poisons introduced from without. The author believes that they also neutralize the poisons circulating in the blood as a result of burns. In the case of animals dying within a few hours after the burns occurred, he noted only a marked dilatation of the vessels of the suprarenal capsules; after a longer period a marked hyperemia resulted; after three to five days the capsule was increased in volume, and there was hyperplasia of the glandular epithelium, testifying to an increased activity of the organ and a proliferation of the cells. This increased activity he believes to be due to the antitoxic action of the gland toward the poisons resulting from the burns, the later producing a state of irritation in the capsules, even a necrosis, followed by a process of repair.—*Gazzetta Medica Lombarda.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 18, 1905:

	Cases.	Deaths.
Measles	383	9
Diphtheria and Croup	321	34
Scarlet Fever	249	25
Smallpox	1	1
Chickenpox	149	
Tuberculosis	505	198
Typhoid Fever	31	7
Cerebrospinal Meningitis	135	72
Typhus Fever		....
Yellow Fever		.....
Cholera		
Totals	1,774	346

The Trypanosoma of Dourine.—Lingard describes the parasite of this disease, which is for the most part smaller than the Surra hemotozoon and considerably smaller than the organism of the rat; and in addition it presents various structural characteristics which permit of its identification. A stallion or mare usually contracts the disease during coitus. The trypanosoma or its developmental forms is present in the semen of the affected male, and is also frequently present and for long periods, but at irregular intervals in the vaginal mucus of the affected mare. The disease is transmitted by the entrance of the trypanosoma, by means of an erosion of the genital mucous membrane in either sex, but an abrasion may perhaps be unnecessary in some instances. In the stallion the preferential sites for the development of the protozoon appear to be the extremity of the penis, and later its sheath. In the mare, the vulva appears to be the usual seat in the majority of cases. Certain changes probably take place at the seat of inoculation of the "contagium," for it is unusual for the organism to enter the circulation and bring about a general infection, as evidenced by the eruption of cutaneous plaques, until a period of from 30 to 34 days have elapsed from the date of the primary infection. The author has not yet been able to determine whether the trypanosoma becomes generalized throughout the system in stallions which present for long periods the latent form of dourine, or whether the developmental form of the trypanosoma remains dormant in the swollen penile sheath of the affected animal until such time as depressing conditions reduce its vitality. Whenever a cutaneous plaque appears during the course of dourine, the trypanosoma or its developmental form will be found in it if a thorough microscopical examination of stained specimens be made. During the initial stage of plaque formation in any part of the body, the trypanosoma is present there. At a later date as long as edema persists, trypanosomata or their developmental forms are present somewhere in the edematous area. Although mature trypanosomata may not be discovered in the semen of a stallion suffering from dourine, if stained specimens be made and careful search be carried out, other forms than that of the mature protozoon will be discovered. The cerebrospinal fluid of animals which have succumbed to an acute form of the disease accompanied by nervous symptoms contains developmental forms of the organism. There are also to be found in fluid collected from the secondary swellings arising at the seat of a subcutaneous inoculation, with blood from the general circulation of a dourine-affected horse, into a susceptible animal. In the great majority of instances mares which contract dourine from a stallion during coitus will sooner or later develop the trypanosoma in the vaginal mucus, and it may be observed at intervals in the mucus during the remaining course of the disease. Mares subcutaneously inoculated with virulent dourine blood, in parts of the body other than the external genital organs, may exhibit cutaneous plaques and later cerebrospinal symptoms, but the vaginal mucus in such cases when free from blood may remain a non-infective agent. The vaginal mucus of a mare covered by a dourine-infected stallion has been found to contain the trypanosoma of dourine some months later without the animal exhibiting any symptoms of the disease or ill health. Flies can convey the trypanocoma and produce infection in healthy animals, as is the case with the Surra trypanosoma by direct inoculation; but no evidence has been brought forward up to the present time to show that flies act as intermediary hosts. Just as cattle and camels are capable of bearing the trypanosoma of Surra or its developmental forms in their blood for periods of from one to three years, so certain breeds of horses can maintain the contagium of dourine in their systems for periods of from one to four years.—*Centralblatt für Bakteriologie.*

Lymphosarcoma of the Frontal Sinuses.—P. H. Abercombie reports the case of a woman of 75 years who presented a rounded swelling, half an inch in diameter, in the middle line at the root of the nose. She had received a blow in that region many years before. The swelling was adherent to the bone, but the overlying skin was immovable. Transillumination revealed the mass to be translucent and palpation suggested fluid under pressure. Nothing escaped on tapping. Both frontal sinuses seemed clear. The mass doubled in size within a month, and was then dissected out. It was soft and attached to the bone, and a perforation through the latter communicated with both sinuses, which were filled with a similar mass. No pus was found. The microscope showed the growth to be a lymphosarcoma. Healing of the wound was without incident.—*Medical Press.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended March 18, 1905:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS
District of Columbia, Washington	Mar. 4–11	3	..
Florida, Jacksonville	Mar. 4–11	1	..
Georgia, Macon	Mar. 4–11	..	1
Illinois, Chicago	Mar. 4–11	..	6
Danville	Mar. 4–11	16	..
Kentucky, Louisville	Mar. 2– 9	4	..
Louisiana, New Orleans	Mar. 4–11	17, 5 import'	
Michigan, Detroit	Mar. 4–11	1	..
At 187 places	Feb. 18–25	(Present.)	
Missouri, Saint Louis	Mar. 4–11	38	2
New York, Mount Vernon	Mar. 4–11	1	..
New York	Mar. 4–11	1	..
Ohio, Zanesville	Jan. 28–Feb. 4	1	..
South Carolina, Charleston	Mar. 4–11	2	..
Greenville	Feb. 5–Mar. 11	7	8
Tennessee, Memphis	Mar. 4–11	20	..
Nashville	Mar. 4–11	1	..
West Virginia, Wheeling	Feb. 25–Mar. 4	1	..
Wisconsin, Milwaukee	Feb. 25–Mar. 11	28	..

SMALLPOX—FOREIGN.

Brazil, Bahia	Jan. 21–Feb. 16	27	2
Para	Feb. 7	(Present.)	
Rio de Janeiro	Jan. 29–Feb. 12	47	22
China, Shanghai	Jan. 22–Feb. 4	15 Foreigners	35 Nati
Ecuador, Guayaquil	Feb. 14–21	..	2
Porto Viejo	Feb. 23	(Present.)	
France, Paris	Feb. 18–25	23	..
Great Britain, Birmingham	Feb. 18–25	3	..
Glasgow	Feb. 27–Mar. 3	2	..
Hull	Feb. 4–11	2	..
Leeds	Feb. 18–25	4	..
Leith	Feb. 18–25	1	..
New-Castle-on-Tyne	Feb. 18–25	11	..
Nottingham	Feb. 18–25	1	..
South Shields	Feb. 18–25	5	..
India, Bombay	Feb. 7–14	..	124
Calcutta	Feb. 4–11	..	4
Karachi	Feb. 5–12	3	2
Madras	Feb. 4–10	..	2
Italy, Catania	Feb. 18–25	..	1
Norway, Christiania	Feb. 11–25	3	..
Russia, Moscow	Feb. 4–18	13	4
Odessa	Feb. 11–18	2	1
St. Petersburg	Feb. 4–11	5	..
Spain, Barcelona	Feb. 10–20	..	20
Turkey, Constantinople	Feb. 12–19	..	4
Uruguay, Montevideo	Feb. 7	(Epidemic.)	
West Indies, Grenada	Feb. 9–23	10	..

YELLOW FEVER.

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Original Articles.

THE RELATION OF THE NERVOUS SYSTEM TO VISCERAL AND TROPHIC PHENOMENA.

BY JOSEPH FRAENKEL, M.D.,

NEW YORK.

THE distinction you have conferred upon me by electing me as your president is sincerely appreciated. Let me add to the expression of my gratitude the pledge that I will summon my best energies to the service of the society. Let me also ask for your collaboration and support to make the transactions of this society representative of the high position accorded to neurology among the branches of the practice of medicine.

Neurology has a glorious past. The stupendous neurological progress made in the present generation is personal knowledge to nearly all of us. The union of refined and thorough clinical methods and painstaking anatomical and histological study, has given to neurology the highest position among the diagnostic arts. Viewed with the bias of the sentiment prevailing at present, the future appears discouraging. A pessimistic attitude has crept in; the transactions of the meetings of neurologists seem to lack the animation and enthusiasm of former days. I do not know why this is, nor do I think it profitable to inquire. It has happened because it had to—it is a phase of evolution.

I do not believe that the present augurs ill for the future. Diastolic phases in individual and collective life do not necessarily indicate retrogression and degeneration; they simply mean a diastole preceding a systole. Historic evidence may be adduced to show that such phases argue progressive regeneration, and the future of neurology is therefore not what it may seem.

It is a significant fact that at the last meeting of the Suedwestdeutsche Neurologen und Irrenaerzte, it was debated with which branch neurology should cast her future lot—with internal medicine or with psychiatry. Extreme positions are inadvisable. It would seem that neurology has severed her connection with her parent science too radically and not adjusted the results of the neighboring theoretical branches to her purpose.

There is a wealth of fundamental questions awaiting investigation. New methods have been elaborated which promise us valuable aid. Chemopathology, which seems specially adapted for the elucidation of some neurological questions, with its promise of better therapeutics, is well established. The physiology of the ductless glands is closely allied to neurological themes and deserves our particular attention. We are all thoroughly dissatisfied with our conception and interpretation of the so-called functional conditions. It is encouraging to note a decidedly rational spirit in the newer literature of the subject.

My powers are limited and the time is insufficient to dilate upon what has just been said. I would ask your attention to-night to one subject which I believe to be of fundamental importance for clinical neurology and psychiatry: The relation of the nervous system (the cerebrospinal or somatic, and the vegetative, or in the language of Langley, the autonomic) to the pathology of the vegetative functions. This is a subject which has not been lacking in votaries, but has proven refractory and unyielding. A good deal of preparatory work has been done for the better understanding of the subject. Langley states "that the number of facts which have accumulated on this subject is so vast, that it is imperative to try and coordinate them." I need only cite the names of Schiff, Henle, Koelliker, Dogiel, Sherrington, Gaskell, Langley, Déjerine, Head, Huber, Jendrassik, Pavlow, Cassirer, Onuf and Collins, Laignel-Lavastine, and others, in order to show that sufficient material has been produced for clinical utilization.

So-called visceral or vegetative phenomena accompany more or less prominently organic disease of the nervous system, and constitute the chief physiognomy of all functional states and functional symptom-complexes. Trophic, vasomotor, and secretory disturbances of the skin, changes in the trophism of joints and viscera, disturbances of the physiologic rhythm of vaso- and viscero-motor innervation, perversions of visceral sensation, are often seen at the bedside, and not sufficiently appreciated. The visceral and vegetative symptoms of tabes and of hysteria are good illustrations of familiar types.

Valuable contributions to the anatomy of the vegetative nervous system have been made in the last decade. The relation between the cerebrospinal and autonomic nervous systems is being more clearly defined. According to Langley, there are three divisions of the autonomic nervous system, separated from each other by parts of the central nervous system, from which no efferent vegetative fibers originate. (1) *The Cranial Autonomic System.* This supplies visceral innervation to the muscles of the iris, the ciliary muscle, and the orbital muscle; to the heart, the blood-vessels of the mucous membranes of the head; to the walls of the gut from the mouth to the descending colon; to the muscles of the trachea and lungs; to the gastric glands, the liver, and the pancreas. (2) *The Sympathetic System,* extending from the first thoracic to the second lumbar segments. This supplies innervation to the vessels, muscles, and glands of the skin; the blood-vessels of the gut between the mouth and rectum; the blood-vessels of the lungs and the abdominal viscera; the arteries of the skeletal muscle; the muscles of the spleen, urethra, and internal generative organs. (3) *The Sacral Autonomic System.* From the second to the fourth sacral segments. This supplies innervation to the arteries of the rectum, anus, and external generative organs; to the walls of the descending colon to the end of the gut; to the walls of the bladder and urethra, and to the muscle of the external generative organs.

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* Presidential address delivered at the meeting of the New York Neurological Society, February 7, 1905.

Afferent visceral nerves are found in man only from the first thoracic to the second lumbar segments. The second, third, and fourth lumbar segments do not receive viscero-sensory fibers. They appear again in the fifth lumbar and in the subsequent four sacral segments. This is interesting information, in connection with the facts, that eruptions of herpes zoster do not occur in the distribution of the segments which do not receive afferent fibers, and that in these territories reflected visceral pain is not observed. A further suggestive anatomic finding was recently pointed out by Morrison of London. The question of the relation of the nerve supply to hypertrophied hollow muscular organs was discussed by Hunter, and gave rise to an animated controversy. Hunter believed that the nerves of the pregnant uterus do not increase in size, and that therefore they are not concerned in the process of gestation. Morrison claims that the uterine nerves are in a "tortuous, coiled up" state in the non-pregnant uterus. As far as I have looked through the literature, this finding has not been corroborated. If it should prove correct, one can readily see the physiologic and clinical suggestions it contains. What applies to the uterus applies, evidently, also to the heart and to other hollow vegetative organs, which are capable of great changes of their lumen. It is believed by many that a part of the efferent autonomic nerves have their cell centers in the small round cells in the posterior lateral portions of the anterior horns. A large number of the afferent autonomic nerves have their nutritive centers in common with the somatic sensory nerves, in the posterior ganglia. Some of them arborize around the cell clusters of Clarke's columns. A number of visceral centers in the cord have long been known; the circulatory and respiratory centers in the medulla, the vesical, rectal, and sexual centers in the sacral and lumbar portions of the cord. Newer research (anatomic and clinical) makes the existence of isolated vegetative centers in the brain very probable.

It is further noteworthy to learn that no efferent autonomic fiber runs from the central nervous system to vegetative tissue without being interrupted by a nerve cell. For the understanding of visceral reflexes, it is well to keep in mind that the territory of the vegetative innervation, connected with a given spinal neuron, is not supplied with only one, but with more vegetative ganglia.

The innervation of the ductless glands is manifestly a matter of importance. For the suprarenals it seems established that the collection of neural tissue in the medullary portion of the gland has migrated into it, and not developed from the original glandular "*Anlage*." The relation of the parathyroids, islands of Langerhans, of the pancreas, and the paraparts of other ductless glands to the mechanism of innervation of the respective glands is still questionable. The histological position of the so-called epithelial bodies and chromaffin bodies is also a matter of acute interest. A number of experimental and pathological facts suggest their kinship to neural structure. The particular histology of the blood-vessels of the brain and their innervation are morphologic questions of broad application to physiology and pathology.

The splanchnophysiologists still discuss the neural or myogene origin of rhythmic motion. Pathological evidence favors the neurogene origin. The recent work of Carrison corroborates it. He concludes
his experiments by saying: "It can now be st
as a fact that in Limulus the origin of the heart
is nervous, not muscular, and that conduction
the impulse or the coordination of the different p
of the heart takes place through the nerves,
through the muscular tissue."

I cannot review exhaustively at this moment
low's epochal contributions to the physiology of
vegetative system, particularly of the digestive
paratus. The following three points of his
clusions illustrate to some extent the clinical v
of his investigations: (1) The sensory, the m
and the secretory elements of the digestive pro
are under extensive neural control. (2) The per
eral end organs of the digestive apparatus
specificity analogous to the specificity of the sp
senses. The peripheral ganglia of the digestive
paratus show marked specificity in their respo
to and selection of appropriate stimuli. For
stance: The secretion of saliva from the subm
illary glands is incited by a variety of stimuli;
secretion of saliva from the parotid glands
occurs when the stimulation is exerted by m
of small and dry particles. (3) A series of
geniously devised experiments suggests a be
understanding of the frequently discussed and p
ly understood influence of the psyche on the s

The conception of augmentatory and inhib
innervation is an important question of veget
physiology. Painstaking and ingenious invest
tion has apparently not succeeded in framing it
quately. Onuf suggests that the augmentator
inhibitory result of a stimulus is, among
things, also a function of the direction of the st
lus in regard to the cell of the respective neu
Augmentatory influences have a cellulifugal, inh
ory influences a cellulipetal course. A heur
principle was established by Langley when he d
mined the chemophysiological qualities of nico
He proved that nicotine temporarily paralyzes
ripheral vegetative ganglia. This fact is at pre
employed to demonstrate the presence or absenc
peripheral ganglia in the course of peripheral
tative nerves. In this example the value of the
of the interrelation between the alkaloids and
nervous system is well illustrated. Empirically,
have learned a number of interesting facts in
regard. We know that different individuals
differently to various alkaloids. Individual id
crasy conveys little more to our minds tha
mere name. An analogy is easily establishe
tween individual idiosyncrasies and the predi
tion to bacterial invasions. The virulence of o
ized and unorganized poisons is admittedly
variable. The affinity between certain ana
structures or physiologic combinations and c
alkaloids is another curious fact. The specific
organized poisons is here easily suggested. Fi
the fact of habituation to alkaloids is to be
tioned, and its possible analogy to acquired im
ity suggested. Another analogy suggests
here: The possible kinship between the ch
nature of the alkaloids and the products of the
less glands. We are all familiar with the resu
abuse of alkaloids upon the health and life
nervous system. We have also learned in
years to suspect the cause of a number of neur
ical conditions in a perverted function of the
less glands.

Phenomena of disordered trophic influenc
not uncommonly encountered by the neurol
We know very little about most of them.
palmar and plantar *mâl perforant* of tabes, th
taneous ulcerations of syringomyelia, the decu
ulcers observed in the course of organic diseas

the cord or brain, the hysterical skin eruptions, the glossy skin, scleroderma, morphea, etc., are hardly understood. Some light may be expected from recent pathologic contributions. One variety of herpes zoster is, according to Head, due to a gangliitis posterior. The old discussion about the nature and cause of the keratitis neuroparalytica also seems closed. It is the belief of the majority that ulceration of the cornea only ensues when the fifth nerve is severed from its connection with the gasserian ganglion. When the ganglion is left in connection with the peripheral stump, no keratitis results. This shows us the fallacy of the belief that the decubitus is due only to the traumatisms to a skin robbed of its sensory protection. How often do we see patients with diseased cords confined to their beds for years, without decubitus, while others develop a foudroyant decubitus in a few days. The anatomic findings in cases of cord lesions, with and without decubitus, have not been carefully correlated. The very recent studies of Koester—experimental and pathological—lead him to the following conclusions: "A lesion of any part of the peripheral, sensory neuron, leads to sensory and trophic disturbances."

Alterations of the pigmentation of the skin are rarely observed in organic disease of the nervous system. They most frequently occur in cases of Basedow's and Addison's disease. Abnormal pigmentations of the skin are commonly seen in cachexias, particularly those due to intraabdominal disease; also in pregnancy. The initial stages of some forms of arteriosclerosis, particularly of the abdominal branches of the arteries, also show wide distribution of chloasmata. Pigment anomalies are at present commonly associated with some disturbance of the adrenals. This belief was adopted under the influence of the fact that decided change of the pigmentation is a cardinal symptom of Addison's disease, and that this disease is the result of a lesion of the adrenals. A study of the literature of the question shows: (1) A number of cases with lesions of the suprarenal glands, without pigmentation. (2) A number of cases of Addisonian pigmentation of the skin, without lesion of the suprarenals. (3) Many cases of Addison's disease, with changes in the semilunar ganglia and solar plexus, with or without simultaneous lesion of the suprarenal glands. (4) A number of cases which clinically gave symptoms of Addison's disease, without any lesions. As a possible explanation of all these contradictory findings, the recent statements of Albert Kohn should be mentioned. He first described the chromaffin bodies, and regards them as a specified type of neural tissue. These bodies are found predominantly, but not exclusively, in the medulla of the suprarenal glands. They also accompany all the bloodvessels in smaller or larger collections. Lastly, the experiments of Erb, Jr., and others who succeeded in producing arterial degeneration in animals, by injections of suprarenal extract, deserve mention.

Atrophy of the hair of the limbs in tabetics, and hypertrichiasis in cases of poliomyelitis, are frequently seen. It is interesting to observe that, in cases of disease of the anterior horns, when the lesion is limited to the anterior horn cells, as in amyotrophic lateral sclerosis, for instance, this change of the growth of the hair does not take place. The same observation holds good in regard to the vasomotor disturbances seen in cases of poliomyelitis. In this latter instance the lesion is not strictly limited to the anterior horn cells, and includes the cell clusters at the lateral posterior portion of the anterior horn.

Atrophy of muscles severed from their connection with the peripheral nerves is a common fact. Atrophy of visceral muscles under similar conditions is doubted. Older experimenters describe it. Pavlow has not observed trophic changes in the cardiac muscle after vagal section. The pathogenesis of facial hemiatrophy also awaits definite solution. There are 170 cases of this malady on record, of which six came to autopsy. The last case reported by Loebl and Wiesel, showed changes in the trigeminus, including the gasserian ganglion.

The trophic changes of the joints in tabes and in syringomyelia, and the nature of arthritis deformans are still mysteries. Concerning the trophisms of the internal organs, it is interesting to point to an observation of Neusser. He reports a case of vagus neuritis, with apparently trophic ulcerations of the stomach. Ulcerations of the gut, after section of various parts of the abdominal sympathetic, are reported by Onuf and Collins and Laignel-Lavastine. The so-called vagus pneumonia is probably not the exclusive result of traumatisms in consequence of incoordinated deglutition. Similar considerations as expressed above about the keratitis neuroparalytica and decubitus are more applicable here.

The pituitary body is generally believed to exert trophic influence upon some parts of the skeleton. A curiosity of disordered bone trophism is reported by Marie. He found in a case of acquired osteomalacia in a man, extensive neurofibromatosis of the abdominal sympathetic system. The influence of the thyroid gland upon the general trophism is well exemplified in cases of myxedema. The cases of "progressive fatal cachexia" of Grawitz are still awaiting explanation. An interesting case of infantilism has recently been reported by Byron Bramwell, and attributed to deficient pancreatic function. The chondrodystrophies are clinical curiosities. I could find no suggestions in the literature about their possible pathogenesis. The problem of the origin of the most distressing condition of muscular dystrophies is one that we should seriously keep in mind.

A large number of the vasomotor disturbances are still puzzling problems. Oppenheim records a case of a curious unilateral edema, the autopsy of which revealed a lesion of the thoracic sympathetic of the same side. I described a case of so-called hysterical edema (edema fugax), in which I found at autopsy a small abscess severing the thoracic sympathetic of the same side. The general vasomotor ataxias observed so frequently in the course of Graves' disease, and the climacteric neurosis, are, on clinical grounds, referred to perverted function of the thyroid gland or of the ovaries, respectively. Angioneurotic edema is believed by many to be explained on a basis of toxemia. The question of erythromelalgia is still *sub judice*. Sachs and Wiener's findings of disease of blood-vessels and peripheral nerves are frequently corroborated. The condition is in danger of losing its clinical identity, and is being classed with the arterial diseases of the extremities.

The coordinated rhythm of innervation of the respiratory apparatus is often embarrassed in consequence of lesions of the nervous system. Herbert Spencer studied the influence of the cortex on the respiration. It is now known that concentrated attention produces diminution of the respiratory vigor, acceleration of the heart action, and slight extensor movements of the fingers and the neck. Clinical and pathological studies made at the neurological clinic of Winkler, in Amsterdam, proved this syndrome of disturbed respiratory and circulatory automatism to be correct. Anatomic studies made the existence of a center for these functions in the frontal lobe probable. Divergent paths lead from these centers down through the internal capsule. These findings prepare for a better understanding of the respiratory phenomena observed in hysteria. Jackson's respiratory phenomenon of hemiplegics is not fully understood. Shallow respiratory excursions, interrupted by deep sighs, are frequently observed in cases of tumor of the brain. The respiratory phenomena in apoplectic and epileptic seizures are well known. Among the symptoms of thalamic lesions, respiratory and cardiomotor disturbances are frequently mentioned. The existence of a respiratory and vasomotor center in the medulla was known to older physiologists, and their vital importance well expressed by the term "*nœud vital*."

From the clinical standpoint, it is interesting to call attention to the fact that, in attacks of Adams Stokes' syndrome, which are due to interference with the medullary function, the relation between the respiratory and circulatory rhythm is different than in attacks of hysteria, which are supposedly due to cortical disturbance. That the work of the auxiliary respiratory muscles is frequently impaired by lesions of the cord or peripheral nerves is well known. Fleischmann describes a case of laryngeal spasm, at the autopsy of which the recurrent nerve was found imbedded in a packet of glands.

For the explanation of the spasmodic disturbances of the respiratory function, nervous asthma, tachypnea, hysterical dyspnea, little definite pathologic information is at hand. The bradycardia of direct and indirect vagal lesions is frequently described. According to Oppenheim, neuritis of the vagus is indicated by acceleration, rarely by slowing of the heart beat, by cardiac dilatation, and a systolic murmur.

In a case of sarcoma of the heart with ascending vagus neuritis, Pavlow found Adams Stokes' syndrome, without trophic disturbances of the cardiac muscle. Tachycardias, bradycardias, and various cardiac ataxias observed in hysterical and neurasthenic states are still puzzling. A goodly number is undoubtedly due to toxic states. Knieboeck describes a case of hysterical angina pectoris, in which *x*-ray inspection demonstrated a tetanic contraction of the cardiac muscle. The pathological relation between true and pseudo-angina pectoris is undecided. A case is described from Skoda's clinic, which presented in life attacks of stenocardia, with long intermissions of the heart beat. The autopsy, made by Rokitansky, revealed the cardiac plexuses and the left vagus thickened and swollen. A case of Lancereaux is on record which presented clinically attacks of angina, without symptoms referable to disease of the heart, muscle, or valves. The autopsy of this case showed the cardiac plexuses considerably thickened and infiltrated.

The vast variety of symptoms referable to disordered innervation of motion, sensation and secretion of the gastrointestinal tract, are well known to us, and often very perplexing. Only lately Oppenheim directed our attention to these phenomena in describing the costoabdominal symptom-complex. He pointed out the occurrence of marked gastrointestinal symptoms associated with disease of the middle thoracic cord. We often see cases of cord lesions which begin with visceral, particularly gastrointestinal symptoms, and which frequently are for a long time treated under this mistaken diagnosis.

In a large number of cases of lead colic, the celiac nerves and ganglia were found evidently diseased. Laignel-Lavastine describes the following very interesting case: A patient, 64 years old, had his l
thigh amputated at the age of 11. Six months b
fore death he had repeated vomiting, which fai
to yield to any treatment. Later, obstinate bloo
diarrhea and tympanites appeared. The autop
showed congestion of the abdominal viscera. T
dorsolumbar cord of the right side, from the te
dorsal to the second lumber segments, was the s
of a fusiform glioma. This was situated in t
posterolateral region of the gray matter, involvi
the anterior horns, the columns of Clarke, and t
zone of entry of the posterior roots.

Experimenting on the solar plexus, Laign
Lavastine describes four different states: (1) T
sub-acute solar paralysis produced by ablation
the solar plexus in dogs, which survive operat
a short time. This leads to fall of arterial pr
sure, vomiting, bloody diarrhea, anuria, and collap
(2) Per-acute solar paralysis produced by ablati
of the solar plexus in dogs, which do not survive t
operation. Post-mortem examination shows a h
peremia of the abdominal viscera, diminution in t
quantity of urine, which is of higher specific gravi
with marked indicanuria, and the presence of leu
and tyrosin in the urine. The gastric mucosa en
mously hyperemic. In the duodenum and small g
ulcerations and hemorrhages are found. The li
and spleen are enormously congested. (3) Chro
solar paralysis produced by ablation of the so
plexus in dogs, from which the animals surviv
longer time. Fetid diarrhea, small pulse, oligu
urobilinuria, and indicanuria are present. In ot
cases no symptoms are observed. (4) Irritation
the solar plexus. There is observed severe epig
tric pain, constipation, rise of arterial pressure, (
sation of heart beat.

Clinically, Laignel-Lavastine correlates this d
sion with the following states: (1) Acute s
paralysis; hysterical peritonitis. (2) Acute s
irritation; lead colic. (3) Chronic solar syndro
alternating paralysis and irritation, lead colic
mucomembranous colitis.

Changes in the constitution of the urine are
quently observed in nervous diseases. Albumin
is often a symptom of pontine lesion. Glycosuri
frequently associated with disease of the poste
fossa. The symptomatology of disordered ge
functions is also at present beginning to be stu
along the lines suggested in this paper. It is
nificant to read in Lubarsch and Ostertag the
lowing: "Atrophic chronic parametritis alone, c
connection with other lesions of the female ge
organs, is, up to the present time (1896), the
definitely proven basis of hysteria in women.
cending neuritis and perineuritis mediate the
duction of the symptoms."

In closing I will ask your pardon for the f
mentary and cursory nature of these remarks
have chosen the subject in spite of its vastness,
my inability to do justice to it, as an antidot
the pessimistic spirit about the future of neuro
which pervades our ranks and is entertained by
neighbors.

Thorough study of the subjects outlined pron
us: (1) Greater exactness of localization of org
disease of the nervous system and better interp
tion of early symptoms. (2) More rational
ception of functional conditions. (3) Cl
therapeutic indications.

It may be objected that this means an illegiti
extension of the neurologist's field. I do not be
so.

"A small circle narrows his mind; man g
with his larger aims."

PERINEUM, PERINEORRHAPHY, AND PROLAPSE.*

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Sanctioned by common usage and serving for brevity, the terms perineum and perineorrhaphy are utilized to-day in a generic sense embracing all the integral structures of the pelvic floor that physiologically and mechanically combine for the support of the pelvic contents.

Among the accidents of parturition, none dominates to a greater degree the remote welfare of the patient and reputation of the attendant, than laceration or impairment of these supporting structures; no maternal injury incidental to labor demands more prompt and accurate topographical restoration, and no restorative procedure exacts more intimate regional knowledge and greater technical skill.

Although this accident and its consequences had attracted the study of the most ancient writers, no curative attempt finds record until Ambroise Paré proposed sutural readjustment of the injured tissues. From this period to the present, the stages in the evolution of perineorrhaphy are linked with the names of the most illustrious exponents of the surgical art, and while thus presenting one of the most classic and prolific of gynecologic themes, it is at the same time the most incomplete chapter in gynecologic literature:—a voluminous chronicle of surgical ingenuity and a most barren exposition of essential fundamentals.

"To no department of gynecology," said Thomas, twenty-five years ago, "does there attach more surgical rubbish which needs a thorough clearing away;" and in a large measure this assertion holds good at the present time.

Perineorrhaphy has afforded a most fruitful field for attempts at originality and innovation: regardless of the principle that "progress is characterized by simplicity," countless diverse and complex methods have been introduced by successive investigators who, losing sight of fundamental principles, seemed only to strive for some peculiarity of procedure which they could call their own. The result is, that many of these procedures.defeat the object of operation, by substituting for normal physiologic support, a pathologic obstruction, represented by a cicatricial mass, uniting dissimilar tissues and serving as a mere retention plug at the vaginal outlet.

Obstructive retention cannot replace normal visceral support, and the immediate aim in perineorrhaphy should be based on the elementary surgical principle of accurate restitution of original anatomic relations thus restoring, as far as possible, *functional* as well as mechanical support to the pelvic contents.

The keynote in the clinical significance and therapeutic indication of pelvic floor laceration is *prolapse*: while perineorrhaphy, immediate, intermediate, and late, represent respectively the prophylaxis and cure of such prolapse. Visceral prolapse is pathologic visceral support, and its restitution must be based upon a clear conception of the mechanism of normal support.

It is not the purpose of this communication to present an elementary review of those anatomical and physiological data, which represent the modern accepted factors concerned in the normal support of the pelvic contents; this is common and accessible knowledge, but to submit for consideration certain factors, whose dominating influence on pelvic visceral equilibrium has not, to the present writing found record.

Our knowledge of the nature of pelvic visceral support has been considerably amplified within the last three decades, but has not reached finality or precision. The ancient cutaneous perineum is obsolete; the so-called perineal body has dwindled in dignity as its purely complemental function became manifest, and at the present time the *muscular* and *fascial* equipment of the pelvic floor and viscera, sways the gynecological mind in the questions of genital support. That the functional integrity of such muscular and fascial elements is all essential to normal visceral support, is established beyond controversy, but that such elements, while essential, are not indispensable to support, is exemplified by the frequent existence of extensive destruction of these tissues without the occurrence of prolapse and by the equally numerous instances of prolapse without impairment of the muscular or fascial integrity of the pelvic floor. And more significant the observation, that many technically perfect perineorrhaphies, utterly fail to restore and often aggravate the distortion of visceral equilibrium.

Studies of pelvic visceral support have been confined largely to the limits of structural detail: anatomy as such, however, has not fully explained the *mechanism* of support. It is a gross misconception of function, to attribute visceral support to textural strength of ligament or muscle; the muscle or ligament is not created that can permanently withstand, by its structural resistance, the continuous force of intraabdominal pressure. These muscular and ligamentous elements serve to support the pelvic contents, *not* by virtue of their textural resistance to displacement, but by *deflecting* the displacing force of intraabdominal pressure: and paradoxical as it may seem, both the maintenance and disturbance of pelvic visceral equilibrium, are the resultants of one and the same force, namely—intraabdominal pressure under the influence of balanced or unbalanced deflection. The influence of pressure and deflection on fetal expulsion is a familiar phenomenon, while the same influence dominating visceral displacements is unrecognized.

Briefly stated, intraabdominal pressure is the resultant of several components, the most potent of which are muscular contraction, gravity, intravisceral and atmospheric pressure. Intraabdominal pressure, while constant, varies in intensity, being augmented or diminished by the varying activity of its muscular component: its direction is influenced by certain planes, some of which are fixed and permanent, while others are mobile. In the pelvis, the fixed planes may for convenience of illustration be designated as the expulsive planes, inasmuch as they tend to deflect the direction of pressure, into line with the axis of the pelvic outlet: any viscus brought under the influence of these expulsive planes must eventually prolapse. In the same sense, the mobile planes are retentive planes, in so far as they deflect pressure in a direction to preserve visceral equilibrium. An intrapelvic and an extrapelvic deflecting mechanism, exercising harmonious and reciprocally balancing influences, maintain the topographic stability of the pelvic contents. The intrapelvic mechanism is represented by the uterus with its ligamentous extensions: the extrapelvic deflector comprising the muscular and fascial elements of the pelvic floor.

Under ordinary conditions, the direction of intraabdominal pressure within the pelvis is such as to fall upon the posterior surface of the uterus and broad ligaments: in deflecting the direction of this pressure to preserve its equilibrium, the normally anteverted uterus may be compared to a lever of unequal arms, poised over a fulcrum formed by the intravaginal perineal crest; the longer anterior arm of the uterine lever resting upon subjacent structures, is movable upwards, extreme movement in this direction being limited by the round ligaments, which tend to prevent tilting of the uterus into the axes of the expulsive planes: the shorter posterior arm of the uterine lever is free, being represented by the cervix projecting into the cul de sac of the posterior vaginal fornix. By this adjustment, intraabdominal pressure will at first tend to lower the level of the uterine plane as a whole, until its anterior pole is arrested by the resistance of the subjacent bladder and posterior pubic surface; the pressure augmented, the posterior free pole, represented by the cervix, continues to descend, and forcing the lever upon its fulcrum tilts the anterior arm upward.

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* Read before the Medical Association of the Greater City of New York, February 15, 1905.

Were the pressure to continue without deflection, this upward tilt of the anterior arm must continue and, extending beyond the perpendicular, would retrovert the uterus and force its long axis into line with that of the vaginal outlet: in other words, anteversion would be converted into retroversion, which exposes the anterior instead of the posterior uterine surface to the force of intraabdominal pressure; this misdirected pressure will gradually lower the plane of the retroverted uterus, until its axis coincides with those of the expulsive planes, and prolapse must ensue: but, under otherwise normal conditions, deflection takes place, and prolapse is averted by the integrity of the perineal musculature.

The stimulus that excites the muscular component of intraabdominal pressure into activity, induces a simultaneous contraction in the perineal musculature. The elements of this musculature are so arranged, that their contraction elevates the perineal plane; this elevation carries the perineal fulcrum to the uterine lever, raises the depressed posterior arm of this lever to the level of its anterior arm, thus restoring anteversion; at the same time, this elevation of the perineal plane narrows the essential utero-vaginal angle, preserves the potentiality of the vagina by converting its actual canal into a valvular slit and practically closes the pelvic cavity.

Such are the functions of the perineum and such the measure of its importance as a visceral support; it follows that the gravity of perineal lacerations is proportionate to the resulting impairment of its muscular function; such impairment induces a tendency to prolapse, *not* because any direct support of the viscera is severed, but because the equilibrium of intrapelvic pressure is disturbed and its expulsive force undeflected. A study of the perineum before and immediately after puerperal injury shows that laceration *as such* does not destroy, but simply severs, the involved tissues, and the aim in perineorrhapy should be, the reunion of such severed elements and not simply the reconstruction of perineal bulk and contours. A union of muscle to fascia will restore such bulk, but does not restore *function,* and it cannot be sufficiently emphasized, that the accurate readjustment of the original anatomic elements essential for the full restoration of function, is attainable to the fullest degree *only* in the *immediate* operation.

In the immediate operation such a union is only a question of retention in accurate coaptation; postpone this simple procedure and the severed muscle fibers will retract; thrown out of function they will degenerate; cicatricial tissue will replace and displace them with resulting topographic and visceral distortions. The longer the interval between the injury and restoration, the more numerous and difficult of solution become the complicating problems, and, at the very best, the results of late operation only represent a more or less efficient substitute for immediate repair, while at the very worst, the condition may eventuate in the necessity for extirpation and obliteration of the entire generative tract. We can reunite a severed tissue, but can never restore a lost or degenerated one, and in this sense, the immediate and late operations really stand in the relation to one another of prophylaxis and cure.

In the immediate operation the obliteration of structural features by the traumatic tumefaction complicating perineal injuries, will at times present an embarrassing problem in accurate coaptation, especially to the occasional operator. Yet, to plunge a suture blindly around a perineal laceration is a procedure to be emphatically condemned as obsolete, unsurgical, and often directly injurious: proper readjustment of the injured parts demands *suture on the lines* and to the extent of the laceration both *within* and *without* the parturient canal.

To facilitate accurate readjustment of original anatomic relations, the preliminary introduction of what may be termed guide sutures, will be found helpful, time-saving, and, to some extent, prophylactic. At some convenient moment, prior to the descent of the fetal presenting part, two to three silkworm sutures are introduced under proper precautions into the structures between vagina and rectum, from the cutaneous base of the perineum to its apex; the lowest suture running on a line with the anterior anal margin, will serve to locate the several sphincteral ends; the median suture embraces the levator fibers, while the upper one will tend to coaptate the vaginal lesion. These ligatures are tied loose enough to prevent undue tension or obstruction during fetal expulsion, and at the termination of labor may be discarded if found unnecessary; on the other hand, one or more may be retained, according to indications and tied permanently, while in extensive injury they will serve as guides and retentive bands, facilitating permanent coaptation. It would hardly seem necessary to state, that in passing these preliminary sutures, neither the vaginal nor the rectal walls should be punctured.

The object of the present communication is to elucidate the principles and not the methods of perineorrhaphy: the location, extent, direction, and effect of perineal lacerations show no uniformity, and it follows that no stereotyped method can possibly find uniform adaptability, notwithstanding the recognized authority of the name linked to such method.

But while there can be no typical method of perineorrhaphy, there should be some method *in* perineorrhapy, and such method must be based upon a clear conception of the functional relations of the perineum as a link in the supporting mechanism of the pelvic contents. As previously stated, extensive perineal laceration may exist without inducing prolapse; a condition in which the other links in the mechanism assume a compensatory readjustment, productive of vicarious support: on the other hand, structural, topographic or mechanical disarrangement in any of these links, independent of perineal involvement, may be productive of prolapse.

The immediate operation being omitted, a failure, or deferred, the first essential in the late operation is the recognition of the degree in which these individual links of the supporting mechanisms are involved.

The measure of pelvic visceral equilibrium is the topographic stability of the uterus under conditions of augmented pressure, induced by the patient's expulsive efforts in the erect or squatting posture. A uterus presenting normal relations in dorsal examination, will often assume a pathologic position in the erect posture; such pathologic position may represent its incipient prolapse, and if uncorrected, the most elaborate perineorrhaphy will fail to check its downward progress. Every pathologic condition of the uterus should be corrected, to restore its function as a deflecting lever, before perineal repair is attempted; the involutional disturbances induced by lacerations of the cervix demanding special consideration.

Immediate trachelorrhapy would correct this most frequent cause of subinvolution, and is worthy of more general adoption. Unfortunately this immediate repair of a cervical laceration is a procedure almost unknown, although simpler, more certain of result, and oftener and in many ways more beneficial than the late operation, which, while closing the cervical rent, cannot always remove the results of long-standing nutritional disturbances, and such, remaining uninfluenced, furnish a cause of failure in the late operations for prolapse.

Not only existing pathologic conditions, but pathologic positions of the uterus must be corrected as an essential preliminary in perineorrhaphy: in malpositions of long standing, with resulting insufficiency of the uterine ligaments, the permanency of positional restitution should be secured by intra-abdominal or intravaginal shortening of such insufficient ligaments, and under no circumstances is it proper or justifiable to immobilize either pole of the uterine lever, by any form of permanent ventrofixation or dorsofixation. The uterine lever restored to functional position and condition, the questions involved in the repair of the perineal mechanism present themselves.

From the clinical standpoint, two forms of vaginal protrusions result from perineal lacerations, which may exist singly or combined. For convenience these two forms may be described as false and true prolapse. False prolapse is the simple protrusion of redundant and relaxed vaginal wall and represents the condition usually cured by the stereotyped operations in vogue; these remove various patterns of the redundant vaginal tissues and reef some of its fascial attachments. True prolapse, on the other hand, is represented by the vaginal herniæ of bladder, rectum and uterus, and is not always cured by the above-mentioned procedures.

The surgical objective point in these latter cases must be that part of the perineal musculature usually involved in puerperal injury,—namely, the broad anterior loop of the levator ani, which, springing from the posterior surface of the pubic rami, passes downward and embraces the lateral and posterior walls of the vagina. In the normal state this loop is distinctly palpable from within the vagina and rectum, as a broad resilient band, which stretches under the vaginal wall from one pubic ramus to the other, on a plane posterior to that of the pubic arch. Under all conditions of perineal rupture, *the pubic attachments* of this levator loop, *present permanent palpable ridges*. With these ridges serving as guides to the muscle, the postero-lateral muco-cutaneous junction of the vagina is severed and the deep seat of lesion exposed by carefully raising the cicatrized vaginal coverings. Utilizable remnants of the levator muscle can thus be readily located, and after isolation and trimming, should be coaptated by buried end-to-end sutures.

Having secured muscular readjustment, the raised vaginal flap is permitted to settle into position, and then only should such of its redundant tissue be sacrificed as may not be utilized in restoring the contours and bulk of vagina and perineum. Trimming and suturing should be limited as far as possible to the cicatrices and lateral sulci, preserving the median aspects of the vaginal walls as much as possible.

The readjustment of the intravaginal conditions will vary according to the nature and extent of the original lesion and its consequences: no two cases are similar, and the essential phase of this part in the reparative attempt is the restoration of the intravaginal perineal crest, which represents the fulcrum to the uterine lever. The apex of this crest must be so situated as to correspond to the cervico-corporal junction of the uterus and the cervix must project free beyond it.

Let the operator fully understand what he sets out to accomplish and he will readily adopt the simplest, easiest, and surest method to this end; let him, on the other hand, clog his mind with details and special plans of this and that operator, and he will be led to adopt an uncertain mixture of complicated, and often futile, procedures.

There is much that should be added to the different phases of this topic, that has been consciously but necessarily omitted, for, within the allotted time, it would require a master of our language to depict with lucid brevity, the many essential details of our theme. I can present only this fragmentary effort, in the conviction that, when a thoroughly scientific and satisfactory essay on perineorrhaphy is written, it will not be a description of the numerous operations in vogue, but will treat in a general way of operating to restore the involved parts to the relations, conditions, and functions that prevailed before injury.

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COMPOUND TRAUMATIC SEPARATION OF THE LOWER EPIPHYSIS OF THE FEMUR.*

By GILBERT GEOFFREY COTTAM, M.D.,

ROCK RAPIDS, IOWA.

The gravity of this injury may be inferred from a summary of the fifty cases collected by Mr. Poland (Traumatic Separation of the Epiphyses, London, 1898, page 793). Of these, thirty-three underwent amputation, with eighteen recoveries, eight deaths and result not stated in seven. The remaining seventeen were treated conservatively, with thirteen recoveries and four deaths.

The fact that about one-half of the number occurred in the preantiseptic period suggests the conclusion that a better showing might have been made had all been treated by modern methods. This is undoubtedly correct as to the saving of limb, but as to the saving of life, the case-records show that the mortality rate has been as heavy since 1885 as before.

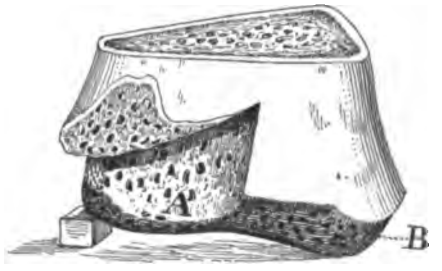

Fig. 1.—Anterior view of the piece of shaft of the femur resected, showing at A the defect caused by the disruption of the wedge-shaped fragment of bone which remained attached to the epiphysis. At B is the epiphyseal line.

The danger to life in these cases accrues from shock, gangrene and infection. The first, as would be expected in accidents of such magnitude, is generally present in some degree of severity and is credited with causing six of the deaths in Mr. Poland's series (only three of these, however, directly due to the accident, the other three following amputation). Gangrene occurs in the cases wherein the popliteal vessels are injured—which occurs in about 25 per cent. of the cases—unless obviated by early amputation. Infection, as in all other open, accidental wounds, must be reckoned with, and upon the surgeon's ability to control it depends everything.

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*Read by title before the Western Surgical and Gynecological Association at its annual meeting, held in Milwaukee on December 28 and 29, 1904.

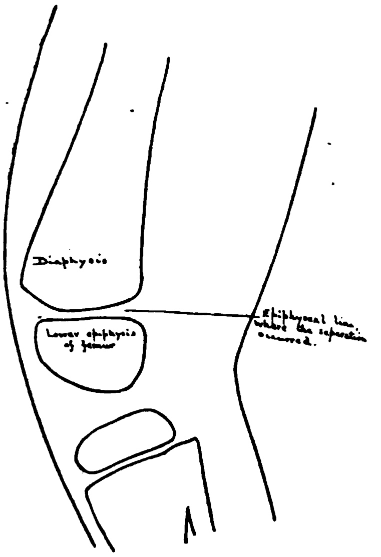

Fig. 2.—Skiagraphic tracing (lateral view) of Case I; taken at the end of the tenth week after the receipt of the injury.

The object of this paper is not to make an exhaustive analysis of the subject. This has been done elsewhere, and those who wish to look into it further will find an adequate consideration of the matter in Mr. Poland's work, while for a compact résumé brought down to the present date, I commend attention to the report of M. Kirmisson, of Paris, presented at the French Congress of Surgery in October, 1904, for a copy of which I am indebted to the courtesy of the author. The two cases which it has been my fortune to observe, occurred five-and-a-half years and six weeks ago, respectively. In the former case, therefore, sufficient time has elapsed to enable me to report the effect of the injury upon the growth of the femur. The early history of the case was reported fully by me to the Iowa State Association of Railway Surgeons, and published in the *Railway Surgeon*, December 26, 1899. I need, therefore, repeat only its salient features.

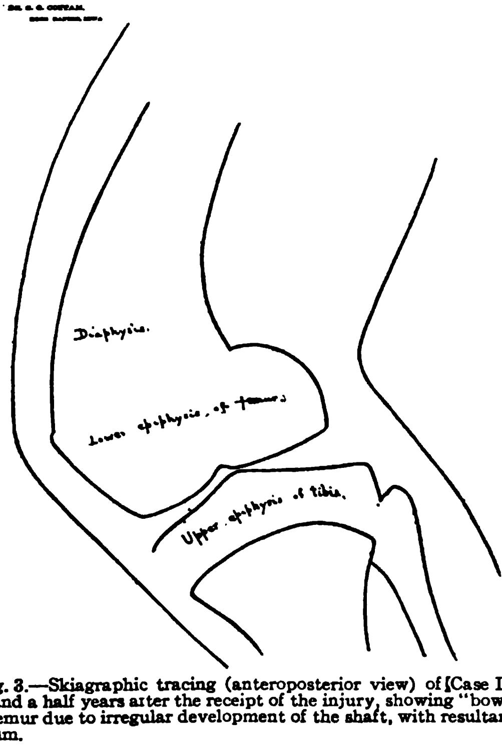

Fig. 3.—Skiagraphic tracing (anteroposterior view) of Case I; taken five and a half years after the receipt of the injury, showing "bowing" of the femur due to irregular development of the shaft, with resultant genu valgum.

Case I.—Wesley G., aged six years and nine months, was riding with some other children in a buggy on July 30, 1899, and letting his left leg hang outside and the foot rattle against the spokes of the wheel. An entanglement resulted and he was dragged out of the buggy and thrown to the ground. The other children picked him up and took him home, a distance of one and a half miles, where I saw him in consultation with the family physician. An examination showed the protrusion of about five centimeters of the diaphysis of the femur through a transverse wound in the left biceps femoris and skin, at the outer margin of the popliteal space. It was denuded of periosteum and showed the characteristic nodulated end. The epiphyseal line had not been closely followed, a wedge-shaped fragment from the anterior and inner aspect of the diaphysis having been detached with the epiphysis. The poplite vessels were intact and the peroneal nerv had escaped injury. The epiphysis was tilte backward. Under anesthesia I enlarged th opening by making a longitudinal incisio through the center of the wound and succeeded in replacing the shaft, but so great was th contraction of the thigh muscles that the least movement caused the fragments to fly apart with grea violence. I therefore resected three centimeters o the diaphysis (Figure 1), and could then effect reduction easily, although it was necessary to drill an wire in order to secure continued apposition of th fragments. The large external wound was left ope and the entire extremity in full extension put up i plaster of Paris. The primary result was very satisfactory. Granulation proceeded rapidly and in si weeks the wound in the soft parts was entirel closed. The cast was discontinued at the end of th ninth week and an *x*-ray examination shortly afterward showed the fragments to be in correct apposition. At the nineteenth week the joint function wa found to be fully restored and the boy could wal and run without perceptible limp, unaided by stic or crutches.

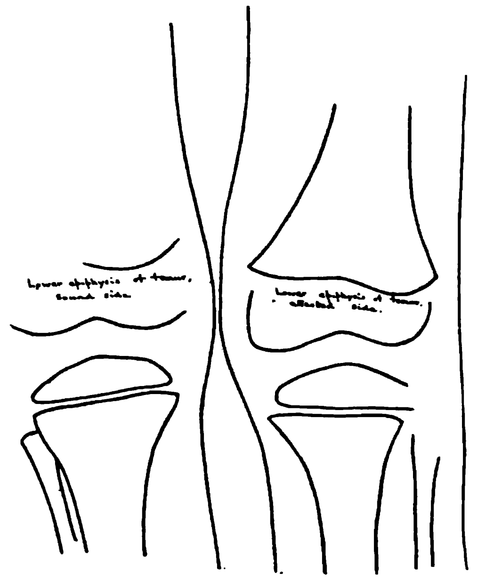
Lower epiphysis of femur, sound side.
Lower epiphysis of femur, affected side.

Fig. 4.—Skiagraphic tracing of both knees (anteroposterior view) of Ca II; taken six weeks after the Injury.

The subsequent history of this case shows the development of a curious and interesting condition. As the boy's growth proceeded, it was noticed that the knee on the injured side was becoming more and more "knocked." When my attention was first called to this, I formed the opinion, which was strengthened by careful examination, that the deformity was due to arrest of growth of the outer condyle, the inner continuing to develop. This I associated with the fact that the epiphyseal cartilage on the inner and anterior aspect was undisturbed by the injury, and the growth at that point had, therefore, been uninterfered with. But, on making a skiagraphic examination recently, I found the entire fault to be with the shaft, the inner part of which seems to be trying to develop normally, while the growth of the outer part is arrested, producing a condition of "bowing," with the concavity outward, as shown in Figure 3. The long axis of the thigh and that of the leg form an angle of 130° at the knee, externally. The circumference of the left thigh, 18 centimeters below the fold of the groin, is 41.25 centimeters; of the right at the same point 45.75 centimeters. At a point 7.5 centimeters below the left knee, the circumference measures 30.4 centimeters; at the same point on the right side, 31.6 centimeters. From the anterior superior spinous process of the ilium to the lower border of the inner condyle the measurements are: Right, 42.8 centimeters; left, the same. From the same pelvic point to the lower margin of the outer condyle the measurements are: Right, 40.4 centimeters; left, 34.2 centimeters. Thus, while the inner side of the femur on the injured extremity has kept pace with its fellow or even done a little better, since 3 centimeters were removed at the opration, the outer side shows a discrepancy of 6.2 centimeters. It is evident that the deformity could be properly remedied by an osteotomy, and if the parents of the boy can ever be brought to understand that this will not mean a repetition of the original injury, with all its dangers, it will be done.

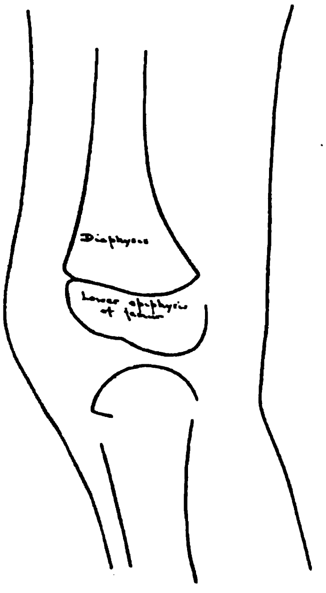

Fig. 5.—Skiagraphic tracing (lateral view) of the injured side in Case II; taken at the same time as Fig. 4.

Case II.—Theodore S., aged five years and nine months, was trying to climb into a buggy in motion on November 9, 1904, when his left boot became entangled in the spokes of one of the wheels and he was thrown violently to the ground. I saw him the same night, in consultation with his physician, near Steen, Minn., and found a condition almost precisely similar to that described in the preceding case. The diaphysis had penetrated the biceps femoris just above the knee and protruded about 4.5 centimeters through the skin, and was stripped of its periosteum. As in the other case, the popliteal vessels and peroneal nerve were uninjured, and a piece of bone had been broken off the anterior surface of the lower end of the shaft. In this case I found this detached portion broken into several parts and removed them with a sequestrum forceps. The epiphysis was not displaced. Under chloroform, reduction was readily accomplished, and, once reduced, the fragments showed no tendency to displacement. The large opening in the soft parts was packed with gauze and the extremity placed upon a double inclined plane. At the end of the fifth week the knee was put up straight in plaster of Paris and at the present time, seven weeks after the receipt of the injury the wound in the soft parts is nearly well and union appears to be proceeding normally. Figures 4 and 5 show the skiagraphic record of the case at this time.

THE VALUE OF THE PRESENT QUANTITATIVE TESTS FOR HEARING; WITH THE DEMONSTRATION OF A NEW APPARATUS.*

By W. SOHIER BRYANT, M. D.
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Many methods and various contrivances have been and are still used in acoumetry. The more complicated ones have never been popular, while the simpler means, though old, are still used and are still the generally accepted standard in spite of their lack of accuracy and the difficulties of application. For the most part the complicated machines are electrical devices, and although strongly recommended, are open to nearly the same objections as the simpler means. Their special advantages are due to changes in the electric current, and their intricate construction.

The Committee of Acoumetry of the last International Congress of Otology reported on the choice of a simple and practical acoumetric formula, which advised the oldest and simplest means of testing hearing. They stated that they did so in spite of the inherent imperfections in these methods, because none better were to be had. The tests recommended by the committee were: Whispered and conversational speech, acoumeter or watch, tuning forks, and König rods.

The results of hearing tests vary considerably. One obtains different results if one brings the sounding body towards the patient from those obtained by taking it further away. As a rule the sounds are heard much further when the body recedes than when it approaches. Auditory after-impressions and psychological states explain these phenomena. The ear is not unlike the eye; a receding object is distinguishable much further than the same object when it approaches the eye from beyond the range of vision.

During the tests the eyes of the patient must be covered or directed away from the operator, whose reflected image must not be allowed to reach the patient. It is remarkable how much a slight visual hint will do in the way of increasing the hearing distance of a quick, intelligent patient.

Sentences and words are heard correctly much further than disconnected polysyllables. Polysyllables again are heard much further than disconnected monosyllables, because in each of these cases there is less opportunity to supplement the sound by clever guessing when it is not distinctly heard.

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*Read before the Otological Section of the New York Academy of Medicine, and before the Otological Section of the Fourth Pan-American Medical Congress, Panama, January 2-6, 1904.

One must bear in mind that a little sound entering the other ear increases greatly the sound perception in the ear under examination, since binaural audition is much more perfect than nonaural, and therefore the ear not under test should be hermetically closed. A slight pressure with the moistened finger in the meatus is the simplest way of accomplishing this. Too much pressure in the meatus will lower the sound perception of the other ear, and therefore must be avoided. The other precautionary measures in unilateral testing are: First try with the other ear closed, then with both ears closed; the differences thus found in the results can be credited to the ear under examination, but this gives no sound basis of comparison.

Quantitative hearing tests by air conduction should cover the whole auditory field for high and low notes alike, because the total quantitative estimate is made up of the sum of its integral parts, and no part of the scale should be omitted. Therefore, the tuning fork and König's rods tests are included among the quantitative tests.

Whispering Test.—The forced whisper, using the residual air after a natural expiration, gives a more accurate and more easily repeated test than the conversation voice, but tests obtained in this way are not the measure of the hearing for spoken words, nor can this test be repeated with perfect accuracy, because the intensity, pitch and quality are not constant. In whispered tests, the different pitch and intensity of the various vowel and consonant sounds must not be forgotten. These require that the same words must be used to make the tests comparable. A whisper allows a rough test of the auditory field by the use of letters having a wide range on the musical scale, from Re to Si, and covering the whole auditory field.

The different intensity and pitch of the letter sounds give different carrying powers. Unfortunately there is no agreement among the various authors as to the actual relative importance or the true value of these factors. Vowel sounds vary in different languages and dialects, and are influenced by the consonant preceding or following them. Consonants have a very wide range of intensity and pitch.

Conversational Test.—The difficulties in testing with the conversational voice are considerable, and it is impossible to eliminate the conditions which cause inaccuracies in the results. These are chiefly the variability in intensity, pitch, clearness of articulation, and quality, as well as the accent of the examiner. Practice diminishes the variations which the voice shows at different times, but never wholly overcomes them. They make a great difference in the carrying power of the voice, and its intelligibility, sufficient to prevent the accurate comparison of one observer's results with another's, or with his own previous tests. The different values of the vowels and consonants must be borne in mind, as in the whispered test.

In unilateral testing, it is admitted that with the spoken voice, the sound enters the other ear, no matter how it may be closed. For this reason, spoken voice tests can approximate accuracy only when both ears are tested together or when the other ear is much deafer than the one under examination. The usual method of making unilateral tests is to compare the results found with one ear closed, and those found with both ears closed. This gives no sound basis of comparison, but in practice the difference found is credited to the ear under examination.

Politzer emphasizes the value of testing bilateral hearing, because it gives the true hearing efficiency possessed by the patient for the avocations of life, and does away with the attempt to test the voice perception of one ear alone, which is, as I stated, always inaccurate.

Voice tests with words, in cases where there is a slow action of the auditory word memory, will show apparently less perfect hearing compared with mechanical sounds, just as reading is slow when the visual word memory acts slowly. Familiar sounds or known voices are heard more distinctly than new ones. The faculty some people have of reading the lips is another possible source of error which it is hard to eliminate entirely, without the greatest care. Another objection to the speaking voice tests is the considerable space required by the tests for ordinary or even low conversational voice. There is no constant relation between the hearing for whispered and that for spoken words. For these various reasons, the mechanical tests are usually employed in addition to the voice tests. Why else use the mechanical tests, except as a control for the voice tests?

Mechanical testing devices—watch, acoumeter, and tuning fork—cannot be duplicated exactly on the commercial scale. Their dissimilarity makes the results of tests with different instruments not exactly comparable. It makes a considerable difference when and how the sounding body is held in relation to the ear tested. Below and in front of the orifice of the meatus is the direction in which the sound is heard furthest, because that is at right angles to the plane of the auricle.

Acoumeter and Watch.—In testing with the acoumeter or watch, it must be borne in mind that they are heard furthest when held at right angles to the plane of the auricle. Therefore, they should always be held in the same relative position to the auricle, which usually faces outward, a little forward, and downward. A very considerable difference is noted, depending on the way the sounding body is held. For instance, a watch held in the hollow of the hand with the broad surface towards the ear is heard much further than if the watch is suspended with its narrow side towards the ear. For these reasons, it is apparent that the sounding body should always be held in the same way and in the same relative position to the auricle.

The acoumeter and watch belong to the group of high-pitched sounds, and bear no constant relation to the capacity for speech perception. I have at present under treatment a civil service applicant, aged 25, who failed of appointment because the tick of a watch was not sufficiently well heard in one ear, but no defect of voice hearing was noticed. In another case, that of a man, 43 years old, watch, left ear, O. S. $\frac{5}{60}$, right ear, O. D. $\frac{60}{60}$; voice, left ear, O. S. $\frac{38}{40}$, right ear, O. D. $\frac{10}{40}$. A more common case is the man who can hear the mechanical sounds well, but has poor voice perception.

Variations in tests made with the acoumeter may arise from the differences in pitch, intensity and tone, between the various samples, and the careless way in which they are sounded. One watch cannot be compared with another. The same watch varies in pitch and intensity with the time of day and the cleanliness of its works, and different watches have a great variation.

Tuning fork tests bear no relation to the hearing for speech. One fork cannot be well compared with another, because of the varying properties of the different samples. Their curves of intensity are very variable and vary with differing initial impulses, which again are very difficult of regulation. Authors do not agree on the curve of the intensity in relation to the time of vibration of tuning forks. Their relation is very complex. In using the tuning fork the interference zones must be borne in mind, and the same side of the fork should always be directed toward the meatus. In testing the length of perception, the distance must be constant. In some cases the after-impression continues longer than the sound can be heard; in others, the ear becomes exhausted when the sound is prolonged, but if it is interrupted it is perceived much longer. The fork should not be held opposite the meatus longer than is necessary to enable the patient to observe the presence or absence of sensation of sound. It should then be removed from the auditory zone for three or four seconds, the patient meantime being requested to say whether he still hears it or not. The fork should then be brought opposite the meatus again to see if he will hear it again.

To determine the auditory field, the scale should be divided into four zones, according to the Congressional Committee's report: Up to 64 V. D., from 64 to 256 V. D., from 256 again to 3,096 V. D., and lastly, those above 3,096 V. D. These zones correspond to the voice sounds, 1st, counter octave; 2d, the chest register; 3d, the vowel voice, and finally high-pitched consonants. The amplitude of the initial vibration of a tuning fork can be best measured by the method of Gradnigo. In forks of 256 V. D., the Gradnigo-Struycher method is best, and for 3,096 V. D., Schwiegelow's method is recommended. For testing the low limit, use 24, 32, and 48 V. D. The 16 V. D. has been discarded. With these low forks, care must be taken to make the patient distinguish between the flutter of the air and the note of the fork.

König's rods are recommended for testing sound perception for the scale above the range of the forks, and to determine the upper limit of perception. The same care should be used with these instruments as with the watch and acoumeter, though errors are more easily avoided. The chief error is that arising from the patient's mistaking the initial blow for the musical note of the rod.

Otologists have labored long for some ideally perfect method of testing the hearing, but until now all have failed.

What sound does the deaf patient wish to hear? Is it the tick of a watch, the click of an acoumeter, or the note of the tuning fork? No. Is it the human voice? It is the voice of his fellow beings which can alone bridge over that awful chasm of palpable silence or chaotic uproar which surrounds the deaf, parting him from acquaintances, friends, and family. On account of the imperfections of the voice tests other means are used: the watch, the acoumeter, the tuning fork, and the König rods. All these methods have difficulties in their application, and inaccuracies are apt to creep in, as I have mentioned. But all of these are used to determine whether the patient can hear in ordinary life the voice of his fellow man.

The fact is that the expert is forced to the use of mechanical tests because the voice tests are imperfect and unsatisfactory in some respects, but the inaccuracies and difficulties of these mechanical tests, and above all the fact that in the end they do not determine whether or not the voice can be heard, oblige him to resort to the voice tests. He passes from one to the other and back, and neither is satisfactory, neither is accurate.

Realizing these difficulties, I have been experimenting for several years, to endeavor to make some instrument or machine which will secure accuracy and a definite standard, and at the same time determine whether the patient can hear the human voice. It seemed that a phonograph would provide the standard voice, that it could be controlled and would reproduce the same sound with the same intensity and pitch on all occasions.

I soon found many difficulties. There were no standard cylinders which were suitable. The instruments had to be adapted for my use. Before they could be of practical use, they had to be so arranged that the sound would not escape and thus allow too much to reach the patient. This I have overcome by a sound-proof box. Then I had to get some device which would enable the operator at will to turn the sound on or off from either ear, without the knowledge of the patient. But most important of all, I had to devise a method by which the amount of sound reaching the patient could be accurately gauged and at the same time be under control of the expert.

I had many failures, but learned a little from each, until I finally secured a machine which has measurably, at least, cured most of these defects. I shall take great pleasure in showing it to you and having you test it. It certainly does provide a standard voice test which can be applied to either ear at the wish of the operator, without the knowledge of the patient, and it certainly provides a standard for the comparison of tests, equal to those used by ophthalmologists.

It would seem as if reasonable care taken in the making of the cylinders, instruments, and appliances, would make them all uniform, so that the tests made by one operator on one instrument, could be compared with those made by another operator or on a different instrument.

My machine allows the operator to determine accurately, the limit at which the patient is able to hear with sufficient distinctness to repeat the words spoken by the machine. Distance is no longer needed for the voice tests.

My acoumeter provides a sure method of detecting feigned deafness, an important matter in European countries. If the deafness feigned is anything short of absolute, the malingerer will be led into a trap. He is unable to give answers consistent with the varying positions of the graduating valve, combined with changes in the malingerer's valve, for he loses all idea of the intensity of the sound because distance is eliminated. When the malingerer feigns deafness in only one ear, the malingerer's valve, turning the sound on and off, rapidly alternating or simultaneously, distracts the patient; he cannot give replies consistent with deafness.

The previous methods of testing applied only to somewhat advanced degrees of deafness, which is a very serious loss to the patient, as all otologists know that the worst forms of progressive deafness, if taken in time, offer a comparatively encouraging prognosis.

My machine, besides allowing the detection of the slightest loss of hearing, gives a test for hyperacusis. It will test a hyperacoustic patient in a small office. It reduces extraneous sound to a minimum, doing away with the necessity of testing in a perfectly quiet office. This acoumeter is the best test for pitch and intensity of the alphabetical sounds which are equivalent to the logographic value of the letters. It is the best means of measuring the psychological factor in audition. This element enters into hearing to a very large extent, and forms one of the most important factors in determining the hearing effciency. Its true value has not been previously appreciated. The very marked increase of the hearing for polysyllables over disconnected monosyllables, and of a sentence over disconnected polysyllables, is due to this psychological factor, or the power of attention and quickness of guessing. In normal hearing, much is inferred from the context. The accurate adjustment of this machine allows the accurate determination of this important factor in hearing, which has not been previously possible.

My acoumeter readily measures fatigue of the hearing mechanism. It is an acoustic masseur which has many advantages for very deaf people and others. I suggest the phonograph as the best and easiest means of giving deaf ears the exercise they require to prevent the rapid decrease of hearing consequent on disuse, and to prevent the psychological deafness which is such an important factor with very deaf ears, and which hinders the realization of improvement consequent on the alleviation of the cause. The good results of hearing exercises are best shown in deafness following suppuration of the ear, where, with artificial aids to hearing, the hearing will often increase over a long period of time. This improvement is due to the psychical element, becoming more and more favorable to sound perception, as well as to the mechanical improvement of the sound-conducting mechanism, and the functional exercise of the perceptive mechanism.

Summary.—The methods at present in use do not give adequate tests for the perception of the human voice, nor do they give results which can be compared. My Phonographic Acoumeter does all of these things, and more. It ivercomes the chief difficulties and inaccuracies formerly accompanying quantitative hearing tests. It gives a satisfaction and accuracy not hitherto attained. It furnishes a test with the human voice which does not vary and can be multiplied and repeated indefinitely. Unilateral as well as bilateral tests can be applied without doubt or error. Eyesight aids are eliminated. It furnishes a universal standard, whose records are always comparable. It furnishes a sure way of detecting all feigned deafness short of total bilateral deafness; and it is an ideal machine for furnishing acoustic exercise which has been recommended in the treatment of deafness.

Operation.—I prefer monosyllables to longer words for the phonographic test, because they have simpler and fewer sound effects giving definite results. Polysyllables give the patient opportunity to guess the sounds not distinctly heard, just as in a sentence a clever person easily supplies the words omitted. The operator is provided with a slip of paper on which the words of the records are printed to enable him to check the words as the patient repeats them after the phonograph.

The patient is instructed to repeat all he hears. His ear tubes are adjusted in his ears, the examiner taking his own tubes. The indicator is placed at 100° on the dial, and the phonograph is started. The operator slowly moves the indicator until the patient remarks that he hears, but does not understand, or repeats the words incoherently. Then the examiner, still moving the indicator, checks the words which the patient repeats correctly, on the word list previously provided. When the patient repeats at least seventy-five per cent. of the words correctly, out of ten or fifteen words, the scale is read and the test is completed. The reading of the scale gives the acuteness of hearing possessed by the patient. To get the absolute hearing, this number should be squared and multiplied by the percentage of words accurately repeated. A quick way of writing it is in the form of a fraction, the numerator being the reading of the scale, and the denominator the per cent. of words repeated. The ears are tested separately in the same way, by adjusting the three-way valve for the separate ears.

In order to test unilateral malingering, the indicator is placed at a point at which the malingerer hears readily by both ears together, and the operator quickly turning the malingerer's valve with his left hand, cuts off one or the other of the ears, but never both at once. At the same time he marks the words repeated correctly by the patient, with R for right, L for left, and O for both, or some similar symbols. The result will show conclusively, first, that the patient can hear; second, that hearing of the two ears bears a constant proportion each to the other, if there is no malingering. If the patient is a malingerer, the relative proportion will be irregular, for no malingerer can be quick enough to detect accurately every change in the volume and direction of the sound. The same procedure, combined with changes in the graduating valve, serves to detect feigned bilateral deafness.

THE RAPID BACTERIOLOGICAL DIAGNOSIS OF DIPHTHERIA.

By HENRY A. HIGLEY, M.D.,
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By the "rapid bacteriological diagnosis of diphtheria" I desire to designate the identification of diphtheria bacilli* by the means of stained smears made directly from the false membrane present in any given case. Since in this process no cultural methods or other bacteriological work proper are involved, the term "bacteriological diagnosis" is somewhat of a misnomer—the method being more fitly classed within the domain of clinical microscopy.

There are many reasons why the identification of diphtheria bacilli by the examination of stained smears made directly from the false membrane has never found any considerable use in the laboratory diagnosis of diphtheria. One of these has been the uncertainty of the procedure with the methods available. Those who have busied themselves most with the study of diphtheria bacilli have recognized at once its great variability in form (pleomorphism). Especially does this apply to the bacilli as they are obtained directly from the false membrane. This being the case in smears made from such membrane, there is no staining technic which can be relied upon to bring out with regularity the essential characteristics of the microorganism as does Loeffler's alkaline methylene blue when the bacilli have been cultivated upon Loeffler's blood serum. Then again, the number of diphtheria bacilli present in true diphtheria membrane is subject to great variation. They may be present in large numbers or they may be rare. They may be practically the only microorganisms present, or the membrane may contain a large number of other microbes. It has seemed, therefore, that the failure to identify diphtheria bacilli in smears made from false membrane does not negative their presence in such membrane nearly so positively as when cultural methods are used and the bacilli, if sparingly present given a chance to grow and increase in number on suitable artificial media. For these reasons those most familiar with this subject will deny, by the utilization of present methods, the ability to identify, with any great regularity, diphtheria bacilli in stained smears made directly from false membrane or of negativing their presence in such membrane if not so found. This opinion is without doubt well taken. In many cases diphtheria bacilli are numerous in such smears. Loeffler's alkaline methylene blue and other stains bring out the characteristic morphology of the organism and a positive identification is possible. There are, however, a considerable number of instances in which this is not the case. In these, for one reason or another, an examination of the smears leads to an erroneous diagnosis. This can readily be proven by the results of cultures made simultaneously with the smears.

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* By "diphtheria bacilli" here, as elsewhere, when the term is used in this article, is meant both the virulent and non-virulent varieties. It is not claimed that this method differentiates between virulent and non-virulent diphtheria bacilli, any more than does the cultural method on Loeffler's blood serum. It is claimed that it gives exactly the same differentiation as does the cultural method, and is practically instantaneous, saving from 12 to 24 hours over the cultural method.

The use of the method here presented in the routine bacteriological diagnosis of diphtheria such as is being conducted by the health departments of our various municipalities is out of the question for at least two very potent reasons: (1) The difficulty and care necessary in making proper and reliable smears from false membrane is much greater than that which attends the making of cultures, so that smears made by practitioners in general would not be anywhere near as reliable for diagnostic work as the cultures which are now in general use. (2) Even with the use of this method, the time required for transmitting smears to public laboratories would equal that now consumed in the similar transportation of cultures, and all element of rapidity would be lost.

Therefore, in considering the "rapid bacteriological diagnosis of diphtheria" I do not wish in any way to be regarded as advocating its routine employment. My idea, rather, has been to place in the hands of special workers in clinical pathology, and who may from time to time desire it, a rapid method by which the diagnosis of diphtheria can be positively affirmed or denied. Not infrequently, instances arise in which such a rapid diagnosis is desirable or requested because of contingent circumstances. With this thought in view the present work was undertaken in order to determine:

(1) Whether a stain can be devised which will regularly bring out the characteristics of diphtheria bacilli and differentiate them from other bacilli so that they can always be recognized when present in smears made from false membrane.

(2) Whether any clinical method of making smears from false membrane can be practiced so that such smears will practically always contain diphtheria bacilli if these are present in the membrane—in other words, smears that can be relied upon for accurate diagnostic work.

In considering the identification of diphtheria bacilli in stained smears made directly from false membrane, certain characteristics common to diphtheria bacillil as found in such membrane require careful consideration. These are: (1) The unevenness of their contour; (2) their mode of division; (3) their grouping, and (4) the irregularity with which they stain.

Of these the first three are the most important. That is, they are the chief characteristics which serve to differentiate in smears made from false membrane diphtheria organisms from other bacilli which may be present. Especially may the first two be considered essential in this respect. The unevenness of contour of diphtheria bacilli as obtained directly from false membrane may perhaps without error, be called their most important differentiating characteristic. While the bacilli are almost always short, not very broad and of varying form, still these factors vary within tolerably wide limits so that upon the length, breadth, or form when taken singly or in combination, no positive identification can be made. If, however, within these limits of length, breadth and form, an unevenness of contour can with regularity be determined, a long stride is made toward their positive identification. The mode of division of diphtheria bacilli is second in importance of their morphological differentiating characteristics. While their mode of division is variable, the most characteristic is that in which they become spindle-shaped just before division. The division takes place through the center of the rod. When it is completed there arise two somewhat elongated, uneven rods—the classical forms which have been described as characteristic of diphtheria bacilli obtained directly from false membrane. Frequently the bacillus turns on itself at the point of division so that when it is finished, the bacilli lie parallel. If this is continued, a characteristic "palisade-like" arrangement results. The grouping of diphtheria organisms in smears made directly from false membrane is characteristic, although without doubt it may be closely simulated by other bacilli. Groups of diphtheria bacilli which lie parallel or nearly so, are always to be found in smears made from true diphtheretic membrane. Very frequently they touch each other at their extremities. Taken in its entirety this grouping more nearly resembles the grouping of tubercle bacilli as seen in sputum than that of any other organism. Notwithstanding the characteristic features of this grouping of diphtheria bacilli experience has shown that of itself it cannot be relied upon as a differentiating factor. It is well known that diphtheria bacilli obtained directly from false membrane stain irregularly. They appear mottled, banded or contain distinct polar dots, according to the character of the stain employed, and the variety of diphtheria bacillus met with. It is a fact, however, that many other bacilli obtained from false membrane stain just as irregularly as do the diphtheria organisms, so that as a diagnostic feature, this characteristic loses its value excepting when taken in combination and careful consideration with the other characteristics mentioned.

If these characteristics, when taken conjointly, serve to differentiate diphtheria organisms from other bacilli present in false membranes, then any staining method which brings them out with regularity can be relied upon for the identification of said organisms when present in smears made from false membranes. In devising such a method, the ultimate end to be attained is the production of a picture in which the bacilli stand out in sharp relief upon the background. This background in smears made from false membrane usually consists of leucocytes, epithelial cells, and fibrin. It is at once evident that the desired result can never be accomplished with regularity by the use of a single stain. Frequently single stains, when applied to such smears, do bring out the bacilli and reveal their morphological characteristics in sharp relief, but at times this distinct definition of the microorganism is not obtained, being obscured by the deeply colored background. After experimentation with numerous double stains, it was found that sharp, distinct pictures were produced only by using very dilute double or contrast stains, and the following technic was decided upon:

Stains.—No. 1. Five drops of Kühnes carbolic methylene blue in seven cubic centimeters of tap water.

No. 2. Ten drops of carbol-fuchsin in seven cubic centimeters of tap water.

Method of Application.—(1) Fix smear by passing three times through the flame; (2) apply stain No. 1 for five seconds; (3) wash with tap water and dry with filter paper; (4) apply stain No. 2 for one minute; (5) wash, dry and mount in balsam.

It will be observed that in this method no decolorization is used between the application of stains No. 1 and No. 2, as is the custom in the employment of most contrast stains. The reason for this is that the use of any decolorizing method was found to act here with considerable irregularity. At times very satisfactory pictures by decolorization were produced, but not infrequently ones that were entirely useless.

There are five important points in the carrying out of this technic, each of which must be carefully observed: (1) The smears must be as thin as possible; (2) stain No. 1 must not be left on longer than five seconds; (3) stain No. 2 must not be left on longer than one minute, nor shorter than forty-five seconds; (4) the smear must be thoroughly washed and dried between the application of stains No. 1 and No. 2; (5) solutions No. 1 and No. 2 must be freshly prepared just before using. When thus stained the diphtheria bacilli appear as dark red or violet rods, irregularly stained, often containing polar dots. The unevenness of their contour and mode of division are regularly and distinctly brought out. Especially is this the case when the bacilli are found upon epithelial cells as a background, which practically always occurs. The epithelial cells are stained a bright red against which the color of the bacilli contrasts with great sharpness. Other microorganisms take varying tints and may appear of the same color as the diphtheria bacilli, so that upon color alone no differentiation is possible. The characteristic of the technic is that it regularly brings out the unevenness of contour of the diphtheria bacillus and with sharpness its mode of division so that it can be readily differentiated from other bacilli and no confusion be possible. The advantage of the method, and that which makes it valuable, is that the above described picture is regularly produced even with considerable variation in the thickness of the smear, although it is always desirable that the smear be as thinly spread as possible.

If, as I believe, diphtheria bacilli when present in smears made from false membrane, can be easily and regularly identified by the above described technic, the final problem in the "rapid bacteriological diagnosis of diphtheria" relates to the integrity of the smears. In other words, is it possible to make smears from false membrane so that these will always contain diphtheria bacilli if they are present in the membrane? It is at once evident that this question can only be correctly answered as the result of considerable experience. Smears must be made directly from false membrane, and at the same time cultures taken. If the results obtained from the smears regularly correspond to that from the cultures the smears may be regarded as reliable. After trying various methods the following was found to give regular and satisfactory results.

Making of the Smears.—The material which is used to make the smears is obtained from the false membrane by the means of a strong wire-looped needle—the wire being flattened by filing at its curved extremity so as to form a sort of curette. This loop is sterilized by heat in the flame, and when cool lightly passed over the false membrane, some of which will always adhere to the wire. A drop of distilled water is now placed upon a cover glass or slide and the smear made in this drop with the large looped needle upon which is the material. Three to five smears may be made with the material obtained, by the single application of the loop to the false membrane, by passing the loop from one cover glass or slide to another, each of which has upon it the drop of water. As a rule the second and third smears thus made are sufficiently thin, evenly spread and the most satisfactory for use, although, of course, this depends upon the amount of material which has been removed from the membrane, and is upon the wire loop.

During the past several months, by the above method, I have examined at the Kingston Avenue Hospital, New York City, 126 smears made directly from false membranes in cases of diphtheria and suspicious deposits in the throats of those sick with follicular tonsilitis and scarlet fever. Every smear examined was controlled by cultures simultaneously made. The diagnosis was made from the smear and later compared with the result of the culture. In all cases there was no difficulty in making a correct diagnosis from the smears. That is to say, whenever the smear showed diphtheria bacilli, the culture came out positive (diphtheria bacilli present), and whenever the smear showed no diphtheria bacilli the culture came out negative (no diphtheria bacilli present). From this experience I am forced to the conclusion that the method is a safe one, and that by its use when properly carried out, a rapid (15 minutes), and as sure a diagnosis as that given by cultural methods may be made by the examination of stained smears made directly from deposits or false membranes in cases which present themselves for the differential diagnosis of diphtheria.

The experience necessary for the successful use of the method is more than that possessed by the average clinical practitioner, and its employment is therefore advocated only for the special worker in clinical pathology who has had a fair experience in the morphological study of diphtheria bacilli.

In conclusion, it gives me great pleasure to acknowledge my indebtedness to Dr. William H. Park for aid and kind suggestions during this work.

227 PARK PLACE.

THE BEST METHOD OF ADMINISTERING POTASSIUM IODIDE.*

BY MAX HÜHNER, M.D.,
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THE best method of administering any drug is undoubtedly the one which most certainly accomplishes the purpose desired with the least possible undesirable effect. Applying this principle to potassium iodide, it necessarily follows that the method of administering will differ with the different purposes in view; thus, if we wish to give it for calcareous arteries for a long period, we would administer it differently than when the object is to produce a rapid impression, as in cerebral gumma, etc. Before discussing the different best methods for the different purposes, the following general principles will be found to apply to all methods alike.

(1) For therapeutic purposes potassium iodide should always be given in solution, well diluted, and if possible, never on an empty stomach.

For dilution, several things have been used. Milk is by far the best, for it not only disguises the taste more effectually, but also prevents, to a great degree, the disagreeable after effects of the drug. Another excellent vehicle is compound syrup of sarsaparilla. Mineral waters or ordinary pure water may also be used. The iodide of potassium should be diluted with about half a glass of the water or milk.

(2) It is essential to have a perfectly pure preparation. Pure iodide of potassium can be taken for a very long time and even in large doses without causing disturbances of the gastrointestinal canal.

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* Prize Essay ("Clinical Excerpts").

Many of the bad effects of this drug are due to an impure preparation.

(3) It is necessary to observe strict cleanliness of the skin (daily baths), while taking iodide of potassium internally. By so doing, the disagreeable skin eruption may, to a large degree be prevented, the eruption being due to the decomposition of the iodine salt excreted with the perspiration by the fatty acids, setting free the iodine which acts as an irritant.

(4) As a practical matter it is preferable not to write for a 100 per cent. solution. Several years ago I wrote a prescription for potassium iodide to be given in drop doses gtt. i to represent gr. i of the drug, and was surprised to be informed by the druggist that it was impossible to make up a 100 per cent. solution. On consulting the late Dr. Charles Rice(head of the general drug department of Bellevue Hospital), he showed me that it was possible to make up such a solution, though with some difficulty. It became evident that most druggists would not take the necessary time and trouble, but would probably give a weaker solution. Where, therefore, accurate dosage is of importance, it is safer to prescribe a 50 per cent. solution, two drops to equal one grain of the drug.

(5) Iodide of potassium is incompatible with alkaloids and the ordinary soluble metallic salts.

While the patient is taking potassium iodide, calomel should not be dusted into the eye, for an effect may result similar to the application of a strong caustic on the mucous membrane. This point is fully discussed in all standard works.

(6) Small doses of the drug may produce symptoms of iodism while larger doses, in the same patient, may not have this effect.

(7) Potassium iodide should never be given in phthisis or when there is even a suspicion or tendency to phthisis. Its irritating effect upon the bronchial mucous membrane is a decided objection to its use in such cases. If, however, phthisis is associated with syphilis, it may be used to advantage.

Taking up next the more important conditions for which potassium iodide has been prescribed, I shall endeavor to indicate the best method of administering it in each condition.

Syphilis.—In a paper like the present, it is impossible to give anything like a complete discussion of the treatment of this disease, a bare outline only of the part played by iodide of potassium therein will be presented. Practically it ought never be given in the primary stage. In the secondary stage it should not be administered until the patient has had at least six months of treatment with mercury, preferably by inunctions. There is an exception, however, where some tertiary symptoms appear ahead of time (during the secondary stage), and threaten the integrity of some important organ, the brain, eye, etc. In such cases it is absolutely necessary to start with the drug at once, and run it up as rapidly as possible in a manner hereafter described. In the simple secondary lesions it is useless, but may prove beneficial in recurrence of secondary lesions. In an ideal case after six months' treatment with mercurial inunctions, I start the use of iodide of potassium with the well-known mixed treatment, using the formula:

℞
Hydrargyri iodidi rubri, . . . gr. ss
Potassii iodidi, ... gr. cxxviij
Syr. sarsaparillæ co., ... ℥i
Aquæ q. s. ad. . . . . ℥ij
M. Sig. ʒi t. i. d. after meals, well diluted.

After a few weeks, however, I prefer to give the drug alone, and in solution in doses of ten to twenty-five grains t. i. d., giving mercury by inunction off and on for another six months at the same time. Throughout the treatment especial attention is, of course, given to the care of the mouth, teeth, gastrointestinal canal and skin.

When giving the drug in this way, and intending to keep up the same dose for a long time, I prefer not to order it in drop doses, but in solution ʒi = gr. x to gr. xxv, as follows:

℞
Potassii iodidi, ... ʒviii to ʒx
Syr. sarsaparillæ co., ... ℥i
Aquæ q. s. ad. . . . . ℥iij
M. Sig. ʒi in half glass of milk or water t. i. d. after meals.

Again, when giving potassium iodide in this manner for its specific effect, and not to counteract any particular symptom, I stop at the first symptom of poisoning, wait a little while and then change the dose.

Very different, however, is the method of administering in tertiary syphilis, especially when some vital organ is threatened. Here I do not stop simply because some pustulation or rhinitis occurs, but continue right on in increasing doses till more serious symptoms make it impracticable. This is done for two reasons, first, by increasing the dose we may sometimes cause the symptoms of poisoning to disappear (a small dose may cause sypmtoms of poisoning, while a larger one may not); and second, even if the sypmtoms do not disappear, or even get worse, it is far more important to saturate the system as rapidly as possible with the drug, than to worry over a pustulation or rhinitis. In other words, we must endeavor to put as much iodide of potassium into the system as it can possibly stand, and also do it as rapidly as possible. My method consists in prescribing a 50 per cent. solution (gtt. ij = gr. i), and starting off with gtt. xx, increase gtt. ij at each dose as follows: First day 20 drops in the morning, 22 drops at noon, 24 drops at night; second day, 26 drops in the morning, 28 drops at noon, 30 drops at night; third day, 32 drops in the morning, and so on. Given in this way, ill effects rarely occur, and I have rarely had cause to stop it on account of unpleasant symptoms. At the same time the increase is rapid enough for ordinary purposes, although under extraordinary circumstances, we may increase by four drops instead of two at each dose. I have two patients at present, taking between 500 and 600 grains daily, without any annoying symptoms.

In an ideal case, after all symptoms of the disease have disappeared, and after two years of mercury and iodide of potassium given as above, I generally have the patient take the drug in the form of mixed treatment for another six or twelve months off and on, to make as certain as it is possible in syphilis that he is cured.

Cerebral Syphilis is benefited only in the early stages by absorption of the gumma or swelling of the intima. It cannot remove the scar or cause disappearance of the connective tissue or regeneration of the dead nerve cells. If no good results after two months' trial in large doses, together with inunction treatment, it should be discontinued, as it may do harm.

In all cases of cerebral or spinal cord tumor, with even a suspicion of syphilis, iodide of potassium (in large doses), should be given a trial. It may even do good in tumors not of syphilitic origin.

Locomotor Ataxia is here discussed because it is dependent upon syphilis to a certain degree. Iodide of potassium has always held a prominent place in the treatment here, because in between 75 to 90 per cent. of all persons afflicted, there is a history of previous syphilitic infection. I have used the drug in various ways in combination with mercury and without it, after the administration of mercury and by itself, also in doses of 30 grains a day to 500 grains a day. I have occasionally seen an annoying symptom disappear under its use, and have often seen a general improvement in all the symptoms, and an apparent standstill of the disease, but I must confess that not only have I not seen anything resembling a cure, but in most cases the disease seems to run its course as badly with it as without it. On the whole, the better results were obtained by running up the drug to 100 grains three times a day, and keeping it up for a few weeks.

The peculiar nature of locomotor ataxia must be taken into consideration here. Although a history of syphilitic infection can be made out in such a large percentage of cases, yet neither clinically nor pathologically is it a syphilitic lesion; it often occurs in patients who have had the benefit of thorough antisyphilitic treatment, and may occur in persons where the primary sore was only suspicious, or even positively nonsyphilitic, not followed by secondary or tertiary symptoms, and producing healthy children. Considering all this, it is not surprising that iodide of potassium has not the brilliant effects it has in other and truly syphilitic lesions.

Chronic Endarteritis, whether syphilitic or not, is greatly improved by potassium iodide. It should be given in doses of gr. v to gr. xx, four times a day, for a long time, stopping off and on as soon as symptoms of iodism occur. Aneurysms are also best treated by this drug.

Chronic Endocarditis.—No matter what valves are diseased, if the arteries are contracted, iodide of potassium is an excellent remedy in doses of gr. v to gr. x three times a day, kept up for a long time. It may also be given in combination with digitalis, to modify the action of this drug on the arteries. It has absolutely no effect upon the heart except in very large doses, when the heart effects are due to the potassium part of the drug.

Asthma.—Potassium iodide has justly achieved a great reputation in this connection. The disease being dependent upon so many different causes, the cases must be carefully selected or we will often be sorely disappointed. If the asthmatic attacks are due to nasal polypi or other reflex nasal causes, the drug, by increasing the irritation of the nasal mucosa, can only do harm. The same applies if the attacks are due to a swelling of the mucus membrane of the bronchi. But if due to a spasm of the arterioles as shown by contracted radial arteries, excellent results will follow its administration. My method in such cases has been, first to give large doses of nitroglycerin, which acts more rapidly than potassium iodide, and then potassium iodide in doses from gr. x to gr. xx t. i. d. These doses if kept up for a long time, will produce a permanent cure in quite a few cases. In a still larger number of cases, a temporary disappearance of all symptoms results.

Chronic Bronchitis, if secondary to chronic endocarditis or endarteritis, is greatly benefited by doses of gr. v to gr. x three times a day, given for a long time.

Chronic Nephritis, no matter of what variety, if accompanied by contracted arteries, is benefited by small doses.

Lead Poisoning.—Here the drug must be given in small doses (gr. v-x t. i. d.) for a long time. It must not be given up if the symptoms get worse, that being often due to the liberation of the lead and its circulation through the system. For the same reason it must not be given in too large doses or too rapidly, else the lead may be eliminated too rapidly and cause cerebral symptoms. In anemic persons it may be combined with iron.

Rheumatism.—It is useless in the acute and also in most cases of muscular rheumatism. In the severer forms of the latter, it often does good when combined with gelsemium. In chronic rheumatism it often does good after the salicylates have failed. It may also be given in combination with sodium salicylate and colchicum, as in the following dispensary formula:

℞
Potassii iodidi,
Sodii salicylatis, ... āa ʒij
Vini colchici seminis, ... ʒij
Aquæ q. s. ad................. ℥iv
M. Sig.: ℥ss q. 4 h.

Gout is only favorably affected by the drug if associated with rheumatism.

Neuralgia, especially if dependent upon syphilis, is often cured thereby.

In administering the drug to children, two methods have been employed, the indirect and the direct. The indirect consists in giving the drug to the mother or wet nurse, in the hope that it be excreted in the milk, and the nursing child obtain it in this way.

But while it is true that after prolonged administration to the mother, its physiological and therapeutical effects may be noticed in the child, including symptoms of poisoning, and presence of iodine in the urine, it must nevertheless be admitted that anything like exact dosage or even certainty of action cannot be relied upon.

In the direct method it must not be forgotten that in children the symptoms of poisoning are chiefly of the gastrointestinal variety. Children stand relatively much larger doses than adults, and no limitations of Young's or Cowling's rules of dosage are applicable. The drug is best given well diluted and very frequently in small doses rather than infrequently in large doses, thus it is better to give ¼ grain every hour than one grain every four hours. Its chief use is in hereditary syphilis and in meningitis, whether syphilitic or not. In both these conditions it must be given in very large doses. In this way it is possible for a six-months-old child to take as much as gr. xv to gr. xxx in 24 hours, for a long time without inconvenience. Larger children may take as much as ʒij in 24 hours. In simple acute non-suppurative adenitis I have given a one-year-old child as much as gr. xv in 24 hours, for a long while, without bad effects, and with complete absorption of the glands. Of course, hygienic treatment was not neglected as well as removal of all possible exciting causes.

A very convenient way of giving the drug to very young infants is to tell the mother or nurse how much of the drug (in solution) the child is to take in 24 hours, and dissolve this in 24 teaspoonfuls of water, to have the child take one teaspoonful every hour while awake, and two or three teaspoonfuls upon awakening after a two or three hours' sleep.

It is, therefore, evident that the method of administering potassium iodide is not uniform, but varies with the different conditions for which it is given, except for the general rules enunciated at the commencement of this paper.

64 East Fifty-Eighth Street.

A NEW REMEDY FOR ULCERATIVE PROCESSES, ACUTE AND CHRONIC, INCLUDING PULMONARY TUBERCULOSIS.

By HUBBARD W. MITCHELL, M.D.,

NEW YORK.

THE difficulty of successfully treating ulcerative processes, either acute or chronic, is too well known to admit of comment. The severe ulcerations of the cervix uteri, especially those cases complicated with lacerations of long standing, render treatment slow and tedious. Ulcerations of the lower extremities, either traumatic, varicose, or syphilitic, in old, feeble, or debilitated subjects, render any form of treatment very difficult. Suppurating buboes often defy all attempts to cure. The ulcerative process of the lung tissue known as pulmonary tuberculosis has been very rebellious to any known mode of treatment.

The obstinate nature of this class of cases to all curative measures, and the earnest desire to find some means for a certain and more speedy cure, led me some years ago to begin a series of chemical experiments, to discover if possible some medicinal agent that possessed the power to modify or heal ulcerative processes.

The result of these experiments—extending as they did over a protracted period of time—was the discovery of an antiseptic fluid, having rather remarkable healing properties on this particular class of cases of ulceration. The practical chemist who aided me in these experiments gave the preparation the chemical name of a "solution of chlorobromide of sodium." It has since been more generally known as "Mitchell's fluid."

This fluid is prepared as follows: To a convenient quantity of water add 3 per cent. sodium chloride, 0.1 per cent bromine, and 0.5 per cent. hydrochloric acid (C. P.). Subject this mixture to the action of an electrical current until such chemical action has taken place within the mixture as to convert all free bromine into a compound with the other elements present. The length of time necessary for this depends upon the amount of fluid acted upon and the strength of the current used. The resulting fluid is pale amber in color, with a strong odor of chlorine, a slightly acid taste, and a sp. gr. 1022. It must be kept in amber colored bottles, in a cool place, and tightly corked.

The preparation once discovered and its chemical composition known, it became necessary to test it upon a considerable number of ulcerative cases, to determine positively if it really did possess the special properties ascribed to it, since theory, not sustained by practice, is of no value. A course of experimental work was at once begun.

Through the courtesy and very practical help of several of my medical friends on the visiting staff of the City Hospital, Blackwell's Island, I was enabled to test this fluid on a large number of patients in that institution.

The results were certainly very satisfactory. Chronic ulcers of the leg, regarded as well-nigh hopeless, were cured. Suppurative buboes, which hitherto had resisted all modes of treatment, healed kindly and speedily. Cases of ulcerative cervical endometritis of a chronic and severe character quickly disappeared under the direct local application of this fluid.

As the results of the external application of Mitchell's fluid had proved so favorable, it was then determined to try it internally upon that class of ulcerative processes of the lung known as pulmonary tuberculosis. Accordingly a number of such cases were selected—all severe and chronic—and treated by giving the fluid internally in one ounce doses before each meal and at bedtime. It was thought that if the fluid was taken when the stomach was perfectly empty, it would be quickly absorbed and carried practically unchanged by the blood current into the lungs, and there be brought into contact with the ulcerated lung tissue. These experiments were continued rather more than a year, and upon about one hundred cases.

The results seemed satisfactory, and upon the conclusions so reached a paper was prepared and read before the New York County Medical Association, in November, 1895, setting forth the facts as far as they had been discovered up to that time. The claims then made for the fluid were based simply and only upon the results obtained from its use in the class of ulcerative processes above enumerated.

Greater experience and more accurately conducted experiments soon demonstrated the fact that the chemical composition of the fluid needed some modification, and, moreover, one or two years was not time enough to determine the fact whether it had any real and lasting benefit in so grave a disease as consumption. So many extravagant, vague, and untenable claims have been made in the treatment of this disease, and so many new "cures" offered, that it is with extreme reluctance, and after long hesitation, that this fluid is again brought to the attention of the profession. It is now believed to stand upon a sound and scientific chemical basis.

The chemical name is the same as it formerly was, viz., a "solution of chlorobromide of sodium," and it is prepared after the formula above given. The present experience is based upon its use in nearly one thousand cases.

It seems to possess a peculiarly healing power in pulmonary tuberculosis, which a very rigid and practical experience has demonstrated. In treating this disease, it should be remembered that it is distinctively an ulcerative process going on in the delicate spongy tissue of the lungs; that this process goes on until it destroys the lung tissue to an extent that causes death, if unchecked; that the ulcerative process seems to give rise to a poisonous principle in the blood, which produces general anemia and the train of depressing symptoms due to blood impoverishment.

To treat this form of disease successfully, two things must be accomplished, namely, (1) a checking of the ulcerative process, and (2) a restoration of the general health.

As to the first: Mitchell's fluid seems to have the power to check such ulcerative processes and, if the disease is not too far advanced when first seen, ultimately to effect a cure. It must be given in free doses, for a considerable period of time, from 1 to 1½ ounces clear four times daily, *i. e.* before each meal and at bedtime. It is imperative to have the stomach completely empty when the fluid is taken.

As the fluid has a hydrochloric acid reaction, and as the gastric juice has the same chemical reaction, it can be taken a long time without injury, but rather with a positive benefit to the appetite and the digestion. It has besides an antiseptic influence upon the poison-laden blood, as is shown by a gradual improvement in the symptoms.

In severe cases of pulmonary tuberculosis—not those cases with contracted and deformed chest walls, or those with a taint of hereditary syphilis, and made worse by a vicious mode of life, which generally end fatally despite the most careful treatment—there is often a condition of depression, loss of appetite, and debility, that calls for a tonic specially adapted to it. A tablet of strychnine 1-60 grain, once or twice daily is excellent for this purpose.

The following formulæ have been found to possess particular value:

℞	Tinct. Gentian. Comp..............	ʒiv
	Acidi Sulph. Aromatici.............	ʒiii
	Syrupi Simplicis....................	℥iv

Misce et signa: Spoonful after each meal.

℞	Tinct. Gentian. Comp...............	ʒiv
	Acidi Phosphorici Diluti............	ʒiv
	Syrupi Simplicis....................	℥iv

Misce et signa: Spoonful after each meal.

One of these tonic preparations may be given in conjunction with Mitchell's fluid, and continued until the general condition is better, when it may be reduced in quantity, and finally withdrawn. The fluid will then be a sufficient amount of medication.

Opium is rarely required. Alcohol is, as a rule, contraindicated. Tobacco should be prohibited during treatment. As to the second indication, viz., to restore the general health. As the malady under discussion is an ulcerative process of the lung tissue, giving rise to a peculiar toxic principle which severely depresses the vital powers, it follows that the impaired general health must be restored to a normal standard by proper, rational and physiological means.

Next then, in importance to the administration of proper medicines, is the question of *nutrition.*

This function is usually much impaired. To restore it is often a difficult matter. Those articles of diet having the greatest amount of nutriment must be selected. Rich soups, steaks, chops, yolks of soft boiled eggs well seasoned, good bread and butter, potatoes, oysters, tea and coffee with cream and sugar, given as needed, and chosen carefully, are among the best. As the appetite is poor, and often capricious, it must be carefully restored—never forced. Personal comfort must be preserved.

The air of the room, both by day and night, must be kept fresh and pure, but always at a comfortable temperature.

In mild cases the patients can follow the above method of treatment at their own homes, and still pursue their daily avocations. The attending physician can instruct them as to sanitary rules to be observed.

Climate plays a less important part than was formerly supposed. That of New York City is very favorable, and the necessity of sending patients away from their own homes, to health resorts and sanatoria, is now, I believe, generally regarded as less important.

The modern method of instructing patients how to observe and follow sanitary rules as to their own care, and for the prevention of communicating the disease to others, is of untold value.

To cure a case of pulmonary tuberculosis—even a mild case—requires long and persistent treatment, and a faithful observance on the part of the patient of all rules laid down for his benefit. But if the mode of treatment above outlined be carefully and diligently followed, sufferers with pulmonary tuberculosis can be reasonably sure of being cured of their trouble, and with a fair amount of bodily comfort.

747 Madison Avenue.

Fever and Feverishness in Children.—Charles W. Chapman believes that there is no surer road to professional success than that opened up by the knowledge of everyday children's diseases. Great care should be given to the diagnosing of disease in children, no matter how trivial the complaint may appear to be. Probably every illness has at some time been attributed to teething. The nervous system and the digestive system are both undergoing developmental changes at the time of dentition, and are during this period peculiarly sensitive to all forms of irritation. It is not strange that fever, convulsions and diarrhea are commonly found in infants who are cutting their teeth. Any one of these symptoms may be caused by a chill, or by an error in diet. Acute illnesses, absolutely unconnected with teething, may occur during the period of dentition, and much valuable time will be lost if the physician's attention is centered entirely on the child's gums. A very common cause of fever in children is tonsillitis. The throat should always be examined in every case of feverishness. For in this way the presence of one of the exanthemata and inflammation of the pharynx may be detected. The detection of tonsillitis is especially valuable in relation to the presence of a rheumatic tendency. The writer has observed many cases of organic heart disease that have had their rheumatic history limited to attacks of tonsillitis. It is most important to keep the throat, and especially the tonsils, in a healthy state. Unhealthy tonsils offer an open gateway to diphtheria, rheumatic fever, scarlet fever, and so on. Gastro-intestinal irritation is a frequent cause of feverishness. Too great care cannot be given to the supervision of children's food. Many cases of illness have their origin at children's parties. The effect on the digestive organs of insufficient protection of the abdomen and legs from cold is well known. The physician should always be on the lookout in cases of feverishness for the presence of bronchopneumonia and pneumonia. Very careful examinations of the chest are often necessary for the detection of these troubles, which may be limited to small areas. Every effor should be made to discover the cause of the pyrexia. If a dietetic error is found, a mercurial aperient suitable to th age of the child is indicated. It may be said that, in general convalescence will be assisted by the administration o gr. 2-5 of sodium bicarbonate with rhubarb, if the tongu has not cleaned, or gr. 2-3 of carbonate of bismuth whe gastric irritability and redness of the tongue are present.—*The British Journal of Children's Diseases.*

The Alexander-Adams Operation.—Fehling does not agre with those surgeons who advocate free opening of the ir guinal canal in this operation. He ascribes most of th untoward sequelæ sometimes observed to this method o procedure, and says that he has operated on one hundre and six cases in the last three and a half years without single complication and with only 4.4 per cent. of relapse The last one hundred operations were performed as fo lows: A curved incision is made from a point half wa between the anterior superior spine of the ilium and sym physis of the one side to the other, passing over ea tuberculum pubis. The outer part of each incision deepened until the fascia of the external oblique is reach and the columns of the ring are defined. The ligament then sought for by blunt dissection, taking care to isola the ilioinguinal nerve. The ligament is then seized with small clamp and drawn down to its peritoneal investme The ligament itself will stand considerabe traction, the cas in which it is said to have torn are usually due to mistaki artefacts from the fascia for it. Following this method, t ligament may always be found, and injuries to other stru tures are very rare.—*Zentralblatt für Gynäkologie.*

Iron Ring from Human Blood.—It is said that M. Ba ruel, head of the chemical laboratories of Paris, wears his finger what is probably the most remarkable ring in t world. Having in his time practised much phlebotomy human subjects, M. Barruel has systematically extract chemically the iron from the blood collected. The me was kept in the shape of minute globules or pearls, and last the idea occurred to him to have these all weld together in ring form.—*London Globe.*

MEDICAL RECORD.

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HOT BATHS IN THE TREATMENT OF CEREBROSPINAL MENINGITIS.

THE inefficacy of our present methods of treatment of cerebrospinal meningitis is a fact which must be mournfully acknowledged, for a perfect recovery from a sharp attack of this disease is so rare as to be worthy of record. Even alleviative measures seem to be of little use, and it must be admitted that until much more is definitely known of the malady from all points of view, physicians must confess themselves beaten in their fight against its spread. It is to be hoped that the Commission recently appointed in New York City with the object of unravelling some of its moot points will be successful in their quest. A few features in connection with the disease are fairly well understood—that it usually attacks children; that it is most prevalent among the poor and in those districts in which dirt and overcrowding exist, and that it is probably infectious. As to whether severe weather exerts any influence on the origin and spread of the affection is a point upon which authorities are not unanimous.

There are two modes of treatment, not to mention the recently suggested use of diphtheria antitoxin, which stand out prominently, although testimony as to their merits is inconclusive and statistics bearing on the subject are meagre to a degree. The first of these is lumbar puncture, and the other method of treatment is by means of hot baths.

In Allbutt's "System of Medicine" no mention is made of the hot bath treatment of cerebrospinal meningitis, although bleeding, cold applications, emetics, and mercurialization are all referred to more or less approvingly. Netter, in the "Twentieth Century Practice of Medicine," in a short notice of hot baths as a remedy for the disease, highly lauds the method. He states that such baths are usually repeated four or five times a day, the immersion being prolonged from one-half to three-quarters of an hour.

The *Albany Medical Annals* for March, 1905, is given up to a consideration of cerebrospinal meningitis from various aspects, the papers being contributed by men well qualified to pass authoritative opinions. Dr. Stockton of Buffalo discusses treatment and reviews at some length the literature dealing with hot baths. Some of the writers he quotes are highly eulogistic of this mode of treatment, some are more reserved in their expressions of commendation, while some are openly sceptical as to its value. On the whole, however, the majority are in favor of this form of treatment. Aufrecht, in 1894, initiated the hot bath as a means of treating cerebrospinal meningitis, and announced excellent results. By far the most enthusiastic testimony, however, as to their beneficial effects comes from Russia. According to *Modern Medicine* for October, 1904, M. Rogansky has recently published in the *Meditsinskoye Obozreniye* the remarkable results of his employment of Aufrecht's method for a period of five years. During this time fifty-one patients were under treatment in the women's wards. Hot baths at 104° F. were administered for fifteen or twenty minutes once or twice a day. The precaution was taken to apply an ice-bag to the head of the patient during the bath. In his paper the author particularly emphasizes the wonderful effect of hot baths on patients admitted in a subdelirious condition. Most of them recovered consciousness as a result of the first bath, even patients who had been delirious for two or three days. In a few cases consciousness was not restored until after the third bath, but in those cases in which consciousness did not return immediately, restlessness and delirium were diminished or disappeared entirely. Pain was always relieved, even in fatal cases, but the influence of the treatment on temperature, vomiting, and cervical rigidity was not so marked. Of these fifty-one patients thirty-four were cured and seventeen died, giving a mortality of 33 per cent. In the men's ward, with fifty patients upon whom the method was not tried, forty deaths occurred, a mortality of 80 per cent.

A comparison of these figures offers testimony to the efficacy of the treatment, and it suggests the expediency of adopting the hot-bath treatment of cerebrospinal meningitis as a routine measure. At any rate, the treatment is worthy of close investigation at the hands of physicians in the epidemic now raging in New York and elsewhere in the country.

DR. REED'S INDISCRETION.

DR. C. A. L. REED of Cincinnati was recently sent to Panama on a non-professional mission to assess the value of certain real estate acquired there by our Government. But as he was a prominent physician and one presumably well qualified to judge of the existing sanitary conditions on the isthmus, the Secretary of War requested him to make an unofficial report on these matters. Dr. Reed accepted the invitation with alacrity, and made a report in which he scored roundly the bungling officiousness of the members of the Canal Commission, and of one member in particular whose sole aim, to judge by his acts, seemed to be to defeat the chief sanitary officer's well-directed efforts to render the canal zone a fit place for human habitation. Instead of giving Colonel Gorgas, the chief sanitary officer, a free hand to institute the measures which he had found to be effective in Havana, under the intelligent compliance of Governor Wood, the commission hampered him in every way. A lay board of health was constituted and all initiative was taken away from the only man among them who knows anything of sanitary matters.

The chief sanitary officer, whose department the medical profession had asked to be made largely autonomous, and which the President himself had obviously intended to be so, became, by action of the commission, subordinated to the governor of the zone; to the chief disbursing officer; to the chief of the bureau of material and supplies; to Mr. Grunsky; to the commission; to the Secretary of War; to the President; subordinated, in fact, in the seventh degree from the original source of authority, and this, says Dr. Reed, is the state of affairs on the isthmus to-day. "If the superintendent of the Ancon Hospital makes a requisition for supplies, he must take it for approval to the chief sanitary officer; then to the governor of the zone; then to the chief disbursing officer; whence it goes to the commission at Washington; then to Mr. Grunsky [as committeeman of the health department]; then back to the commission; then, if allowed, bids are advertised for; awards are made; the requisition is filled under the supervision of a purchasing agent notoriously ignorant of the character and quality of medical and surgical supplies; the material is shipped to the isthmus; consigned to the chief of the bureau of material and supplies, who notifies the disbursing officer, who notifies Colonel Gorgas, who in turn notifies the superintendent, who applies to the quartermaster for transportation, and so much of the stuff as in the judgment of, first, the governor, next the chief disbursing officer, next the commission, next and more particularly Mr. Grunsky, ought to be allowed to the superintendent of the hospital, finally arrives or does not arrive at its destination."

Dr. Reed quotes instances showing how requests by the sanitary department for necessaries have been treated. For instance, "doors and windows for the hospital at Culebra were asked for in January, but are not in place. Materials for disinfection work were asked for last September; the commision cut the estimate down to one-fourth, and sent the material in small lots from time to time. Before Colonel Gorgas went to the isthmus he laid before the commission a plan of campaign which embraced (1) the installation of a sewer system in the cities of Colon and Panama; (2) the installation of water supply in those cities; (3) the cleaning of the streets, including the disposal of garbage and night soil; (4) general sanitation of houses, including their cleaning and fumigation and the drainage of neighboring pools, the abolition of water barrels and cisterns and other places for the propagation of the yellow-fever mosquito; (5) the prompt isolation of all cases of yellow fever. It was not until after four or five months had elapsed, however, and only after progressive development of yellow fever, that Colonel Gorgas was permitted by the commission to assume the sanitary control of the two cities—one of which, Panama, had by this time become very generally infected." The report states that the responsibility for the present existence of yellow fever on the isthmus can be placed nowhere else than on the canal commission, more especially on Mr. Grunsky. It also states that the campaign against malaria has been thwarted by the commission, that many employees are sick with malaria, and that both nurses and attendants are frequently victims of the disease.

The report from which we have quoted can hardly be called a temperate one, but it is distinctly a truthful one, and it could be corroborated, if corroboration were necessary, by numbers of the physicians who took part in the Pan-American Medical Congress recently held at Panama, although they had far less opportunity to get at the real facts than had Dr. Reed. Had the writer of the report been content to give it to Secretary Taft and say no more about it, the President might or might not have acted upon it; but this uncertainty did not suit Dr. Reed. So he published it in full in the *Journal of the American Medical Association* of March 11, and it thus became public property, much to the disgust of the authorities at Washington. How deep was their displeasure is evidenced in the rebuke contained in the President's letter to Secretary Taft acknowledging the receipt of the report. He says: "Dr. Reed has not displayed in this report the qualities of temperament or the power of accurate judicial observation needed to make a report valuable to the Government. . . . When he assumed to make a report on sanitary conditions at your request as Secretary of War he was under obligation to speak with care and justice on so important a subject and to observe the proprieties as to its publication." Despite these stern words of reproof, one cannot but feel that, were the conditions reversed, the intemperateness of the report and the impropriety of its publication would have been pronounced entirely characteristic of the strenuous Mr. Roosevelt. Perhaps he was moved to indignation less by the publication of the report than by the impertinence of its concluding sentence, which was as follows: "I have the honor not only to submit the suggestion, but really to urge that the time has arrived when the President ought to redeem his word and ask for the resignation of the commission."

Tact and diplomacy of the orthodox kind are very necessary as a general rule of action in public as well as in private affairs, but on certain rare occasions more good can be accomplished by blurting out what one thinks without regard to the amenities, and this was possibly one of these occasions. As physicians, we are not concerned, except in a general way, as all good citizens should be, with the ineptitude of the Panama Canal Commission, but we are very deeply concerned with the action of the commission in thwarting Colonel Gorgas's efforts to save life on the isthmus. If Dr. Reed's impropriety awakens the public mind to the imminent danger of failure of the all-essential work of sanitation of the Canal Zone, (it has possibly borne fruit already in the forced resignation of all the members of the committee, just announced), his indiscretion will be condoned and approved by those who have the wit to see that the canal will never be dug by dead men, or even by sick men.

PUERPERAL FEVER IN LONDON LYING-IN HOSPITALS.

THE March number of *The Practitioner* is devoted to a consideration of puerperal sepsis from many points of view. All the articles contained therein are written by acknowledged authorities on the subject of midwifery, and thus there has been gathered some extremely valuable information. Dr. William J. Gow writes on puerperal fever in London lying-in hospitals. Before antiseptics came into use the causation of puerperal sepsis was not understood, and in consequence the condition was not treated intelligently or effectively. Within a comparatively few years a great change has come over the situation, so far as the treatment of childbed fever is concerned, and now the suffering woman has had brought to her aid all the resources of science. Perhaps, although it may seem boastful to say so, nowhere in the world is the hospital treatment of parturient women carried out so thoroughly and effectively in all its details as in this country, and especially is this the case in New York. Here most of the maternity institutions are new, built for the express purpose, and equipped and furnished throughout with every convenience that expert knowledge can conceive. In London the majority of the lying-in hospitals are old buildings, containing small rooms, so that however skillful the accoucheur may be, he is handicapped to a certain extent. Taking everything into consideration, the results obtained in the hospitals for lying-in women in London and other large cities of Great Britain are remarkably good. Needless to say, precautions of the most rigid nature are taken to prevent infection. The following rules, for example, are followed in Queen Charlotte's Lying-in Hospital: "1. Keep the nails short and remove all rings. Turn up the sleeves. 2. Wash the hands thoroughly in soap and water, and scrub with a nail brush. 3. Rinse the hands in clean water, but do not dry them with a towel. 4. Immerse the hands immediately in 1-1,000 perchloride of mercury for one minute, at the same time scrubbing them with a nail brush. 5. Lubricate the examining finger with vaselin immersed in 1-1,000 perchloride of mercury. 6. Hold up the examining hand, in order that it may not come into contact with anything until the moment for the examination arrives. 7. After the examination has been completed, wash the hands thoroughly in soap and water." After the child is born, no undue efforts are made to accelerate the expulsion of the after-birth. A douche is not given as a routine practice, but is generally employed if the labor has been instrumental. In such cases a quart of 1-4,000 perchloride of mercury is given, followed by a pint of plain hot water. Perineal and other tears are carefully sutured. The entire course of action in this and other London maternity hospitals is based upon the conviction that excessive care during labor is the surest means of obviating the danger of puerperal sepsis, and therefore every possible precautionary measure should be taken. Instruments are employed only when absolutely necessary, as it is believed that they are sometimes the cause of puerperal septicemia.

THE END OF THE CORONER SYSTEM.

THERE is a bill before the New York Legislature to abolish the antiquated coroner system, and it is announced that there will be a hearing before the committee in regard to it. It is difficult to conceive of any reason why this system should be retained, but presumably there will be some voices raised in opposition to the bill. Both houses of the Legislature passed a similar bill a year ago, and Mayor McClellan made one of his mistakes in vetoing it. Whether he has seen a new light since or whether he will again veto it, if passed, we are not in position to say; but we do not think it probable that the bill will be again vetoed. Mr. McClellan is of the type of President Roosevelt in that he tries to do right, but is forced to acknowledge his political limitations, and if he cannot do what seems to him best he will do the best he can under the conditions that beset him. Perhaps these conditions are different from what they were last year, but if they are not and he still feels the necessity of rejecting the bill, the Legislature will be able to pass it again over his veto by a mere majority vote. There is every reason to hope, therefore, that the end of the pernicious coroner system in this city is within sight.

The Rhodes Scholars at Oxford.—It is gratifying to learn the American Rhodes scholars are carrying all before them at Oxford. A young man from Cornell has won both the half and the one-mile races, a Bowdoin boy the weight and hammer contest, while a youth from South Dakota is credited with a treble victory—high jump, long jump, and hurdles.—*The Globe.*

News of the Week.

The Osteopathic Bill, now before the New York State Legislature, has been reported favorably by the Senate Judiciary Committee. The medical profession throughout the State should make a determined effort to bring about the defeat of this utterly indefensible and pernicious measure. If every physician would take it upon himself to write a personal letter to the Senator and Assemblyman from his district, protesting in the strongest terms at his command against the bill, the members of the Legislature might be led to realize that there is something to be reckoned with in professional opinion and they would hesitate to nullify our State license law by measures such as this.

Cerebrospinal Meningitis.—During the week ending March 25 there were fifty-seven deaths in the borough of Manhattan resulting from cerebrospinal fever, and in all boroughs the deaths directly attributable to that disease reached eighty-five. In the week ending March 25, 1904, cerebrospinal meningitis carried off only ten victims in Manhattan, and fourteen in the whole of Greater New York. At a meeting held last week, the meningitis commission formed itself into two sub-committees, one to investigate the bacteriological side, and the other the clinical side of the disease. Forms have been drawn up which will be sent to the hospitals in this and other cities for the purpose of collecting all possible data bearing on the question of the transmission of the disease. Dr. T. Mitchell Prudden has been retained as consulting bacteriologist.

Typhoid Fever in Philadelphia.—Melting ice and snow and spring rains are contributing their share toward the increased prevalence of typhoid fever in Philadelphia, the number of cases reported for the week ended March 25 being 307, with 17 deaths. Of the entire number 199 are from wards receiving their supply of water directly from the Delaware river, while only 4 are from wards receiving filtered water. In the absence of filtration, the Bureau of Health continues to advise boiling all water used for domestic purposes.

N. S. Davis Memorial Tablet.—A memorial tablet for the late Dr. N. S. Davis was presented by the senior medical class of the Northwestern University Medical School, March 24, in Davis Hall. The tablet bears the inscription: "Good and great, he maketh the earth wholesome." Addresses were delivered by Drs. E. Wyllys Andrews, E. G. Dudley, W. O. Krohn, George W. Webster, and Dean Holgate of the University.

Dr. Matas' Silver Jubilee.—On March 19, the medical and personal friends of Dr. Rudolph Matas of New Orleans presented him with a silver service of 125 pieces and a silver loving cup in celebration of the twenty-fifth anniversary of his entrance into the medical profession. The presentation was made by Dr. Chaillé, Dean of the Medical Faculty of Tulane University, and was seconded by Rabbi I. L. Leucht of the Touro Synagogue, in the presence of between thirty and forty of the donors.

Formation of a Business Bureau by the Chicago Medical Society.—This society contemplates organizing a business bureau for the transaction of business. The reasons why a bureau should be established are set forth by those advocating the measure, as follows: (1) To do collections at as moderate a charge as possible, which could be done if all the members in good standing patronize the bureau; smallness of the percentage charge would be an inducement to put bills in the bureau earlier for collection than is now done with independent agencies. (2) To probate bills at the least possible cost. (3) In cases of sickness or death of the members of the profession, the bureau would make up his books, collect and bank the money, thereby giving great aid to the family; this same may be said of men desiring to go on much needed vacations for recuperation, or for scientific advancement. (4) The bureau generally would, for a comparatively small charge, transact any business whatever pertaining to its members in good standing, and thereby avoid much of the hardship that comes from the unbusinesslike methods of the modern practitioner for the need of a place of his own to take the necessary interest in his affairs. The society would have at its disposal an office that will be able to do much other work, as the tabulation of midwives, the investigation of the unprofessional conduction of many institutions, the compilation of an official directory, and many other things for the best interests of the profession that to-day are neglected for want of an office under its control.

Suit Against a Surgeon.—Suit has been brought against a prominent ophthalmic surgeon of this city recover $20,000 damages for alleged negligence in performing an operation for myopia. Four operations were performed in all, and it is asserted that in consequence of these the patient, who is a trained nurse, was totally blind for three months and that at present her sight is blurred and imperfect.

Trachoma Among Japanese Immigrants.—It is reported that a notable increase in the number of Japanese immigrants suffering from trachoma has been observed of late. Forty-nine new arrivals at Seattle have already been reported on this account. If an alien arriving on one of the Japanese liners has trachoma and it can be proven that his condition could have been ascertained before he left the Orient, a fine of $100 is assessed against the steamship company.

Cincinnati Academy of Medicine.—At a regular meeting, March 20, Dr. Frank Fee presented specimens of a lung in a marked condition of anthracosis. Dr. H. J. Whitacre presented a case of a plastic operation to replace a nose destroyed by a shotgun. The bone with its integument being obtained from the sternum. Dr. Robert Carothers read the paper of the evening on Tetanus. He reported five cases, all with a fatal result.

Ohio Soldiers' and Sailors' Orphans' Home.—Drs. Frederick Forchheimer, L. E. Russel, and Robt. Sattler have been appointed consulting physicians to the above institution at Xenia, O. They are Cincinnati physicians, and have charge in the order named of the medical, surgical, and eye, nose, and throat divisions.

The Newberry County, S. C., Medical Society was organized early in March. The following officers were elected: *President,* J. K. Gilder of Newberry; *Vice-President,* G. Y. Hunter of Prosperity; *Secretary and Treasurer,* J. G. McMaster of Newberry; *Delegate to the State Association,* W. G. Houseal of Newberry.

Plague in India.—A commission to investigate the best means of combating the plague in India has been organized, and is to leave London immediately. The latest figures show that for the four weeks ending February 28, in the Bombay Presidency there were 13,475 deaths, and that for the four weeks ending March 11 in the rest of India there were 122,550 deaths. The total number of deaths from the plague in the Bombay Presidency from January 1 to February 28 was 28,721, and in the rest of India from January 1 to March 11, 318,178.

"Radium" Doctors Sentenced.—Dr. Henry H. Kane and his assistant, William H. Hale, having confessed to obtaining $10,000 from a Mount Vernon carpenter by an alleged radium cure in which there was no radium, were sentenced last week to serve four and eight months respectively in the penitentiary. As restitution had been made to the victim, the court showed clemency in imposing the sentence.

Fifteenth International Congress of Medicine.—The fifth number of the *Journal of the Fifteenth International Congress of Medicine* is published. It is dated February 20, and contains interesting news. The number of the papers that are assured in the different sections amounts to 205. The programme of the lectures is also very advanced: Sir Patrick Manson, Prof. Brissaud, Drs. José Esquerdo and P. Aaser, and Prof. Azevedo Sodré have accepted already, and the Committee of the Congress expects the acceptance of other scientists that are invited. The organization of the national committees is nearly complete in the several countries.

Columbus Academy of Medicine.—At a meeting held February 6, committees were appointed to arrange for the coming meeting of the Ohio State Society in May. The president, Dr. F. F. Laurence, and secretary, Dr. Chas. J. Sheppard, will be at the head of the committee of arrangements.

The Duodenal Orifice of Vater's Diverticulum.—In the report of the Practitioners' Society of New York, in the MEDICAL RECORD of March 25, Dr. Kinnicutt was quoted as saying that the duodenal orifice of the diverticulum of Vater was 25 m.m. This, of course, as the context clearly shows, should have read 2.5 m.m.

Mental Science Bills.—At a recent meeting of the Public Health Committee at Albany, a bill introduced to make "mental science" a recognized branch of medical practice was defeated. Through its Legislative Committee the New York State Medical Society appeared in opposition to the measure. A bill just passed by the State Senate of Nebraska to regulate the practice of medicine makes it unlawful for any one to heal or pretend to heal or treat by suggestion mental or physical ills, whether imaginary or real. The bill was introduced early in the session, and Christian Scientists and other oddities made a stubborn fight against it.

Dr. Arthur Cushing, professor of Materia Medica and Therapeutics at the University of Michigan, has resigned his chair to take a similar one in the University of London, England.

Hospital News.—*Saturday and Sunday Association.*—The treasurer of the Hospital Saturday and Sunday Association has announced that the collection taken in the synagogues and churches on the last Hospital Saturday and Sunday was nearly double the amount realized in the previous year, and that the aggregate from all sources, which then was barely $75,000, is now above $90,000.

Conference on Hospital Finances.—A meeting was held in this city on March 23 to devise means for improving the financial condition of the private hospitals of New York. The meeting was attended by representatives of every large hospital in the city and of many of the smaller institutions. All admitted the gravity of the situation as shown by constantly increasing deficits in some of the hospital reports. Mr. R. Fulton Cutting, who presided, said he believed the needs of the hospitals had not been brought properly before the public. He suggested a uniform system of accounting, so that the hospitals could compare notes of expenses and the formation of a committee to gather information and bring the public to a sense of the situation. Mr. Tucker said that of ten suggestions made by representatives of hospitals whose views had been asked, that of educating the public to give more was the only one really fundamental. He suggested that the cost per capita, which each hospital now has a different way of computing, should be figured out by an independent body and given to the public. The public, he said, had an idea that $5,000 was enough to endow a bed, whereas $20,000 was really needed to-day. Mr. Oakleigh Thorne, treasurer of the Presbyterian Hospital, suggested monthly reports from each hospital. Mr. Isaac Wallach of Mount Sinai Hospital suggested that each hospital have a roll of members, such as Mount Sinai has, each of whom is pledged to give annually from $10 up, and who should have the right to vote for officers and thus have an interest in the hospital. This plan, he said, yielded an annual income of $120,000 to Mount Sinai. Another suggestion made by Mr. Wallach was that the city should subsidize the hospitals in proportion to the amount each hospital contributed to the support of the sick. Dr. John W. Brannan of Bellevue and allied hospitals made a sweeping condemnation of the methods used in hospitals in this city as wasteful, and told of savings in several directions which had been effected in the city hospitals by "stopping leaks" and the consequent bringing down of the per-capita-per-diem cost from $1.24 to $1.16 at Bellevue. Our American system, he said, is all right from the point of view of training physicians and nurses, but all wrong from the point of view of hospital administration, for no sooner do the members of the house staffs become experienced than they leave. The nurses are not paid anything, either, and are shifted about. This is all right from the standpoint of the nurses, but not for the public. The hospital is the only American institution which has not come under the modern methods of bookkeeping for finding out where every cent goes. Dr. Brannan pointed out that the plentiful supplies of bandages and dressings encouraged in hospitals waste unknown in private practice. "Less waste and you'll get more money from the people," he observed in closing. Other representatives were in favor of the hospitals combining to make a demand on the city for a greater allowance for patients, the amount now paid, 60 cents for a medical patient and 80 cents for a surgical case per day, being, it was declared, ridiculously low as compared with the per capita cost of the different hospitals. It was resolved that Mr. Cutting should name a committee of twelve to study existing hospital conditions, consider the suggestions made, and report a practical scheme of improvement at another meeting.

Bellevue's Highest Record.—More patients are in Bellevue now than have been cared for there at one time in the history of the institution. On one day last week there were 1,050 cases in the hospital, the highest number up to that time having been 1,006, on March 14, 1904. Last year 28,925 patients were treated. On one day in February this year 124 patients were admitted, and the general average is ninety a day.

Nurse Dies of Meningitis.—Miss Jennie Blauvelt, a nurse at the Harlem Hospital, died on Saturday of last week of cerebrospinal meningitis. She was one of a number of volunteers who were called for to take care of the many children suffering with the disease, recently admitted to the institution.

Harlem Hospital Annex.—Plans have been filed for the erection of a three-story ambulance station for the new Harlem Hospital to be built in One Hundred and Thirty-seventh Street, east of Lenox Avenue, and for a power station to be erected on an adjoining lot.

The Mount Sinai Hospital has bought a plot of nearly eight lots on the south side of One Hundredth Street, directly opposite the hospital buildings. The property has not been acquired with any view of adding immediately to the hospital's buildings, but the trustees have thought it advisable to secure the lots and hold them in reserve against the future needs of the institution.

Brokaw Hospital, Bloomington, Ill.—This hospital, which bears the name of Brokaw, recently received $175,000 by the terms of the will of Abram Brokaw of that city.

New Manhattan Eye, Ear, and Throat Hospital.—Ground for the new Manhattan Eye, Ear, and Throat Hospital was broken on Thursday of last week with appropriate exercises. The new building will be on the south side of East Sixty-fourth Street, between Second and Third Avenues. The Hospital is now at Park Avenue and Forty-first Street. Mrs. C. R. Agnew, widow of Dr. Cornelius R. Agnew, removed the first shovelful of earth. John Sinclair, president of the hospital, presided. Dr. Andrew H. Smith reviewed the history of the institution, and the Rev. Dr. Stephenson of the Fifth Avenue Presbyterian Church offered prayer. There will be sixty rooms for private patients, and accommodations for 150 ward patients.

Bequests to Chicago Hospitals.—Each of the following hospitals has been bequeathed $2,000 by the will of the late John Murphy: Alexian Brothers', St. Luke's, Mercy, and Chicago Presbyterian.

National Fraternal Sanatorium for Consumptives.—A committee representing eight millions of fraternalists of the country recently spent three weeks visiting different cities in the South and Southwest with a view of selecting a suitable location for the National Fraternal Sanatorium for Consumptives. Mr. William R. Edison, the chairman, stated that offers of land had been made by various cities and individuals, ranging from 4,000 to 100,000 acres, all of it under cultivation, and to be donated free from obligations. As soon as the site is selected the building used at the World's Fair as the Temple of Fraternity will be transported to the grounds and used as an administration building in the camp settlement.

Obituary Notes.—Dr. JOHN OSCROFT TANSLEY of this city died on March 26, at the age of sixty years. He was born in Basford, a suburb of Nottingham, England, in 1844. His father came to this country in 1847, settling in Enfield, Conn. His education was received in the village of Scittico, near Enfield, at Williston Seminary, Easthampton, Mass., and elsewhere, and he began the study of medicine under Dr. E. L. Draper of Holyoke, Mass. He graduated from the College of Physicians and Surgeons in this city in 1877, and soon afterward received an appointment as assistant surgeon in the Manhattan Eye and Ear Hospital in this city.

Dr. ALEXANDER F. H. GALE of this city died at sea, while on the way to Bermuda, on March 17. He was born thirty-seven years ago and was graduated from the College of Physicians and Surgeons in this city in 1887. He had suffered from a severe attack of influenza shortly before sailing, and had taken the trip in search of health and rest.

Dr. AMOS H. BRUNDAGE died of apoplexy at his home in Brooklyn on March 19, in his seventy-seventh year. He was born at Benton, Pa., and was graduated in 1855 from the Medical College of the New York University. He served as a surgeon under General Sheridan in the civil war. He was a member of the Brooklyn Medical Society, and one of the founders of the New York State Medical Association.

Dr. **John P. Lombard** died March 20 at his home in Boston from heart failure. He was born at Medford, Nova Scotia, February 14, 1861, and was graduated from New York University Medical School in 1887.

Dr. **Horace Wardner** of La Porte, Ind., died March 18. He was a graduate of the Rush Medical College, Chicago, in the class of 1856. During the civil war he was assistant medical director on the staff of Gen. Grant.

Dr. **E. Julius Boeber** of Kansas City, Mo., formerly assistant city physician there, died at Guadalajara, Mexico, on March 15, of tuberculosis, at the age of thirty-four years. He was a graduate of the Kansas City Medical College in the class of 1897.

Dr. **Russell Murdoch** of Baltimore died March 18, at the Johns Hopkins Hospital, of apoplexy. He was born in Baltimore in 1839, but spent much of his early life in Scotland. He was educated at Edinburgh University and returned to this country and took his medical degree at the University of Virginia in 1861. After graduation he became a surgeon in the engineer corps of the Confederate Army. He was one of the founders of the Baltimore Eye, Ear and Throat Charity Hospital, on West Franklin street, and was one of the attending physicians there from 1882 until his death.

Dr. **William Meyer** of Milwaukee died March 15, at the age of forty-nine years. He was born in Milwaukee and was graduated from the Rush Medical College, Chicago, in the class of 1879.

Dr. **Moses Richardson** of Norcross, Ga., died March 15, at the age of seventy-five years. He was born in Newton County, Ga., and was graduated from the Jefferson Medical College, Philadelphia, in the class of 1856. He served as surgeon in the Confederate Army during the civil war.

Dr. **Samuel B. Hoppin** died at Philadelphia on March 21, at the age of eighty-seven years. He was graduated from Jefferson Medical College in the class of 1852. At the outbreak of the civil war he became a surgeon in the United States Navy, retiring at the close of the war. Subsequently he became registration physician in the Prothonotary's office, and he continued in this position until his death.

Dr. **H. A. B. Klippel** died at Quarantine Hospital, near St. Louis, March 17. Dr. Klippel was a graduate of the Missouri Medical College, 1899, and also a graduate in pharmacy, 1895. He was medical examiner for a number of fraternal and benevolent organizations and an alumnus of the St. Louis College of Pharmacy and the Missouri Medical College. He volunteered to attend to smallpox cases at the quarantine station and contracted the disease while in the performance of his duty. He was born in St. Louis in 1876.

Dr. **Geo. M. Armstrong** of St. Louis died in that city March 22, from the effects of an overdose of morphine. Dr. Armstrong graduated from the Jefferson Medical College of Philadelphia in 1871 and resided in St. Louis since his graduation. He was fifty-eight years of age when he died, a member of the A. O. U. W. and a well-known Mason. He was a collector of curios, of which he had a large assortment gathered from all parts of the world.

Dr. **Frederick Danne** died at his home in this city, on March 27, at the age of sixty-nine years. He was born in New York City, February 12, 1837, and was educated at Brown University and in Germany. On returning to this country he studied at the New York University Medical School, and was graduated there in the class of 1863. Dr. Danne was a member of the Medical Society of the County of New York and of many clubs and other social organizations.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE ADJOURNED DISCUSSION ON APPENDIX CASES—PROPOSED ACADEMY—CRITICAL OTOLOGISTS—LINCOLN EPIDEMIC—ITEMS.

London, March 10, 1905.

The adjourned debate at the Medico-Chirurgical Society on the later history of cases operated on for appendicitis was resumed on Tuesday, when the president, Sir D. Powell, said he had met with pulmonary embolism more frequently than after other operations, and though statistics did not show this, probably many of the cases of pleurisy were really due to pulmonary infection. As a preventive of this complication it would be advisable in chronic cases to prepare the patient by rest in bed for a few days on a simple diet, and to give small doses of calomel as an intestinal disinfectant.

Dr. H. P. Hawkins remarked that in spite of earlier operations, the mortality had not fallen, and in some cases had increased, in the last decade. The rise had been as much as 3 per cent. All would allow that the disease was on the increase, and he thought the higher mortality was due to an increase in the number of severe cases with general peritonitis and abscess. Mucous colitis might simulate appendicitis, so might neurasthenia and secondary hypochondriasis. In such cases operation would not relieve.

Sir Wm. Bennett said hospital statistics were less favorable than reports of private practice. He considered it was not advisable to remove the appendix in abscess cases. He had never regretted leaving it, but more than once had regretted attempting to remove it. In simple cases a stump should not be left, as it might cause trouble. A ureteral calculus had given rise to symptoms. *X*-rays should be used in any doubtful case. No prolonged pain in the scar would occur if no ligature was applied through the undivided peritoneum.

Mr. C. B. Lockwood said the future of the patient depended on the disease of the appendix when it was removed. Some were tuberculous, others cancerous, others actinomycotic, and microscopical examination, and, if possible, bacteriological, should supplement the clinical evidence. If appendices were systematically examined after removal, he thought 1 in 250 would be found cancerous. In his 200 cases four were tuberculous. The commonest disease was ulceration of the mucosa with penetration of bacteria. It might be associated with septic, or mucopurulent, or fecal contents. In the last case, concretions were frequent. In operating for other diseases, if the appendix were found to contain a concretion, it was better to excise it. Recurrence of symptoms might be due to dilatation of the cecum by retained feces, and must be treated by enemata.

Mr. W. H. Battle mentioned five cases of recurrent symptoms after the evacuation of abscess. The appendix subsequently removed showed marked disease. A sinus followed in six other cases. He advocated early evacuation of an abscess, and secondary removal of the appendix, in most cases. The escape of a concretion was no guarantee against recurrence.

Mr. Turner operated as early as possible on acute cases, unless they were obviously convalescing. Mortality and complications would both be reduced by earlier operations.

Mr. Waterhouse also advocated early operations. In nineteen cases operated on within twenty-four hours there was not a death, although in three of them perforation had taken place. He protested against removing the appendix when evacuating an abscess.

Mr. Mummery had collected statistics of 3,225 operations, and found the percentage of complications 27, but, omitting the deaths, 18. He believed these percentages too low if every complication could be tabulated.

The discussion was then adjourned.

Why should not London have an Academy of Medicine? This question has often been discussed, and on more than one occasion a project for the establishment of such an institution has come near to its fulfillment. But on each occasion, either from mutual jealousies, diverging interests, or other difficulties, the proposal has been abandoned or passed over to "a more convenient season."

The question has again been started—almost as if it were a new one—and to some of our younger friends it really is so. We have numerous societies devoted to medicine in all its branches, and the project has usually been for a more or less complete amalgamation of them. The Royal Medico-Chirurgical Society is acknowledged to be the principal one, and again and again the proposal has been to unite with it. The last proposition comes from its President, Sir R. Douglas Powell, and was made in his address at the annual meeting, held on the 1st inst. The idea was supported by Sir T. Smith, Mr. Timothy Holmes, Dr. Goodsall, and Dr. Allchin. The President, who must have been aware that his proposal was not a new one, thought the present a suitable time to make it, and offered some practical suggestions for a kind of federation. Certainly something of the kind seems desirable, though when one looks at the number of distinct organizations which exist, it is easy to realize how divergent interests have so long rendered union impracticable.

The subscription to the Medico-Chi. is the highest of all, and often deters younger members from becoming candidates. On the other hand, the library is very fine and would certainly have to be provided for in any reasonable scheme. Unless federation largely increased the fellowship, it would be a disastrous failure. Most other questions would admit of easier solution. But Ireland has carried amalgamation in a similar case, and has for some years had her Academy of Medicine, with sections for the several branches. The annual meeting passed a resolution requesting the council of the society, with as little delay as possible, to invite the leading medical societies of London to arrange for a joint meeting to consider the advisability of amalgamating, and to take the necessary preliminary steps for the purpose. I should add the important item from the report, that the society's finances are now flourishing—in fact, more so than ever. The centenary of the society will be celebrated in May. The arrangements for this one are pushing well forward.

The proceedings of our societies are, as a rule, so sedate and unexciting—some call them "dry"—that a little sharp criticism comes almost as a surprise and relieves the tendency to somnolency of post-prandial discussion. A paper at the Otological Society deserves a word, if only on account of the lively remarks it elicited. It was on restoration of hearing after removal of drum and ossicles by a modification of the radical mastoid operation for suppurative ear disease. The paper was published in the *Lancet* last December, a fact which naturally provoked remark that discussion at a society, if invited, should come before publication elsewhere. The author, Mr. Ch. Heath, was complimented on his results by some members, and severely criticised, as I have said, by others. Prof. Urban Pritchard expressed a fear that Mr. Heath had operated on many cases which other otologists would not consider required such a proceeding. Mr. Yearsley ridiculed the statement that in a large percentage of cases the whole of the disease was confined to the limits stated. Dr. Milligan held that no modification of Stacke's operation was needed, and that the number of cases reported was almost staggering, for not more than 4 per cent. in his aural clinic required the operation. Mr. Ballance held that only the slightest and most limited disease could be removed or even exposed by the operation. Mr. F. Spicer said by adopting Mr. Heath's methods he had reduced by one-half the time patients were under treatment. Dr. MacNaughton-Jones could not think so large a proportion of cases required to be operated on. Mr. Cheatle moved that the meeting proceed to the next business, but though seconded, the proposal was not adopted. Dr. Pegler regretted the course the discussion had taken, and the president threw some oil on the troubled waters, suggesting that Mr. Heath was an earnest man, anxious to do right, and that his enthusiasm might have suffered less criticism if his notes of cases had been more precise. Mr. Heath replied on various points, and said many patients, after operation on one ear, were so gratified with the result as to beg him to operate on the other.

The typhoid epidemic at Lincoln is abating, but by no means over. About 800 persons have been attacked. There were 769 notifications with 77 deaths up to March 3. The new cases reported were 37 as against 63, 116, 174, and 284 in the four preceding weeks. The report of the inspectors sent by the Government Board expressed the belief that on February 28 the water sent into consumption and that in the reservoirs had become fit for consumption. Nevertheless until a better supply has been obtained they recommend the treatment with hypochlorite of sodium to be continued under constant supervision and frequent analyses. Further they do not feel justified in saying that the additional precaution of boiling may be discontinued.

The Directorship of Cancer Research in Liverpool has been accepted by Prof. J. E. S. Moore, of the Royal College of Science, who was associated with Messrs. Farmer and Walker in their investigations.

On Tuesday, the King advanced Sir F. Treves to the Grand Cross of the Victorian Order, of which he was previously Knight Commander.

Deputy Surgeon-General W. Perry, late of the Royal Artillery, who died at Hereford in his eightieth year, served through the Crimean War, was at the battles of Alma and Inkerman, and held the medals for them as well as for Sebastopol. He also was awarded the Sardinian and Turkish medals, and the order of Medjivich. He retired in 1879.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

A SEWER SYSTEM FOR MANILA—PROBLEMS INVOLVED—REAPPEARANCE OF THE PLAGUE IN CEBU—A MEDIEVAL MOAT—DR. T. R. MARSHALL—DR. W. R. BRINCKERHOFF.

MANILA, P. I., January 18, 1905.

ONE of the greatest benefits which the Philippines will derive from the "Cooper Bill," which recently passed Congress, is probably that sufficient funds will become available for the purpose of installing a sewer system in the city of Manila. It will, perhaps, be remembered that the greater portion of Manila is entirely unprovided with sewers and that the many canals or esteros which pass through the city not only serve the purpose of providing cheap water transportation, but also serve the purpose of drainage and as a means to carry off sewage. In many portions of the city the flushing of these canals was very difficult, with the result that the water became stagnant, and the odors which arose therefrom were almost unbearable. This latter condition has, however, been very much improved during the past year by dredging the canals and thus causing a better tide flushing. The services of an expert engineer from Boston have been obtained in order that he might give an authoritative opinion as to the best plan to adopt. The problem of successfully accomplishing this object is indeed a difficult one. The entire city is only a few feet above high tide. The tides are extremely irregular. Some days there are three and upon others there are only two. There is only one tide per day which reaches any dimensions worth speaking of and that amounts to about three feet. The others are only a matter of a few inches. Almost anywhere in the city a hole dug to the depth of a few feet will contain water at its bottom, due to seepage. From the foregoing it will be seen that the ordinary gravity sewerage system is entirely out of question. The final disposal of the sewage was another difficult problem. The establishment of a sewage farm was suggested, but when it was considered that this is a tropical city, that dysentry is constantly present, and that cholera is not unlikely, it was concluded that disposal in that manner was not safe. Experiments made in Boston showed that no trace could be found in the sea of sewage from a sewer that emptied three-quarters of a mile away. With this fact in view it was decided to carry the mouth of the sewer about a mile into Manila Bay. It is proposed to erect a large receiving receptacle in the Tondo district near the water's edge. The sewage will flow into this tank by gravity and will then be pumped into the bay. A number of smaller or sub-stations will be erected at different points throughout the city at which pumps will also be installed. The plans for the new system have been completed. The Municipal Board is at present engaged in considering the specifications. The work is to be advertised in the principal cities of the United States and bids solicited. It is estimated by those having the matter in charge that the actual construction will be commenced in about six months. With the sewer system once in working order the Manila health authorities will be in a far superior position to make Manila a thoroughly sanitary city.

The city of Cebu, after enjoying an entire absence from plague for nearly a year, again had a death from plague on January 14, 1905. It appears that for some weeks previous a great number of dead rats were found in the immediate vicinity of where the victim lived. No particular attention was paid to this fact, because it was presumed that they had been poisoned. Soon after the case was discovered the mortality among rats ceased, and for that reason it was not possible to verify the suspicion that the deaths among the rats was due to plague. At the post-mortem which was made in the case it was found that there was a large femoral bubo, the lymph glands containing numerous hemorrhages. Smears made from the latter and examined microscopically showed characteristic plague bacilli. The victim had not been out of the city for a number of weeks, and it may therefore be reasonably assumed that the infection was contracted in Cebu.

Another great nuisance which, owing to its obnoxious smells, has been much blamed by the laity as a cause of disease is the moat, which in a short time will pass into history. This moat extends entirely around the walls of the walled city. Some sewage empties into it and it is covered over with a growth of rank weeds. The stench from it is at times unbearable. Arrangements have been made with the contractors who are engaged in dredging the harbor to pump the sand from the bottom of the bay into the moat, thus eliminating it entirely.

Dr. Thomas R. Marshall, the Chief Health Inspector of the Philippine Islands, has left for Isabella and other northern provinces for the purpose of inspecting the method of vaccination that has been pursued in those districts during the past few months.

Dr. Walter Remsen Brinckerhoff, of the Harvard Smallpox Commission, who has been engaged in studying smallpox in Manila during the past year, has completed his labors and has returned to the United States.

Progress of Medical Science.

Boston Medical and Surgical Journal, March 23, 1905.

Appendicitis.—This issue of the Journal is given over to the consideration of various aspects of the appendicitis. C. A. Porter asks "Can we wait for localization when the general peritoneal cavity is involved?" Special attention is given to the views of Ochsner of Chicago, who in cases in which it appears that infection is spreading or has spread to neighboring parts, advises a delay in operation and follows this plan of treatment: From the start absolutely nothing is given by mouth—no water, no cathartics. The stomach is washed out, thereby overcoming the nausea, vomiting and distention, and the patient is put in an exaggerated Fowler posture. Water is freely supplied by rectum or saline infusions under the skin, and small nutrient enemata are given every four hours. Large enemata are not given from fear of rupturing adhesions. Hot or cold applications to the abdomen are made and the treatment is kept up until the diffuse process has become localized or the patient has died. Porter's conclusions may be condensed as follows: Purgatives should never be given before operation. The Ochsner plan is the best one to follow from the start, and when an operation is refused. It is also the best to employ in almost all cases after operation. This conclusion is justified by Ochsner's own statistics. His rules must be rigidly followed and not misapplied. His plan should be advised in most cases of spreading or diffuse peritonitis when a reasonably good surgeon cannot be obtained. Irrigation of the general peritoneal cavity is a major operation not to be undertaken unless the conditions are such that it can be thoroughly performed. After irrigation the danger of increased absorption is best prevented by a tube or cigarette drain to the bottom of the pelvis, or, in women, vaginal drainage with exaggerated Fowler's position for from twenty-four to thirty-six hours. Porter thinks that natural peritoneal resistance is a most, if not *the most*, important factor in overcoming infection, provided the abscess and the pelvis are drained or the appendix removed in the shortest possible time, with the least amount of trauma and without spreading infection. The question whether the operation should stop at this point or be followed by a general saline irrigation appears to be one of secondary importance; it may be that the one advantage of irrigation is neutralized by its disadvantages.

M. H. Richardson believes that the earlier a case of appendicitis is operated on, the surer the patient is to recover. The mortality of abdominal surgery to-day is that of abdominal emergencies and of delay. He operates as early as possible after the first symptom. Deaths are caused as a rule by the failure to remove the nidus of infection before it has done irreparable damage. Of course, the existence of a pneumonia, severe bronchitis, or serious cardiac difficulty, may furnish exception to the above rule. Improvement in technique has reduced to a minimum the danger of breaking up adhesions with a consequent spread of infection. Richardson does not believe that we can safely wait for localization in cases in which the general peritoneal cavity is involved. During the past year he has had 112 operations with only three deaths.

R. H. Fitz discusses the question from the medical point of view, and expresses his opinion as to the matter of immediate operation *versus* delay in the following words: The physician is justified in delay until the conditions call for an immediate operation. These may be present at his first visit or may not appear till a later period. If after twenty-four hours there is no improvement, and especially if the fever increases, an immediate operation is preferable to further delay. The surgeon may be expected to perform an immediate operation upon his arrival under the above circumstances.

New York Medical Journal, March 25, 1905.

Osteoarthritis of the Spine.—The history of a case is reported by H. F. Stoll, his patient being a baker, aged thirty-eight years, who ten months before admission to hospital, noted a "heavy" feeling in the small of the back. Later came cramps in thighs and legs. At first the pains were felt on waking and would wear off as the patient "limbered up," but later became constant. Then appeared a swelling of the right hip, and the pains grew so severe that he was frequently obliged to rest while on the street. On admission to hospital it was noted that the right hip was so held that there appeared to be considerable fullness extending from the crest of the ileum to the right trochanter major. The gluteal folds were equal. There was a double scoliosis, the smaller one with its concavity to the right being in the upper dorsal region, and the large one in the lower dorsal and lumbar regions. Flexion of the vertebral column was much limited, especially in the lower half of the dorsal and lumbar regions. Flexion to the left was normal, but much limited to the right. Extension was also somewhat limited. When in dorsal decubitus the position of ease was with the right leg flexed on the thigh, and the thigh on the pelvis, the whole extremity being rotated outward. There was no shortening of the legs and no atrophy. There was no limitation of movement at the hip joint, nor was there any tenderness over the sciatic nerve. The prominence observed over the right hip when erect was not present in ventral decubitus. The knee jerks were equal and exaggerated. There was no ankle clonus. The heart, lungs, and abdomen were negative. A plaster jacket was applied and there was a marked relief of the pains. The scoliosis disappeared, and he was able to walk without difficulty. Discontinuance of the jacket (which was renewed from time to time), led to a reappearance of symptoms which went away as soon as its use was resumed.

Indications for Treatment of Gastric Hemorrhage.—F. Gregory Connell discusses the subject of gastric hemorrhage as related to ulcer, and says that in acute symptomatic hematemesis, prophylaxis is the only rational treatment; that is in chronic ulcer radical cure should be instituted *before* hemorrhage comes on. In acute non-symptomatic cases, indications for treatment are not so definite. It may be difficult even at autopsy, to determine its cause. After single acute hemorrhages of either the symptomatic or non-symptomatic variety, medical treatment is usually advocated and instituted. It must be remembered, however, that the amount of blood vomited is no indication of the amount of hemorrhage, as considerable may pass into the bowels. The majority of acute single hemorrhages are capillary oozings, and many cease as spontaneously as they begin; hence palliative treatment is indicated. After acute multiple hemorrhages the question of surgical intervention comes in. Drawbacks to operations at this time are (1) that the patient is in poor condition to go through a major operation and (2) that cases do recover after repeated profuse attacks of hematemesis under palliative measures. The author sums up by saying that it may be stated as a general proposition that after a single hemorrhage, palliative treatment is indicated; after three or more hemorrhages, surgery should be resorted to. As to the proper line of treatment to be instituted after a second acute hematemesis, there can be found a great diversity of views. In general, the greater number of operators have, up to the present time, advocated a waiting policy, and a building up medical treatment, in the hope that the hemorrhage would not be repeated.

Medical News, March 25, 1905.

Roof Gardens on City Private Houses.—Some suggestions (with illustrations) are made by W. P. Northrup in regard to the utilization of the roofs of ordinary city houses. Children often droop in the city because they cannot really live in the open air, as do country children. In town they may go to the Park, but they must be dressed for it, the nurse must dress herself, and by the time all are ready to go out, the children may be too warm in their wraps. They are subjected in their outing to many street dangers, rarely remain out more than two hours, and often return home cross, tired, and jaded. Northrup describes the results obtained in the case of one family, the proper methods for getting the roofs ready, and various amusements which children may properly be entered into under the conditions noted. The total expense of roof preparation in this special instance was about one hundred and fifty dollars. Wise nurses are required, and some moral courage on the part of the parents.

The Purpose of Eye-Glasses.—The conclusions of E. M. Alger are as follows: (1) Improvement of sight is only one function of glasses. (2) Relief of eyestrain is fully as important. (3) Eyestrain is often responsible for headache and other reflex nerve phenomena. (4) One may have perfect vision and still be subject to eyestrain. (5) Small errors of refraction often cause more strain than large ones, since there is a more constant effort to overcome them. (6) Strain can generally be relieved by properly fitted glasses. (7) Glasses which give the best vision may simply increase the strain, and therefore the patient cannot safely select his own glasses; as, furthermore, he will not buy of an optician glasses which do not improve vision, he very seldom gets the correct glass and, therefore, fails of relief.

American Medicine, March 25, 1905.

Is the Common House Fly a Factor in the Spread of Tuberculosis?—J. O. Cobb draws attention to the fact that several observers have demonstrated that the fly may carry tubercle bacilli on its feet and in its stomach. This being true it must be a dangerous source of infection among the poor where the food is left exposed to contamination by these insects. Data collected from all parts of the world, prove that wherever people have tuberculosis they also have the fly as a pest. He insists that special effort should be directed to the destruction of all sputum, thus removing the sources of infection.

Extensive Carcinoma of Tongue and Neck, Presenting Points of Special Interest.—William Seaman Bainbridge reports the case of a man of 49, an inveterate smoker for 20 years, who was first aware of his trouble in May, 1902, when a small pimple appeared half-way back on the dorsum of the left half of the tongue. This would disappear under local applications, with discontinuance of smoking, only to return when smoking was resumed. The pimple finally persisted, growing rapidly, and in December, 1903, the author took charge of the case. The patient was somewhat cachectic and had lost considerable flesh and strength. The anterior third of the tongue, except the tip, was involved by a hard, crater-like ulcer. No glands were palpable at this time. Microscopical examination confirmed the diagnosis of vascular epithelioma. On March 11, 1904, the patient was operated upon. The first incision extended from the tip of the left mastoid process to that of the right, and below as far as the thyroid cartilage. The second incision extended along the anterior border of the left sternocleidomastoid muscle to within an inch of the clavicle. The two lingual arteries were tied in situ, the submaxillary and the sublingual glands on either side removed, and the salivary ducts extirpated clear into the mouth. Many cancerous glands were removed from the region of the tonsil on either side. The lymphatic glands with their vessels were removed en masse as far as possible, and with them the connective tissue and fascia of all the contiguous muscles. The wound was completely closed except for a small drain at the lower part. The mouth was next forced open and the growth on the tongue cut down with Paquelin cautery, Whitehead's shellac being applied as a coating to the cauterized surface. The wound healed by primary union. On March 28 the left corner of the mouth was incised to the edge of the masseter muscle, the mouth forced open, the tongue drawn out, and an elliptic incision made on the floor of the mouth, encircling the tongue, this organ being completely removed. A bridge of tissue was made across the fauces in front of the epiglottis by a small flap of mucous membrane dissected away from the right glosso-epiglottic fold. The wound in the floor of the mouth was partially closed by chromicized catgut, the wound in the cheek closed in the usual way and shellac applied over each. Within a few hours the patient could swallow fluids, and on April 21 was discharged cured. Since that time he has steadily gained in flesh, is apparently perfectly well, is able to masticate even solid food, to taste, to talk intelligently, and even to sing.

Delirium and Hallucinations of Digitalis.—H. O. Hall calls attention to the fact that digitalis even in moderate doses, frequently causes hallucinations and delirium, these symptoms as a rule being mistakenly attributed to the disease. He urges physicians who are in the habit of prescribing digitalis to give closer attention to the symptoms following its administration and that they make known the results of their observations with a view of definitely ascertaining if his opinion is well founded. Hall suggests that in all cases of heart affections, in which delirium is present, it would be well, before pronouncing it a symptom of the disease, first to ascertain by elimination, whether the delirium of hallucinations, and even very nervous symptoms, were not directly due to medication—in other words, to the toxic effect of digitalis or other powerful heart stimulants.

The Journal of the American Medical Association, March 25, 1905.

Tuberculosis.—Norman Bridge insists on the importance of reinforcing the nutritive forces of the body as the chief agency in the cure of tuberculosis. The fear of draughts is a popular error; another is overfeeding and the recommendation of alcoholics. Still another is the indiscriminate recommendation of exercise, as if muscular development could help to resist the disease. He also opposes deep-breathing exercises. What we need is a safe and efficient method of putting the sick lung at rest in all unilateral cases. Another error is the use of ergot in hemorrhage, tending to increase the blood pressure, and the administration of salt solution in exsanguined cases, thus again distending the vessels and opening up their lesions. The patient is most likely to survive a large lung hemorrhage when the blood pressure of the parts is lessened to the utmost for the time. Still other errors are the recommendation of indiscriminate eating taxing the digestive powers, errors of clothing, the injudicious recommendation of change of climate. In Illinois, patients, by proper management, can be given 85 per cent. of the benefits of the very best climates. With the modern treatment of the disease properly carried out, in almost any climate its mortality can be reduced another 10 per cent., and this he maintains will be effected.

Treatment of Idiopathic Epilepsy.—D. R. Brower says that spontaneous cure of this disease is possible, and mentions one of several cases in his observation. He calls attention to the necessity of more care as to the prevention of the trouble, especially in infants suffering from convulsions. The proper treatment and environment in these cases may prevent the later development of the disease. The treatment of the individual convulsions is also important, and the aura may afford a warning that enables the patient to abort the attack. He advises the carrying by epileptics of nitrite of amyl pearls for this purpose. Other methods may also be effective in special cases. In epilepsy there is an autointoxication, usually of gastrointestinal origin, and the diet should be carefully regulated. These patients are usually very hearty eaters, and it is advisable to restrict the diet in quantity, to regulate periods of eating and to insure thorough mastication and digestion. Intestinal elimination must also be attended to, and for intestinal antisepsis he finds salol combined with phytolacca often very useful. For combating the nervous irritability the bromides are most useful, and he prefers the sodium salt. Their overuse, however, is dangerous, and Brower refers much of the existing epileptic insanity to this cause. The dose should seldom exceed sixty grains daily, in plenty of water after eating, and he sometimes adds fluid extract of *Solanum carolinense* in one-half to two drachm doses to the bromide mixture. Strychnine is also a valuable remedy for meeting the circulatory and vasomotor defect, and he specially recommends fluid extract of *Adonis vernalis*. Cerebral sclerosis calls for alteratives. In conclusion he insist on the importance of allowing plenty of time, at least five years after disappearance of symptoms, before claiming a cure of epilepsy.

Splenomedullary Leukemia.—Everett J. Brown and Cecil M. Jack report the final outcome, with autopsy findings, of a case of this disease apparently cured by x-ray treatment, described in the *Journal* of March 26, 1904. In the fall of 1904 the patient began to become weaker, the spleen enlarged again and he finally succumbed with typhoid-like symptoms just sixteen months after first coming under observation. The macroscopical examination showed a somewhat enlarged spleen, some kidney lesions, and no special gastrointestinal abnormalities. The pathological examination showed a marked fibrosis of the spleen with a general picture of splenic anemia, no evidence of leukemia in the intestines or lungs, extensive deposits of lime salts in the kidneys, involving especially the convoluted tubules, and the lymph glands showed a lymphoid hyperplasia resembling that of lymphatic leukemia, these being the only pathological findings suggestive of leukemic disease. A. S. Warthin, who made the pathological examination, remarks that the only conclusion justified by the findings would seem to be that the x-ray treatment had resolved the leukemic condition into an aleukemic state, but that the essential disease process, as shown by the lymph glands, was still active. The leucocytes had been removed from the general circulation and from the areas of infiltration, and the splenic changes seemed to be secondary. The remarkable condition in the kidneys offers room for some speculation as to the source of a toxin such as might result from very extensive destruction of leucocytes. No specimen of bone marrow was secured.

Urine Examination.—R. C. Cabot states that incited by a statement of Councilman that the chemical and microscopical examination of the urine failed to give certain information of the character of the renal lesions, as well as by discrepancies coming under his own observation, he has compared critically the records and post-mortem findings in the cases that have come to autopsy in the Massachusetts General Hospital since 1893. Although the number of cases is not large, he thinks they warrant the following conclusions: (1) Many cases of acute glomerular nephritis occur that are unrecognized by any known methods of examination. (2) The diagnosis is at fault in some cases of subacute and chronic glomerular nephritis, but in the great majority of cases the condition of the urine, taken in connection with other symptoms, foretold the autopsy findings. (3) In chronic interstitial nephritis the diagnostic resources appear to be neither so sufficient as in the chronic glomerular form, nor so inadequate as in the acute glomerular nephritis. In about a third of the cases, the diagnosis was correctly made before death. (4) Among other conditions mistaken for nephritis by too much reliance on the urinary findings, are senile and arteriosclerotic condition, mistaken for chronic nephritis, while in conditions involving passive congestion or acute kidney degenerations, the urine occasionally simulates that of acute nephritis. Even when no lesions are found at autopsy, the urine is sometimes highly albuminous and full of casts. (5) In ordinary urinary examinations the common errors are: (*a*) The attempts to estimate urea without accurate knowledge of the patient's metabolism. (*b*) Stating that renal cells are present when all that is seen are small mononuclear cells, perhaps from the kidney tubules, perhaps not. (6) Cryoscopy and other attempts to test the renal permeability more directly are not yet capable of supplementing in clinical work the older methods of examination. Cabot holds that the vast majority of estimations of urinary solids, including urea, are a waste of time, since they are not and cannot be made part of a general metabolism experiment, and that the attempt to estimate the anatomic condition of the kidney by measuring albumin and by searching for casts is fallacious. The most reliable data are the twenty-four-hour quantity, the specific gravity and the color.

The Lancet, March 11, 1905.

A Method of Extension of the "Gridiron" Operation for Appendicitis without Dividing the Muscular Fibers.—The method described by M. P. Holt, consists in the separation by a few touches of the knife of the tendon of the external oblique muscles from that of the internal oblique, where these begin to blend together for the formation of the sheath of the rectus, to well beyond the outer edge of the rectus and then retracted inwards; the line of splitting of the internal oblique and transversalis muscle is then carried on through their tendons well on to the rectus sheath for an inch or so; the remaining part of the anterior sheath of the rectus is then divided upwards, or downwards, whichever be desired, as far is is necessary; the rectus is then displaced inwards and the posterior sheath is similarly divided in a vertical direction, in a line a full inch nearer the middle line than the site of the outer border of the muscle. The triangular flap thus obtained is displaced outwards and downwards (or outwards and upwards, as the case may be). The incision in the peritoneum is easily extended to any desired point in the line of original incision and very free access is obtained. This method takes but a few minutes but its chief advantages are only obvious when the layers are severally united by sutures. When the posterior sheath of the rectus has been sutured, the rectus muscle secured by a few points in its original bed, and the anterior sheath similarly united; the internal oblique and the transversalis muscles will be found accurately lying together in the line in which they were split; the external oblique, of course, comes together without the least difficulty. In this way there has been no division of muscle fibers and the nerve- and blood-supplies to the rectus are practically untouched.

The Diagnosis and Treatment of Hypertrophy of the Pylorus in Infants.—G. F. Still finds that this condition of the pylorus is more common in male children. The condition is primarily due to pyloric spasm. Symptoms come on, in his experience, from the fourth to the seventh week after birth, practically always before the third month, and unless vigorous measures the adopted, the children rarely survive the fourth month. Nevertheless the lesion may be practically a congenital one. Vomiting is not proof positive of its existence. It is forcible in character, occurs in spite of most careful breast feeding, is persistent in spite of the various measures which usually control this symptom and its amount is so large as to show that one vomitus represents more than one feeding—perhaps the accumulation of several feedings in the dilated stomach. Association of constipation with this persistent vomiting is of some importance in diagnosis. The child wastes rapidly. The two characteristic signs are visible penstalsis of the stomach (examination should be made immediately after feeding), and palpable thickening of the pylorus. Treatment is considered under the headings of dietary, nasal feeding, stomach washing and operative measures. These are all elaborated by the author. Under the last-named heading the mentions forcible dilatation of the pylorus, pyloroplasty and gastroenterostomy. Seven out of nine of his twenty cases were treated by dilatation and recovered. Operation has risks apart from those connected with shock and with the operation itself. There is a tendency to looseness of the bowels after it and also a difficulty of nutrition, which in some of my cases seemed to make death from marasmus almost inevitable for some weeks after the operation, although they ultimately recovered; an important point this, which increases the need for careful consideration before embarking on operative measures, and which increases also the importance of previous stomach washing if thereby even a few ounces of weight can be gained. Stomach washing should be given a thorough trial before surgical measures are resorted to.

Acute Ascending Paralysis in Cases of Chronic Cystitis.—Three cases have come under the observation of T. J. Walker, who gives their clinical histories. All were characterized by a sudden invasion, rapid course and fatal termination. The exact cause of this terminal complication is unknown. Various theories are passed in review. The consensus of opinion inclines to Leyden's view of a urinary paraplegia, though there is a possibility of the condition being a reflex paralysis. No bacteriological investigations have been made. Landry's paralysis is generally regarded as an intoxication of the nervous centers due to infection by specific microbes and that urinary paraplegia is the result of the spreading from the urinary organs to the lumbar portion of the cord of a specific inflammation, and the author thinks there are grounds to justify a probable explanation of the pathology of the cases to which he directs attention. In every infection three factors are necessary: (1) The presence of microbes having active infective powers; (2) a medium in which these microbes, when conveyed to it, can develop; and (3) the resistant power of the tissues must be weakened. He suggests as a provisional view that in his cases these factors existed. First, the specific microbes were to be found in the urinary organs, probably in the bladder; secondly, at a certain stage of the disease they were conveyed along the same course, almost certainly the nerves, by which inflammation spreads from the urinary organs in paraplegia urinaria to the cord, in which medium they developed rapidly, producing a virulent intoxication; and thirdly, the tissues were weakened by the long-standing cystitis.

British Medical Journal, March 11, 1905.

Some Practical Aspects of Conjunctival Bacteriology.—Freeland Fergus declares that there are few conjunctival sacs which appear to outward observation to be normal in which microorganisms are not found. Some of these microorganisms are not pathogenic, such as the bacillus xerosis. The importance of bacteriology in the eye clinic is very great. It is a valuable aid to diagnosis; it is a guide in determining the safety of any operation; and it materially influences views of treatment. By no other method can it be absolutely determined in the early stages whether a given case of inflammation of the conjunctiva is due to the gonococcus, to Morax's diplobacillus, or to Week's bacillus. Disaster can often be prevented by a thorough bacteriological investigation before operation is attempted. The writer refers to several cases in point. He has known in his own experience the streptococcus to cause the loss of three eyes after cataract extractions. He declares that no operation which involves the opening of the ball should be undertaken if bacteriological investigations reveal the presence of staphylococcus aureus, streptococcus, pneumococcus, or any other well-defined pathogenic organism. As to treatment, a contagious ophthalmia must run its natural length, just as a case of scarlet fever does. The writer removes the lachrymal sac for suppuration. This operation is made easier by previously filling the sac with either paraffin or soft wax. As regards prophylaxis of acute conjunctivitis, it primarily concerns the other eye if this is still unaffected. The writer believes that in most instances bandages are productive of harm. Protection if necessary, is best afforded by a shade or by smoked glasses. As to fomentations, he employs them for only two purposes—to promote suppuration in the early stages of panophthalmitis, and to relieve the pain of rheumatic iritis.

A Case of Acute Endocarditis Due to the Micrococcus of Gonorrhea.—William Hunter records this case in which the condition was not discovered till post mortem, in a perfectly fresh cadaver. The patient was an unknown Chinese woman aged 38 years. The ante mortem history could not be learned. The aortic valve was found to be studded with delicate granulations, especially on its ventricular aspect. The process extended for a short distance over the neighboring endocardium. The granulations were pinhead in size, extremely soft, greyish-pink in color, and translucent. Microscopical preparations showed very many oval-shaped diplococci which did not retain the stain by Gram's method. A coccus morphologically identical with the gonococcus was obtained from the cultures on blood serum and blood agar. Results from examinations of the genital tract were negative, due to duration of the infection and to the presence of innumerable other microorganisms, the growth of which rapidly masks the true bacteriological nature of the lesions. Clinically and pathologically, however, the condition of the genital tract was diagnostic of the effects of gonorrhea. The gonococcus was not recovered from any other organ or tissue. This case offers an additional proof of a direct infection of the endocardium by the gonococcus. The writer believes that the gonococcus must be regarded as a microorganism capable, under certain conditions, of setting up widespread disease in the human body.

A Case Showing Spirilla in Blood Simulating Malarial Fever.—G. Browse cites this case which, if it had not been for the accidental discovery of spirilla during the search for the malarial parasite, would have been considered a case of malaria. The patient was a soldier, twenty-four years old. He was admitted to the hospital with a temperature of 104° F., pulse 129, and respirations 31. He complained of headache and the usual febrile symptoms. The spleen reached nearly to the umbilicus. On the fourth day the temperature fell by crisis, and the symptoms rapidly abated. The temperature rose again on the thirteenth day to over 103°. On the fifteenth day it fell by crisis to normal, and from this date his recovery was uninterrupted. Blood examination revealed no malarial parasites, but spirilla were discovered in small numbers. The writer states that this case is exactly like many seen in the Punjab which are diagnosed as malarial.

Desquamation in Scarlet Fever.—D. Hamilton Kyle diagnosed a case coming under his care as one of mild scarlet fever. The patient was sent to the Fever Hospital. After ten days' detention, he was sent back to his home, as the superintendent did not consider it a case of scarlet fever. On the eleventh day, desquamation was in full swing; it was coarse and profuse. Although the writer could not trace the infection, he learned later that several cases of the disease had been reported by different practitioners to the authorities just before the one here described. At home, the boy mixed with the other children in the family, none of whom had the disease. During the fifth week, while the peeling of the hands and feet was not complete, he went back to a large board school without conveying the disease to any of his fellow students. There were no nasal or aural discharges in this case.

Berliner klinische Wochenschrift, March 6, 1905.

Treatment of Skin Diseases by Freezing.—Juliusberg reports excellent results in the treatment of various cutaneous disorders by means of freezing with carbonic acid gas. The apparatus used resembles that employed in connection with the freezing microtome except that the object holder is replaced by a nozzle with numerous perforations. The gas is allowed to act on the skin for thirty to sixty seconds, which causes the regions treated to remain frozen solid for one to two minutes. The method was applied in cases of acne, psoriasis, sycotic processes, leg ulcers, *x*-ray burns, cancroid, lupus and erythematous lupus. Psoriasis, lupus vulgaris and *x*-ray burns seemed to be unfavorably affected by the freezing, but in the other cases the results were fairly satisfactory. The most marked curative action was, however, shown in nine cases of erythematous lupus, of which all but one were most favorably influenced. The combination of cauterization by means of crude hydrochloric acid immediately after the freezing, according to the plan proposed by Dreuw, was also tried, and in seven cases of lupus vulgaris gave excellent results, but the author considers that its field of usefulness lies in the treatment of tuberculous affections of the skin that for one reason or another cannot be subjected to some sort of radiotherapy.

The Forensic Blood Tests.—Marx discusses this subject and points out the necessity for great experience and thoroughness of training in such work before it is allowable for a man to undertake a medicolegal blood case. The spectroscopic tests for hemoglobin and its derivatives are described in their various modifications as well as the Teichmann reaction, to which the author attaches great importance, saying that it should be tried in every case. Under some conditions, as for example, in the presence of rust, it becomes impossible to obtain a positive reaction. Another test which, however, is useful principally in the negative information it may give, is van Deen's guaiac test. A positive result with this is of less importance, since various substances other than blood may produce it. The microscopical identification of blood-corpuscles is also of the greatest significance, but it is not often that it is possible to draw any conclusions from measurements intended to distinguish between human and animal blood. The newly developed precipitin tests have been found reliable when carried out by experienced workers, and it is not unlikely that the researches of Landsteiner and Richter may result in the perfection of a method by means of which isoagglutinins may be used to identify the individual person from whom the blood emanated.

Münchener medizinische Wochenschrift, March 7, 1905.

Gigli's Lateral Pubic Section.—Franqué, although he admits that even in hospital practice it may occasionally prove necessary to perform perforation of the living child, believes that in many cases the indications can be met with equal safety by making the lateral pubic section advocated by Gigli. The operation, followed by delivery either by the forceps or by version, does not require an appreciably longer time than perforation and extraction, and does not constitute a greater tax on the mother's strength. The author amends his former advocacy of the operation by stating that even in infected cases, with living children, pubic section may be and should be resorted to in suitable cases. Doederlein's recommendation to place the saw in position as a prophylactic measure, to be withdrawn unused if no section is needed, is a good one, and the author has devised a special ligature carrier by means of which the application of the saw is facilitated. Two cases are described in which the maneuver secured living children in the presence of apparently very serious complications.

The Morphology of Diphtheria and Pseudodiphtheria Bacilli.—Saul describes and illustrates by means of photographs differences in the morphological appearance of old cultures of diphtheria and pseudodiphtheria bacilli. The cultures used as paradigms range from two weeks to nine months in age, and the author calls attention to variations in general shape of the stems, the branches, and leaves of the plantlike growths resulting. The stem of the pseudodiphtheria plant six months old has a uniform diameter along its length and its branches divide dichotomously, while the true bacillus shows a growth which is spindle shaped, gives off its branches unilaterally, and these divide into secondary twigs. The author also calls attention to the possibility of the analogy of the arrangements of bacteria masses with the protoplasmic granules in the cells of the higher plants and animals.

The Prevention of Puerperal Fever.—Doerfler considers that the best means of prophylaxis against puerperal infection among the lower classes, lies in thorough education and supervision of the midwives. The following are some of the suggestions he makes in this regard. The genital tract is to be considered as theoretically aseptic, and as every unnecessary contact is a menace to the natural powers of resistance it must be rigidly avoided. Thorough asepsis on the part of the attendant is, therefore, required, and on beginning the care of a case, the genitals must be always disinfected. The use of rubber gloves by midwives is to be largely enforced, with appropriate penalties for non-observance. The use of non-sterile objects in connection with the parturient canal is to be made subject to legal penalty, as well as the administration of vaginal douches before or after the labor unless prescribed by, and carried out under the supervision of, a physician. Vaginal examinations from beginning to end of the pregnancy, are to be made only with rubber gloves, and the midwife should not leave the woman until two hours after the termination of the labor. The State should secure the payment of the legally established fees to the midwife, and the condition of midwives should be improved by the distribution of prizes for satisfactory work, and the establishment of governmental insurance, invalid, etc., systems. Every year the local circuit physician is to deliver a set of lectures on the principles of asepsis as applied to obstetrics.

Deutsche medizinische Wochenschrift, February 23, 1905.

Some Cases of Perforation of the Stomach and Duodenum.—Croce describes three cases which tend to show the effectiveness of the laparotomy in intestinal or gastric perforation, if the operation can be performed within twelve hours after the accident. The first was that of a gunshot wound of the stomach, inflicted with suicidal intent. The patient was operated on very soon afterward, and a perforation of the anterior and posterior wall of the stomach repaired by suture. The region of the injury was sponged off and drained, most of the incision being sutured. A prompt and uncomplicated recovery followed. The second patient was an old gentleman who for years had suffered from gastric ulcer. One morning on the way to his office, he suddenly experienced acute pain in the epigastrium, and as he had been warned by his physician of the possibility of this accident, he at once betook himself to a hospital. The abdomen was opened within two hours and was found full of stomach contents. The ulcer was sutured, the abdomen washed out and the wound partly closed, a drain being carried down to the gastric sutures. Recovery was uneventful. The third case was a doubtful one and did not come to operation until nearly twelve hours had elapsed. General symptoms of perforative peritonitis were present, and on opening the abdomen the source was seen to be a ruptured duodenal ulcer. The abdomen was full of purulent exudate and it required 30 liters of salt solution to cleanse it. Extensive iodoform gauze drains were inserted and the wound left open except for two silver wire sutures. In spite of pulmonary and other complications, the patient is now almost ready to be discharged cured.

Light Phenomena Produced by Rubbing Incandescent Electric Light Bulbs on the Human Skin.—Sommer describes a peculiar luminous appearance which is manifested by electric light bulbs disconnected from their circuit, if they are rubbed with the bare hand. Not all bulbs show the phenomenon, those that are new or have been but slightly used giving the best results, as the coating of carbon to be observed on old ones seems to interfere with the production of the luminosity. On rubbing such a bulb briskly against the forearm or the forehead, and suddenly lifting it from the skin, the bulb will become luminous. If the bulb is rubbed against one part and is then touched to another, as for example the cheek, light will be produced without further friction. The phenomenon may also be made to appear by breathing on a bulb that has been rubbed against the skin. The purely physical nature of the phenomenon is shown by the fact that friction with inanimate substances, such as woolen cloths, clothing, etc., will produce the same results. By using a fox brush as the exciting agent, the author succeeded in producing images of opaque objects, such as coins, on a photographic plate.

Blaschko's Abortive Treatment of Gonorrhea.—Block warmly commends this method, which he says is reliable, though the lack of success attending other plans of abortive treatment has caused attempts of this sort to fall into discredit. Out of 215 patients, 44 proved suitable for the effort to cut short the infection to be made, and in sixty-four per cent. of these the result was satisfactory. Great care is necessary in selecting the cases, which must have but slight nonpurulent discharge without any urinary symptoms other than slight tickling. The gonococci should still be extracellular. Fresh three per cent. protargol solution is injected once daily for three days, and is retained five minutes at each session. If no reaction is produced, on the fourth day, four per cent., and on the fifth day, six per cent. solutions are used. On the seventh day the secretion is examined, if gonococci are still present the abortive treatment has failed, and one should revert to the ordinary milder plan; if none are found the patient should return several times more in order to be sure that the infection really has been cut short. A cure can be assured only if the urine is quite free from secretion or the threads are of catarrhal and not purulent nature.

French and Italian Journals.

Contagion of Trachoma.—Poulard communicates certain observations which he has recently made in relation to the contagion of trachoma. A father brought his seven-year-old daughter to the clinic for treatment. The child was afflicted with a chronic conjunctivitis without secretion. On turning back the upper eyelid the lesions of trachoma were distinctly seen. Both eyes were affected. The conjunctivitis was of more than a year's duration. The father's eyes had been affected for several years. Examination easily proved that the conjunctivitis in his case was exactly similar to that of the little girl—the same chronicity, the same slow evolution, the same localization, and the same kind of lesions. There were besides, cicatrices of the upper tarsal conjunctiva, and trachomatous lesions of the upper half of the cornea. There were four children and the mother at home. The writer made a visit to the house and discovered that they all had trachoma, even the youngest child who was only three months old. A neighbor and her child who often visited the family were found to have a distinct trachomatous conjunctivitis. The child was first attacked, then the mother. There was one washcloth only in use in the family, and this probably offered the method of transmission. This same cloth was used now and then on the neighbor's child, who was confided to the mother's care for the day. The writer has observed numerous cases of trachoma which have extended to all of the members of a family.—*Recueil d'Ophtalmologie,* February, 1905.

Syphilis and General Paralysis.—Apropos of the recent discusison in relation to syphilis and general paralysis, Joffroy offers the following conclusions: Syphilis is not the essential cause of general paralysis; general paralysis is not an affection of syphilitic nature; mercurial treatment is not prophylactic in general paralysis; mercurial treatment is not curative in general paralysis; mercurial treatment is not without danger for general paralytics. *Gazette des Hôpitaux Civils et Militaires,* March 9, 1905.

Iliac and Pelvic Adenophlegmons Consecutive to Lymphangitis of the Leg.—Savariaud believes that the development of abscesses of the iliac fossa and lateral pelvic abscesses consecutive to lymphangitis of the leg, are quite frequent. Suppuration of the external or internal iliac ganglia is always preceded by inflammation or even by suppuration of the inguinal ganglia, which constitute the first stage of lymphangitic infection. The seat of retroparietal collections is sometimes in the iliac fossa, above the crural arch, and sometimes in the prevesical space. The development of the abscess is accompanied by frequency of micturition from irritation and compression of the bladder.—*La Presse Médicale,* March 18, 1905.

Hemoptysis in Tuberculosis.—Hérard de Bessé describes the case of a man aged twenty-three, who had been tuberculous nearly all his life. Up to this time there had never been any serious hemoptysis. The vascular system was very sensitive, and the patient was subject to congestive attacks. One day, while at dinner, he was suddenly attacked with a hemorrhage. These attacks continued almost daily, often occurring several times in the twenty-four hours. Each time there was from 50 to 150 grammes of bloody expectoration. The heart was normal, but the pulse was rapid, generally more than 100 beats a minute. Arterial hypotension was noticeable. Many remedies were tried—opiates, ipecac, hydrastis canadensis, ergotine, calcium chloride, sodium bromide, quinine, digitalis, sulphate of soda, benzoate of soda, aconite, and so on. Various measures, too, such as the sitting position, ligature of the legs, and an icebag over the region from which the hemorrhage was thought to come, all were tried. The chloride of calcium seemed to have scarcely any influence on the coagulability of the blood, although it was faithfully given throughout nearly all of the illness. The action of the gelatine was entirely different. After a hypodermic injection of 10 c.c. of a solution of gelatine, without sodium chloride, the hemoptysis was arrested. The next day, the sputum was decidedly solidified. The icebag had been placed over the hemorrhagic focus at the same time that the injection was given. Forty-eight hours later the patient was able to be transported in a wagon to a sanatorium, the journey taking two hours. For some time the bleeding did not recur, and cyanosis disappeared. But a new attack of hemoptysis occurred, and the patient died. The writer believes that the drug of choice to be used in these cases is ipecac in doses that nauseate. If this drug is badly borne and the desired results are not obtained with it, then one should have recourse to gelatine, which is harmless after being sterilized, and which, better than anything else, will favor the formation of a clot. The patient should keep quiet in order not to disturb the clot. If these measures do not succeed, he is convinced that nothing else will be of much use. He thinks that it is always to be regretted when ipecac and gelatinized serum are kept as a last resource.—*Journal des Praticiens,* March 11, 1905.

Muscular Syphilide.—Giambattista Tacelli tells us that syphilitic affections of the muscles are not uncommon, beginning in the secondary period with the muscular pains at night resembling rheumatism, and increasing in frequency during the tertiary period, when we have asthenia of the muscles from lack of nutrition, contractures myositis, tremor, sclerosis of the muscles and gummata in the muscles, going on the degeneration and suppuration. During his studies he has met with two interesting cases of muscular lesions in patients that were undoubtedly syphilitic. The first was a case of contracture of the biceps muscle, placing the elbow in a state of flexion. There was no pain on pressure, but extreme pain on any attempt to move the muscle actively or passively. The condition came on suddenly; there was loss of galvanic excitability, and the muscular tension disappeared under chloroform. There was no alteration of the articular apparatus or tendons, as in reflex contracture; no tenderness, as in myalgia, and no evidence of nervous origin. The disturbance was purely functional. There were skin lesions present at the same time. The other case was one of gummatous infiltration of the sternocleidomastoid, with diffusion into the surrounding connective tissue, and ulceration of the superimposed skin. Gummous myositis may be localized in any muscle, but the most frequent location is the one in this case. It occurs frequently in the tongue. The functional disturbances are always small.—*Giornale Internazionale delle Scienze Mediche,* February 28, 1905.

Surgical Treatment of Ascites in Cirrhosis of the Liver.—Oresto Cignozzi gives the following conclusions from observations of the results of operative treatment of cirrhosis of the liver: (1) In affections of the trunk of the portal vein, with obliterating periendophlebitis from whatever cause, if ascites exists, surgical interference is justified, and good results can be expected. (2) In atrophic cirrhosis of alcoholic origin, except in the early stage, little belief is to be expected, and operation should be done in those cases only where life is threatened by hemorrhage into the stomach or bowels. (3) In alcoholic hypertrophic cirrhosis, the results are more encouraging. The ascites arises from a mechanical cause, and hence can be remedied. (4) In cirrhosis of cardiac origin the results are good. (5) In toxoinfective cirrhosis operation relieves ascites and stimulates the function of the liver. (6) In syphilitic, gummatous infiltration of the liver, good results are achieved, provided that the other organs are in good condition. (7) In malarial cirrhosis, of splenic origin, operation is useful.—*La Riforma Medica,* February 25, 1905.

Treatment of Puerperal Eclampsia by Parathyroidin.—G. Vassale has produced an extract of the thyroid body of special strength, which he calls parathyroidin or parathyreoantitoxin, and has used it in the treatment of eclampsia of pregnancy in three cases. The effect on the convulsions, he says, was surprising, such as to lead him to believe that it acts as an antitoxic toward the obscure cause of the eclampsia. He has also used it in a case of eclampsia in a child with good results, and in three cases of epilepsy, in two of which the convulsions were modified.—*Rivista Critica di Clinica Medica,* March 4, 1905.

Protruding Hemorrhoids.—Rumvill advises cleanliness and the application of this ointment:

℞	Opii pulv.	gr. xx
	Gallæ pulv.	
	Plumbi acet.	āā gr. xxx
	Ichthyol	ʒss
	Petrolat.	℥i
M.		

—*Clinical Review.*

Book Reviews.

The Channels of Infection in Tuberculosis, together with the Conditions, Original or Acquired, which Render the Different Tissues Vulnerable. By Hugh Walsham, M.A., F.R.C.S., Physician to Out-Patients, City of London Hospital for Diseases of the Chest, etc. New York: William Wood & Co., 1905.

This monograph is the Weber-Parkes' Prize of the Royal College of Physicians of London for 1903. It consists of a discussion of various pertinent phases of the tuberculosis problem as based on the findings in some two hundred autopsies. It cannot be said that anything essentially new is brought out, but an accurate familiarity is displayed with the literature of the subject, and the matter is brought down to the basis of our present knowledge. For the author the scrofulous gland is the tuberculous gland, but the suppuration in the latter must not be ascribed to the bacillus; it is rather a mixed infection. From such foci, can the lung be infected by the gradual extension downward of the bacilli with the lymph stream? This the author regards as an open question. The general channels of infection are hereditary transmission, the lymphatic vessels, the blood vessels, epithelial channels, and inoculation. The second portion of the work considers the relations between tuberculosis and alcohol, diabetes, the various forms of cardiac disease. lymphadenoma, and cancer. A bibliography closes the book. The various principles the author considers as established are fortified by the histories of individual cases and illustrated by some unusually clear colored views of microscopical sections.

Text-Book of Insanity Based on Clinical Observations. By Dr. R. von Krafft-Ebing, late Professor of Psychiatry and Nervous Diseases in the University of Vienna. Authorized Translation from the Latest German Edition by Charles Gilbert Chaddock, M.D., Professor of Diseases of the Nervous System in the Marion-Sims-Beaumont College of Medicine, Medical Department of St. Louis University, St. Louis, Mo., etc. With an Introduction by Frederick Peterson, M.D., President of the New York State Commission in Lunacy. Philadelphia: F. A. Davis Company, 1905.

Krafft-Ebing's well-known text-book on insanity has long deserved to be translated into English, and this want is supplied in the book before us. The author's clear exposition of psychology and psychopathology will make the English version especially useful to the student as well as to the practitioner. The present German edition follows the tradition of the preceding ones in the avoidance, as far as possible, of theories and hypotheses, in the emphasis of all that may be regarded as more or less certain in the science of psychiatry, and in the systematic arrangement of the scientific material. Owing to the peculiarity and the state of incompleteness of this science, psychiatric text-books usually present more or less prominently the standpoint of the author. The present work is the outcome of thirty-three years' observation and presents the disease-pictures in the light of the author's own experience. The book is well executed and well indexed.

The Modern Mastoid Operation. By Frederick Whiting, A.M., M.D., Professor of Otology, Cornell University Medical College; Aural Surgeon to the New York Eye and Ear Infirmary, etc., illustrated by twenty-five half-tone and twenty-three key plates, made from original drawings. Philadelphia: P. Blakiston's Son & Co., 1905.

The appearance of an elaborate monograph on a single operation well illustrates the refinement to which modern surgery has been carried. The work of Dr. Whiting, however, fully justifies such a course, for we can speak of it only in the highest terms. It opens with a chapter on the historical development of mastoid surgery, particular attention being paid to the Wilde's incision. On the latter point, the general position taken is that lesions often occur in the osseous tissues before there are any changes evident in the periosteum, and the author affirms "wherever Wilde's incision is indicated a mastoid operation is imperative." He regards the services of Wilde as of moral value rather than clinical in that he roused otologists to the necessity and comparative safety of surgical intervention in ear diseases. The Schwartze operation is next discussed and is declared to be the foundation of modern mastoid surgery. This leads up to the definite views of the author, who styles his procedure the "complete" mastoid operation, a flap operation and 'complete' "in its intent to remove the entire cellular structure of the mastoid apophysis."

The remaining portion of the volume is devoted to directions for the proper technical performance of the complete operation. In successive chapters is discussed with the most minute details, every step from the initial incision to the post-operative care of the patient. Then follow chapters on indications for the operation and enumeration and description of the instruments required. Some pertinent conclusions suggested by the principles laid down form the concluding pages. A complete index is appended.

We have preferred to give an outline of the work rather than to discuss individual matters suggested by its perusal. We have nothing but praise for it. The author has given particular attention to the needs of those who are called on to operate far from large institutions and medical centers and courteously calls attention to the errors the beginner is apt to make as well as to the course he should follow. Special stress is laid upon the necessity of a thorough anatomical knowledge and a realization of the existence of anomalies in structure. This knowledge is presupposed on the part of the operator of the present day. He cannot evade responsibility in this direction and a patient must no longer be "condemned to martyrdom because his sinus does not pursue in the temporal bone, the course prescribed for it by Gray's Anatomy."

A Textbook of Legal Medicine. By Frank Winthrop Draper, A.M., M.D. (Harv.). Professor of Legal Medicine in Harvard University; Medical Examiner for the County of Suffolk, Massachusetts; Medicolegal Pathologist at the Boston City Hospital, etc. Fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1905.

Considering the fact that every practitioner of medicine, no matter what his department of work may be, is likely at some time to have to appear in court as a medical witness, it is somewhat surprising that the number of books on forensic medicine is not larger. Of course, there are numerous good works on the subject available, but certainly no apologies need accompany the appearance of an addition to the number. The present volume is of a nature not to require excuses for its existence in any case, and, as its author was for twenty-eight years medical examiner for the city of Boston, it represents the fruits of unusual opportunities for observation. Both the legal and the medical aspects of forensic work are thoroughly discussed and the duties and rights of medical witnesses and experts clearly defined. The material is thoroughly modern in its treatment, as is shown by the discussion of the precipitin reaction in the section on the identification of blood stains, and the author has not neglected the opportunities for good story telling afforded by the many illustrative cases cited.

The Treatment of Nervous Disease. By J. J. Graham Brown, M.D., F.R.C.P.E., F.R.S.E., Assistant Physician, Royal Infirmary of Edinburgh; Author of "Medical Diagnosis: A Manual of Clinical Methods." Fourth Edition. Edinburgh and London: William Green and Sons, 1905.

For those who desire to acquire practical information in an agreeable manner this book is to be warmly commended. The matter is presented in the form of lectures, though, as the author explains, these have been much added to since they were first delivered in the Royal Infirmary of Edinburgh. This is a literary form hard to carry through successfully, but in skilled hands it makes delightful reading, and the present author has made no mistake in adopting this semi-colloquial and unstilted style. Naturally the exhaustiveness of discussion to be expected in a formal treatise finds no place in the present volume, but much of interest and value is to be gleaned from its pages. The large print, wide margins, and excellent paper contribute much to the comfort of the reader.

Untersuchungen über Knochenarterien, mittelst Röntgenaufnahmen injizierter Knochen und ihre Bedeutung für einzelne pathologische Vorgänge am Knochensysteme. Von Dr. E. Lexer, a. o. Professor, Dr. Kuliga und Dr. Wolfg. Türk, früheren Volontäranistenten der königl. chirurg. Universitätsklinik Sr. Exzellenz von Bergmann, Berlin. Mit 22 stereoskopischen Bildern und 3 Tafeln. Berlin: August Hirschwald, 1904.

This brochure contains a very interesting demonstration of the arteries in bone by means of Röntgen pictures of the injected vessels. A description of the technique of the injections precedes the presentation of the very beautiful plates. In addition to the plates, three in number, there are twenty-two stereoscopic pictures, by means of which the bones can be studied in their thickness, and the relative positions of the arterial twigs to each other become apparent. The value of such a demonstration to the surgeon and the pathologist is apparent.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, Held March 16, 1905.

THE PRESIDENT, DR. CHARLES L. DANA, IN THE CHAIR.

The evening was devoted to a discussion of the medical and surgical treatment of gastric ulcer.

Prognosis of Gastric Ulcer Under Medical Treatment.—Dr. BEVERLEY ROBINSON said that his views and results of his experience had already been published in the MEDICAL RECORD and that he had little further to offer. His contribution to the discussion was based upon his personal experience in the treatment of ulcer of the stomach. Theoretically, the treatment of this condition belonged to the physician. There were few diseases to-day that had a more direct and positive interest to him than simple or round ulcer of the stomach, and he believed the condition could be cured by skillful intervention. If an ulcer should develop with pain and dyspeptic symptoms he believed a cure would follow from a purely medical course of treatment. But if the symptoms persisted then surgical aid should be invited which, in some instances, would save the patient's life. In cases of perforation of the stomach of any form of ulcer the indication was for operation, and the sooner the better. Instances of cure without surgical intervention, he said, were known but were very infrequent. Of 29 cases at St. Luke's Hospital, 24 occurred in females; of these 24, one patient died, 19 were cured, and the rest lost sight of. Only one of the 29 cases was treated surgically. Dr. Robinson said he had written to the representatives of many institutions to learn how many cases of ulcer of the stomach they had had, how many were operated upon, the nature of the operation, and the results obtained, as well as the results of stomach examinations before and after operation. The various reports received, he said, would take too long to present, and he did not believe were interesting enough to justify him in taking the time. In one institution there were 35 cases of gastric ulcer, 18 were operated upon, and 17 were under medical treatment. Ten deaths occurred among those operated upon, while none occurred among those treated medically. Most of the operations were emergency cases, and there were three gastroenterostomies. Dr. Erdmann had reported to him three cases; all recovered after operative interference. Dr. Adler had reported to him 43 cases occurring from 1900 to 1905, 39 medical and 4 surgical; 26 of the medical cases resulted in cure, practically without treatment; 10 were improved, and 10 unimproved. Some of the patients were victims of Bright's disease. One-third of them received nutritive enemata. In some of the operative cases the McGraw ligature was used with success. Dr. Lambert reported to him that from January, 1900, to January, 1905, there were 34 medical and 12 surgical cases. Dr. George P. Biggs reported a total of 78 cases, with 22 operated upon. Among the operative cases there were 10 deaths. At the New York Hospital during the past 10 years there were 52 cases of gastric ulcer, 35 being treated medically and 17 surgically. Of the 52 cases 11 died. Dr. Robinson said that statistics did not throw much light upon the subject of ulcer of the stomach except to point out the fact that surgical procedures offered, in some cases, the only road to recovery. He said that Dr. Blake reported 6 cases of perforation of the stomach in case of ulcer, with 3 recoveries and 3 deaths. Five cases were operated upon for gastric hemorrhage with 2 deaths and 3 recoveries. He believed the treatment of acute gastric ulcer was essentially medical, and hyperchlorhydria was the result and not the cause of ulcer. Robson, in 1901, had reported a 5 per cent. mortality in operations for gastric ulcer, and Moynihan had reported a mortality in gastroenterostomy as low as 2 per cent., and he thought these figures compared favorably with the mortality under medical treatment. The Johns Hopkins Hospital reports gave figures greatly in advance of those quoted. Mortality figures from different institutions varied greatly. The results obtained from treatment of hospital cases afforded no index of what would be expected in private practice, because these patients were badly cared for before entering the hospital, and operative interference was more often indicated. On the other hand, in private practice, the patients received the best advice from the onset of the trouble and were at once placed under proper diet and proper medication and, as a result, sooner or later they got well without the necessity for operation. In many cases in hospital work operative interference was delayed too long. The principles of medical treatment consisted chiefly in rest, bodily and mental, the use of rectal feeding with a gradual return to feeding by mouth. Special treatment for the accompanying anemia should not be ignored. Treatment of acute and chronic ulcer of the stomach differed; the acute cases could be cured by proper diet, rest in bed, with but few medicinal agents, but this treatment would not apply to the chronic cases. With regard to perforation and hemorrhage, he said the latter might be very profuse and alarming. He had but little if any faith in gelatin. Adrenalin, 10 to 20 drops of a 1 to 1,000 solution, was of value. If the hemorrhage was not readily controlled, operation should at once be resorted to. Examination of the gastric contents before and after operation was not made in this country except in a very few instances. Only two instances were on record at the Johns Hopkins Hospital. In both the total acidity was reduced. Dr. Robinson believed that if these patients received careful and judicious treatment they would rarely reach the stage where operation was indicated. Even in cases of profuse initial hemorrhage the hemorrhage might not occur again, and even if it did it would in all probability be less profuse. If two or more ulcers were found in the stomach it would be a dangerous procedure to excise them all. In some cases of sudden death from repeated hemorrhages he was of the opinion that some lives might be saved if artificial serum was injected either subcutaneously or intravenously prior to operation; this placed them in better shape to submit to operation with the hope of successful results. In conclusion Dr. Robinson presented certain facts: that probably there was no known treatment that would prevent the formation of fresh gastric ulcers; that uncertainty in diagnosis often led to clinical mistakes; that acute gastric ulcers must be recognized early clinically; that the treatment was purely medical; that in a certain proportion of cases this failed and chronic ulcers became established; that despite the brilliant results obtained from gastroenterostomies in gastric ulcer there were many objections to its performance; that in most cases he believed a conservative clinical diagnosis would enable us to form a judgment as to whether the treatment should be medical or surgical; that in emergency cases there frequently were no previous symptoms which permitted a probable diagnosis even; hence no rational preventive treatment in these cases could be carried out. Dr. Erdmann had reported 11 emergency cases in which there practically were no previous symptoms prior to perforation or severe hemorrhage for which he was called upon to operate.

The Late Results of Surgical Treatment of Gastric Ulcer.—Dr. JOHN C. MONRO of the Carney Hospital, Boston, read this paper. He believed the best results were obtained surgically and not medically, and that to-day a large part of the medical men in Boston were willing to admit this fact. The end results among 146 cases were known in 133 of them, but he regretted that he could not as yet give anything definite regarding the frequency of relapses, although he felt certain that risks of reformation of these ulcers were very small. Of these 146 cases there were about 50 of cancer; the remainder were benign lesions. In 14 cases of cancer and sarcoma the disease had advanced so far that a gastroenterostomy was not deemed advisable. Many of the cases had been under medical treatment for a long time, and some were hopeless from the start. He said that he believed no one could tell with certainty the conditions of the viscera without opening the abdomen. In three of the cases a jejunostomy was performed to avert death from starvation. In 25 cases anastomosis was performed with the Murphy button. In five cases death was hastened by a few days, but the operation was done in each instance with the clear understanding that the outlook was desperate. With the less hopeless cases, he said, such signally good results had been obtained that he felt more and more encouraged. In 19 of these cases the final results were known; 2 patients lived over one year; 9 lived from one month to one year; the remainder died within one month after operation, but not directly as the result of the operation. The benefit of the operation appeared at once. When gastrectomy was done for cancer of the stomach he said he felt convinced that all of the growth could be removed. Two patients died as the result of imperfect technique, but since Mayo had improved the technique he expected better results. In four cases the results were very good, and it was interesting that but 4 cases out of the 50 came to them for operation in time for excision to be done. The patients did not seek surgical aid in time to get good results. Of the benign cases there were 90 operations and the end results were known in 78. In most of these cases medical treatment had been employed for periods extending over months or years. He said that Mayo had made the statement that he never operated upon a case of ulcer of the stomach unless it had been cured at least seven times. Primary cases were rarely operated upon. There were very few typical cases and he said that, as a result of his experience, he had grown quite accustomed to very startling revelations when opening the abdomen. Little help was to be had from either a bacteriological or a chemical examination of stomach contents. He said he had abandoned giving the test meal and preferred to give a good meal and note the results after a few hours. The general history of the condition, the bleeding, the distress, etc., made up the sum total in determining whether or not to interfere surgically. The diagnosis could not be made from visual and tactile examination alone, because the histology of the stomach was not known. Dr. Monro here described the operations performed. Finney's operation had not given good results and therefore had been abandoned. Moynihan's operation with the short loop gave the best results he had ever seen. In 11 cases in which the long loop was employed, 7 complete cures resulted. In all the anastomosis operations one should be very cautious regarding the dietary, and he said he had had cards printed for these patients' use informing them what they could eat, etc. In conclusion Dr. Monro said that the results of surgery in cases of ulcer of the stomach, as well as in malignant and benign growths, was certainly very encouraging. In both malignant and benign ulcers he believed that medicine must yield to surgery. One of the most important problems for solution to-day was the technique, and so soon as this was solved the results of operative work would be far better.

Dr. E. G. **Janeway** considered the question of lavage of the stomach in gastric ulcer and said that he had been called in consultation in two cases in which there were perforations as the result of lavage. Both patients were in a state of collapse and moribund and died. These two cases made a very strong impression upon him as to the advisability of washing out the stomach when one did not know the depth of the lesions. He referred to the statement made by a certain doctor that he had over 300 patients under treatment, and every day the stomachs of all were washed out until clean and then 150 to 300 grains of bismuth subnitrate were introduced and left; this man stated that he had not seen a single bad result from lavage. With regard to the employment of nitrate of silver, Dr. Janeway said he had seen one case in which argyria developed; this patient had cirrhosis of the liver and not ulcer of the stomach; he had a hemorrhage and the silver nitrate was given for the purpose of preventing another. Mistakes in diagnosis were often made and, sometimes, even when the abdomen was opened mistakes of diagnosis would be made. He referred to a case in which the diagnosis of malignant disease was made, the abdomen opened, the diagnosis confirmed by inspection, the abdomen closed and the patient made a recovery, the tumor entirely disappearing. He thought it might be interesting to note the number of cases of ulcer of the stomach in New York City which terminated fatally, and he gave the following statistics: In 1895, 71 cases, 43 males and 28 females; in 1896, 81 cases, 33 males and 48 females; in 1897, 65 cases, 32 males and 33 females; in 1898, 62 cases, 31 males and 31 females; in 1899, 71 cases, 34 males and 37 females; in 1900, 73 cases, 41 males and 32 females; in 1904, 93 cases, 51 males and 42 females. In all probability a large number of cases had not been recorded because not diagnosed.

Dr. **George R. Lockwood** said that of all diseases of the stomach ulcer was the most difficult to make any conclusions from in the way of statistics because there were so many cases that resembled ulcer which were not ulcers at all. There was nothing more difficult to diagnose at times than a neurosis and this was often mistaken for ulcer. Many cases of gastric ulcer were not treated at all until the terminal catastrophe occurred, such as rupture and hemorrhage; therefore the statistics given were very misleading, and one must rely almost entirely upon personal experience and the general impressions one got of the disease obtained in private and hospital practice, and not depend upon any statement of figures. The merits of any medical treatment could not be judged by hospital cases. He thought that all must agree that ulcer of the stomach at the pylorus should be treated not as an ulcer, but as a case of pyloric stenosis; that in cases of perforation the condition should be treated not as an ulcer, but as a case of perforative peritonitis. In those cases where there had been hemorrhages and pains, hypersecretion, etc., which complicated either an acute or chronic ulcer, he believed that much could be hoped for by rest in bed, hot applications (not cold) constantly applied, with absolute starvation so far as the stomach was concerned, for at least four days, with no nutritive enemata to stimulate peristalsis, and small doses of dessicated suprarenal, to be followed by Carlsbad treatment and enlargement of diet. He spoke of one case in which there was a relapse, but this was due to going out in the wet, catching cold, etc. In hospital cases one could not expect to get the same results as in private cases; often these cases before entering have repeated hemorrhages, or a continuance of the hypersecretion, giving rise to gastric distress, etc., so that when they did enter they were transferred to the surgical side.

Dr. C. E. **Nammack** said that Dr. Brooks had informed him that in 1,000 consecutive autopsies at Bellevue Hospital he had found 9 cases of gastric ulcer, and only two of these had been recognized during life. In cases of gastric ulcer he said hyperchlorhydria was present, and this condition tended to prevent the repair of these ulcers. The indications in treatment were to improve the nutrition, diminish the acidity of the gastric juice, and place the ulcer at rest, and success would attend our efforts in proportion as we were able to accomplish these measures. Treatment should not be addressed so much to the ulcer itself, but to its consequences. The acute form of ulcer was readily recognized and would yield to the medical treatment in the majority of the cases. Surgery had only to do with complications such as perforation and hemorrhage. Sixty cases were reported in which the nutritive enemata were entirely dispensed with and the patient got raw eggs and milk, and then after the sixth day scraped meat. He said that Dr. Lambert had advised enemata only for one week in acute cases, but longer in the chronic cases. He advised against mistaking acute exacerbations occurring in chronic ulcer for acute ulcer. In 87 per cent. of the cases in which chronic ulcer occurred it was solitary and, therefore, more amenable to surgical intervention.

Dr. **Max Einhorn** said that after gastroenterostomies for gastric ulcer the patients ultimately would return complaining of an intense hyperchlorhydria, and it should not be believed that this operation was a cure-all; even in cases of pyloric obstruction surgical operation should not be resorted to always. The mortality rate to-day was too high in these operations; if it could be kept as low as 1 per cent. he then thought surgery would more often be resorted to. Because of the high mortality rate, *i. e.* comparatively speaking about 10 per cent., he did not think patients with gastric ulcer should be urged to undergo surgical treatment when it was possible to let them live for months or even years in comparative comfort under medical treatment. He spoke of the difficulty encountered in making a positive diagnosis of ulcer of the stomach; even when hemorrhage was present it might be a parenchymatous hemorrhage or a leakage. Cases had been reported in which operations had been done for gastric ulcer and yet none was found. The mortality in surgical intervention was great as a rule, because of the lowered vitality of the patient. Operation was usually advised when the hemorrhage was not very great; we should not wait until it was so profuse as to make any operative work too risky. Dr. Einhorn believed that even in those cases where the hemorrhage was very profuse and where the patients appeared to be absolutely lost, they would in a great many instances get well without operation. He believed that it was a risky thing to wash the stomach out in cases of ulcer. The washing out or emptying of the stomach was not necessary, because this viscus, in cases of ulcer, was empty anyway. The treatment should consist in rest in bed with some of the milder forms of liquid diet, or else nothing by mouth and rectal alimentation, especially in the chronic types. Large doses of bismuth he believed to be of benefit. It should be given in one-half drachm doses three times a day and in a little water.

Dr. **George E. Brewer** said that it was quite significant that no New York surgeon had as yet reported any large series of operations upon the stomach; Mikulicz, Mayo Robson, Moynihan, Mayo, and surgeons in Philadelphia, Boston, and other places, had furnished reports of operations for gastric ulcer, but no one had as yet from New York. The same questions had arisen with regard to operative procedures in gastric ulcer that arose twenty years ago in appendicitis when the idea of operating upon any but moribund cases was scouted until it was shown in a large series of cases that the mortality was greater with medical treatment. Dr. Brewer believed that within ten years general practitioners would be as eager to have the majority of gastric ulcers treated surgically as they were eager to have operation upon the appendix in the early stages. Many cases to-day were treated as cases of dyspepsia, or gastric neuroses, and these patients went from doctor to doctor without the true nature of the condition being known until the case developed into one of chronic gastric ulcer. All admitted that cases of perforation should be treated surgically from the start; these patients almost invariably died if treated by other than surgical means. Again all admitted that cases of grave and repeated hemorrhages from the stomach should be treated surgically. Gastric ulcer with pyloric stenosis should be treated surgically. Surgical treatment should be employed in cases of mechanical obstruction, which caused gastric dilatation and fermentation, vomiting and emaciation. It was not a question of chemical, but one of physical indications. Another form of gastric ulcer which he thought should be turned over to the surgeon, was the intractable ulcer of the stomach, the one that would not yield to medical treatment. In these cases the dyspectic and other symptoms disappeared like magic when a gastroenterostomy was performed. The great difficulty in diagnosis was admitted by all, and no one was better able to know this fact than the surgeon who so often opened the abdomen. With regard to statistics, one must rely upon them when they came from reliable men. In a paper read before the American Medical Association, Dr. Howard of Baltimore said that accurate records were kept at the Johns Hopkins Hospital, and he was able to state that at the time of discharge, 14 per cent. were apparently cured. A large number were improved, and a large number subsequently developed symptoms of a recurrence. The mortality was something like 29 per cent. for all cases. Dr. Brewer thought that we now were in the transition stage regarding ulcer of the stomach, the same as surgeons once were in the treatment of appendicitis and intestinal obstruction.

Dr. **Jos. A. Blake** emphasized the importance of early operation in cases of perforation from gastric ulcer, and said that one should not think of waiting until shock disappeared; shock would disappear with the administration of the anesthetic. Many cases of perforation did not give antecedent symptoms, because the ulcers were not situated in the motor area of the stomach. The symptom-bearing ulcers were situated near the pylorus, and, consequently, were more amenable to surgical treatment. The treatment that cured was *rest*, and, therefore, cure would not follow when the patients were fed, the food passing over the ulcer. The best means of gaining this complete rest was by doing a gastroenterostomy. He spoke of the cases that had been reported in which Nature had attempted a cure; for instance, a loop of the ileum had become adherent to the wall of the stomach at the site of the ulcer, and the ulcer had opened through it; in such cases Nature performed a gastroenterostomy. Early diagnosis and operation would often save cases that seemed to be hopeless. A single large gastric hemorrhage in a young woman, he said, was likely to be from an acute ulcer of the stomach.

Dr. **Harlow Brooks** gave a demonstration of pathological specimens illustrating gastric ulcer.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, February 7, 1905.

THE PRESIDENT, DR. JOSEPH FRAENKEL, IN THE CHAIR.

Two Cases of Dysbasia Angiosclerotica (Intermittent Claudication), with Demonstration of Calcareous Deposits in the Pedal Arteries.—Dr. J. **Ramsay Hunt** presented three patients and illustrated the report by radiographs taken by Dr. Arthur Holding. The first patient was a man, 49 years old. His occupation for the past thirty-two years had been that of an iceman, which necessitated long and frequent exposure of the feet to cold and wet. The patient had used alcohol and tobacco to excess for many years. He acquired syphilis in 1879. The following year he had some ulcerations on the right leg, and five years later suffered from ulceration of the palate, with perforation. In September, 1903, he had an attack of delirium tremens, for which he was treated in the alcoholic pavilion of Bellevue Hospital. Restraint was necessary, and he was bound in the usual manner by sheets attached to the wrists and ankles. The first symptoms of the present affection appeared immediately after his discharge from the hospital, and was attributed by the patient to the restraint used. He complained of stiffness in the toes, the left leg, and the ankle, and paresthesia of the toes and edges of the feet. After walking a quarter of a mile, the prickling pain and stiffness became so distressing that he had to sit down until it wore off, which was the case after a few minutes' rest. His symptoms were much worse in winter than in summer, and were especially severe on a cold day. On rising in the morning, the feet and legs felt perfectly well and natural. Toward the end of the day the feet became puffed up and swollen, and presented a mottled and cyanotic hue. He complained that they felt cold most of the time. The posterior tibial artery was not palpable on either side. The dorsalis pedis was full, and larger than normal. The femorals and popliteals pulsated normally on the two sides. The feet were cold, and on standing became red and swollen, with a distinct purplish tinge. Numerous venules and minute venous varicosities were present about both ankles, and along the anterior tibial region. The toenails on the left foot presented transverse ridges. The reflexes and sensation of the lower extremities were normal. Signs of a general arteriosclerosis were present, and the urine contained a faint trace of albumin, but no casts nor sugar. Its specific gravity was 1017. Subsequent examination revealed an occasional faint pulsation in both posterior tibials, weaker on the left side.

The second patient was a man 60 years old, who for fifteen years had been a longshoreman. For the past ten years he had worked in bar-rooms, where his feet had been exposed a good deal to the cold and wet. He denied lues. For the past fifteen years, he had smoked from ten to fifteen cigars daily, and had used alcohol to excess. About five years ago he began to suffer from numbness, stiffness, and a cold sensation in the toes of the right foot, coming on about two hours after beginning work in the morning. At the end of the first year he was compelled to rest after about three hours. At the end of two years his condition had grown worse; the paresthesia and stiffness had extended as high as the ankle, and rest was necessary after two hours' work. After resting, and in the morning on arising, all his symptoms had disappeared. The symptoms in the left foot gradually grew worse, and six months ago similar symptoms appeared in the right foot, beginning in the toes. Both feet assumed a mottled appearance on standing, but did not swell. A pulsation of the femorals, popliteals, and posterior tibials could be felt on both sides, while the pulsation of the dorsalis pedis was entirely absent on both sides, although the artery could be felt as a fine rounded cord. The reflexes and sensations of the lower extremities were normal. There were well-marked signs of a generalized arteriosclerosis. The urine had a specific gravity of 1023: it contained a trace of albumin; no sugar. The symptoms presented in the cases shown were to be ascribed to an arteriosclerosis of the vessels of the leg and foot—the so-called dysbasia angiosclerotica (intermittent claudication of Charcot). The *x*-ray photographs demonstrated by Dr. Holding showed very exquisitely deposits of lime in the posterior and anterior tibial arteries and the dorsalis pedis, marking out very definitely the course of the vessels. As might be inferred from the general evidences of arteriosclerosis in both cases, the pathological process in the pedal arteries was the usual arteriosclerosis of Gull and Sutton, with deposits of lime in the media. These cases are supposed to be less amenable to treatment than the endarteritis forms; hence this method of demonstration might have a certain prognostic value. Both cases had shown a very moderate response to treatment.

Dr. S. Sachs called attention to the similarity of the lesions met with in this condition to those of erythromelalgia.

A Case of Probable Infectious Myelitis of the Cervical Region, Following a Compound Fracture of the Jaw.—Dr. J. Ramsay Hunt, presented this patient, a man 36 years old, a painter by occupation, who, until the onset of the present trouble, had enjoyed excellent health. He had never shown any symptoms of lead poisoning. On December 7, 1904, he fell on the street and fractured his lower jaw in two places. The fracture was a compound one, and the wound, which was on the inside of the mouth, bled for several hours. Three weeks later he had rigors at night, on one occasion followed by profuse perspiration. On January 5, 1905, after a heavy slumber, he awoke with severe pain in both arms, which were also very weak, so that he could hardly lift them. The weakness was chiefly in the muscles of the shoulder, especially on the left side. The pains continued all day with great severity, sharp and lancinating in character, and shooting through the whole length of the arms, although more severe in the shoulders. The next morning the pains had ceased entirely in the right arm, and the power in the extremity had returned. He was unable, however, to elevate his left arm, and the severe pains still continued, especially in the region of the left shoulder. There were no vesical symptoms. For several nights following the onset of the paralysis he had chills of moderate severity. The patient was first seen by Dr. Hunt on January 20, 1905, two weeks after the onset of the symptoms. He still complained of sharp, shooting pains in the region of the left shoulder, and the deltoid muscle was somewhat tender to deep pressure. It might be added, however, that on compressing the muscle bundles of the deltoid between the fingers, the same pain and tenderness were elicited as on deep pressure. The nerve plexus above the clavicle and the axilla and along the inner side of the arm was absolutely free from any tenderness. The left arm was the seat of a slight general atrophy which was very marked in the deltoid muscle. All movements of the left arm and shoulder could be carried out with practically normal power, excepting adduction of the arm. On attempting adduction, some of the posterior bundles of the deltoid were felt to contract, but little or no movement of the extremity was produced. All the arm jerks were present, and were equal on the two sides. On testing the sensibility it was found that the tactile, pain, and temperature senses were retained over both upper extremities, and that the deep sensibility was also normal. A more careful sensory test, however, showed that the sensation was relatively diminished for pain, temperature, and touch along the outer side of the arm from the shoulder to the wrist, corresponding very closely to the recognized sensory distribution of the fifth cervical segment of the cord. In the right arm, a similar relative obtunding of sensation was also present, but less marked and not so extensive, being practically limited to the region of the deltoid. The gross motor power and tendon reflexes of the lower extremities were normal. The Babinsky phenomenon was absent. The deltoid muscle failed to respond at Erb's point to the galvanic or faradic current, although good contractions were produced in the biceps and the supinator longus. The direct faradic current produced a sluggish response in the posterior portion of the deltoid; no response in the anterior half. By the direct galvanic current a slow, vermicular response was elicited, with reversal of the poles. The urine contained some albumin and hyaline casts. A blood-count showed 4,112,000 red blood corpuscles; 10,000 white cells, and 75 per cent. of hemaglobin. The erythrocytes were normal; no granular basophilia. The differential count was as follows: polymorphonuclears, 70.6 per cent.; lymphocytes, 10.2 per cent.; large mononuclears, 18.8 per cent.; eosinophiles, 0; mast cells, 0.4 per cent. On February 1, 1905, the patient still complained of a dull aching, with occasional sharp, shooting pains in the left shoulder. The moderate tenderness in this region still persisted. The gross motor power of the deltoid had greatly improved, so that the arm might now be elevated above the head. This occurred chiefly through the medium of the posterior half of the deltoid muscle, the anterior portion remaining entirely relaxed and flaccid. The slight sensory changes still persisted. There was no Babinsky reflex. A piece of dead bone had been removed from the inside of the mouth, and the breath and secretions of the mouth were very fetid. The interesting features of this case, Dr. Hunt said, were those of localization and etiology. Considering the patient's previous good health and the absence of any other demonstrable cause, it was natural to refer the symptoms to the suppuration and the carious process in the lower jaw, more especially as mild symptoms of sepsis directly preceded and followed the onset. While the persistent pains and apparent tenderness over the left deltoid might suggest a neuritis of the circumflex nerve, it might be emphasized that the paralysis of the deltoid was incomplete, and evidences of objective sensory changes limited to the circumflex were absent. The speaker also emphasized the absence of tenderness or other evidences of inflammation in the plexuses and cellular structures of the neck. On the other hand, the initial paralysis and severe pains, symmetrical and bilateral in distribution, the rather sudden recovery of the right arm and the more gradual recovery in the left; the unequal distribution of the paralysis in the left deltoid, and the gradual improvement which this paralysis had undergone; the relative diminution of sensation on both sides in an area corresponding very closely to that of the fifth cervical segment, all pointed strongly to a central cord lesion. The nature of this case could only be inferred. A poliomyelitis or a myelitis of infectious organ naturally suggested itself.

Dr. CHARLES L. DANA said he had seen Dr. Hunt's patient some days ago, when there was still some paralysis of the left arm. The condition could best be explained on the theory of a thrombosis plugging one of the central arteries and affecting the left anterior horn, about the region of the fifth cervical segment.

Dr. FRAENKEL said there were a number of cases reported in literature where septic conditions, particularly that known as angina Ludovici—an acute suppurative condition of the connective tissues of the neck—had given rise to a septic neuritis. The speaker said he saw such a case in consultation about three years ago. The case was one of a septic throat condition, and eight or ten days later, after the acute symptoms had subsided, there were evidences of a bilateral brachial neuritis. It began with severe pain, in that way differing from the case shown by Dr. Hunt.

Address of the Retiring President.—Dr. PEARCE BAILEY stated in his address that while the membership of the society had been materially enlarged during the past year, notably by younger men, the new members had not shown the active participation in the proceedings which was absolutely essential for the society's continued prosperity. Many interesting cases had been shown during the year, and the general discussions had brought out large audiences and had been fruitful in valuable information. While individual clinical cases and general discussions perfected the art of the clinician, they did not give neurology all that neurology had a right to expect from as representative a body as the New York Neurological Society. For the science to be advanced, more fundamental contributions were essential. It was commonly said, and with much truth, that neurology was living to-day on its past achievements. So much the more necessary was it to try to give it new life, to start it again on that progress which, only a few years ago, made it the most brilliant branch of medicine.

Address of the President-Elect.—Dr. JOSEPH FRAENKEL delivered this address. (See page 481.)

PHILADELPHIA NEUROLOGICAL SOCIETY.

AT a stated meeting held February 28, Dr. D. J. McCARTHY exhibited "A Case of Tuberculosis with Graves' Syndrome." The patient was a woman of perhaps 40 years, who had for two years presented symptoms of pulmonary tuberculosis and within a few months had developed transitory and recurring enlargement of the thyroid gland, with tachycardia, tremor, retraction of the upper eyelids and imperfect descent of the upper lid with the eyeball, but without exophthalmos. Dr. McCarthy further stated that a considerable number of cases of similar character had come under observation at the Phipps Institute for Tuberculosis, and it was a question whether they were true examples of Graves' disease or a symptom-complev, perhaps of toxic origin, simulating that disorder. Dr. RALPH PEMBERTON exhibited for Dr. W. G. Spiller "A Case of Lumbothoracic Syringomyelia." The patient was an Italian woman some 35 years of age who presented spasticity in the left lower extremity, with exaggeration of the reflexes, and weakness, with abolition of the reflexes and sensory dissociation in the right lower extremity. The upper extremities and the trunk were unaffected. Dr. W. G. SPILLER exhibited "A Case of Progressive Muscular Dystrophy with Atrophy of Bone." The patient was a man about 25 years old in whom weakness and muscular deficiency had been observed from the age of 2 years following an injury to the back by falling lumber. The symptoms became much exaggerated at the age of 16 years, and at the present time the muscular tissue was deficient in extreme degree in some situations, including the face, and the bones themselves were attenuated, as could be seen also in skiagrams. The disturbance was entirely asymmetrical, with respect both to musculature and to bone. Dr. Spiller exhibited also "A Case of Chronic Mercurial Intoxication." The patient was a hatter employed in a room where felt impregnated with mercury was being constantly cut, and who in addition to inflammatory changes in the gums presented also marked tremor increased with repeated voluntary muscular action and exaggerated knee-jerks. Dr. Spiller exhibited further "A Case of Tabetic Facial Palsy." The patient was a man about 45 years of age, with a syphilitic history, who presented characteristic symptoms of tabes and in addition paresis of the left side of the face, of which he had himself been unaware. There was no history of acute invasion or of exposure to cold as a causative factor, and it was believed that the state of the facial muscles represented a complication of the spinal disorder and not merely an intercurrent affection. Dr. T. H. WEISENBURG exhibited "A Case of Hemorrhage into the Pons," occurring in a man 35 years old who had struck his head in falling from a trolley-car. He was unconscious for a few days and on returning to consciousness it was found that there was double vision. Examination at a later date disclosed the existence of paralysis of the external rectus muscle of the right eye, with wasting and fibrillary twitching of the right half of the tongue and of the muscles of the right side of the face, and impairment of sensibility in the distribution of the right fifth nerve. Dr. Weisenburg exhibited also "A Case of Hemorrhage into the Floor of the Aqueduct of Sylvius." The patient was a farmer 55 years old who had suddenly observed drooping of the upper lid of each eye with loss of the power of elevation, and who on examination was found to present paralysis of the muscles supplied by the third and fourth cranial nerves. Dr. RALPH PEMBERTON reported a case of strychnine poisoning with convulsions, in which 1½ or 2 grains of the drug had been taken, and also a case of lead poisoning with wrist drop and intestinal colic in both of which the Babinski reflex was present. Dr. GEORGE E. PRICE read a communication entitled "A Case of Malarial Infection Presenting Symptoms of Multiple Neuritis." The patient was a girl 8 years old who had had symptoms of malarial fever for 18 months and presented tremor, muscular weakness, and diminished reflexes. Malarial plasmodia of the estivoautumnal type were found in the blood, and all of the symptoms disappeared under the administration of quinine. Dr. ALFRED GORDON read a paper entitled "Clinical and Pathological Report of a Case of Lead-poisoning with Remarks on the Pathogenesis of the Disease." He reported the case of a man suffering from wrist drop and intestinal colic and with a history of a previous attack of similar character. Death took place suddenly, and while post-mortem examination failed to disclose any macroscopical alteration in the nervous system, histological study revealed the presence of degenerative changes in the peripheral nerves, the spinal nerve-roots, the cells of the anterior horns and in the posterior columns, together with sclerotic alterations in the blood-vessel of the cord. The opinion accordingly was expressed that the deleterious effects of lead are not confined to any one portion of the nervous system, but are expended on all.

Influenza.—Wolfe recommends for the muscular and joint pains of this condition the following lotion:

℞ Pot. Carb	℥ss
Tr. Bellad	℥ss
Aq. Camph. q. s. ad..................	℥iv

Sig. Apply every hour. —*Penn. Medical Journal.*

Joint Meeting of the Chicago Urological and Chicago Medical Societies.

At a meeting held March 1, 1905, Dr. **William T. Belfield** read a paper on "Pus Infections of the Genital Tract in the Male," and said they are induced by the gonococcus and by the common pyogenic bacteria. To the latter the healthy urethra was immune, since they were found as constantly in the average urethra as in the average mouth. They invaded the urethral tissues when the vitality of the latter was reduced by stricture formation or by senility. The genital duct proper—seminal vesicle, vas deferens, and epididymis—reacted to the pyogenic bacteria just as did the urethra, that is, by suppuration. This fact had been hitherto overlooked, and gonorrheal epididymitis was to-day treated as a medical rather than as a surgical disease, probably because fluctuation in the epididymis was so seldom recognized. The author's investigations had shown that the pus infections of the male genital duct were quite analogous to those of the Fallopian tubes; that pus tubes were quite as common in the male as they were known to be in the female; and that acute epididymitis, gonorrheal or otherwise, should be treated as a suppurative process, by incision and drainage. While this might be omitted in the mild cases, it should be practised in the severe grades, especially when acute hydrocele and scrotal edema appeared, for these were infallible signs of suppuration. In chronic epididymitis, especially when a painful and tender swelling persisted in the epididymis, incision or excision of the pus focus might be required. The author had practised a therapeutic measure which seemed to be novel, namely, injection into the entire vas deferens and seminal vesicle through a needle introduced into the vas, just above the epididymis. The therapeutic value of this measure was yet to be determined. At present it was merely asserted that the mucous lining of the vas and seminal vesicle could be medicated in this way.

Dr. **Arthur Dean Bevan** discussed "X-rays as a Means of Diagnosis in Kidney Surgery." He thought the best exposition of this work was to be found in a comparatively recent number of the *Beiträge für Chirurgie,* from the pens of Kümmel and Rumpell. These gentlemen took the position of Leonard and the speaker that the *x*-ray, properly used, would detect a stone in any individual, no matter how thick, and a stone of any chemical composition; that the detection of the stone did not depend so much upon its chemical composition or the thickness of the individual as it did upon the proper use of the *x*-ray. The speaker reported 27 cases last year which he had treated, and the results up to that time were the following: In 13 cases positive findings, and stone was found at operation; in about the same number of cases, negative findings, and at the operation other pathological conditions than stone were found.

Dr. **M. L. Harris** spoke on the diagnosis of ureteral stones, and called attention to the possibility of error in interpreting shadows which apparently lay in the course of the ureter, and particularly that portion of the ureter which was contained within the pelvis. He had had two interesting cases recently in which an error of interpretation of the significance of distinct shadows in this portion of the pelvis was made. These two cases were cited in detail, and showed how easy it was to make an error in diagnosis by depending on the *x*-ray alone in supposed ureteral stones. What the cause of these shadows was still remained a mystery. Whether they were due to phleboliths or to small sesamoids or spots of calcification in some of the muscles of the pelvis, he was unable to say, but that they were not due to ureteral stones was certain, and that such shadows could not by their appearance alone be distinguished from ureteral stones was equally true. When such shadows were found in this portion of the pelvis, with symptoms pointing to ureteral stone, the ureters should be catheterized to determine whether the shadow actually lay in the course of the ureter, and whether the catheter met an obstruction at the point indicated. The tip of the bougie might be waxed, so that contact with a foreign body, such as stone, might be recognized by the indentations made in the wax. It was not his intention to deprecate the value of the *x*-ray in this work, but to call attention to the fact that there might be other bodies in the pelvis capable of casting shadows which, from appearance alone, could not be distinguished from shadows cast by ureteral stones, and that in some of these cases a correct diagnosis could be made only by the use of the ureteral bougie.

Drs. **Gustav Kolischer** and **Louis E. Schmidt** read a joint paper on "An Attempt to Use the Electric Conductivity of Urine for Clinical Purposes." The authors tried to make every kidney a standard unto itself, and started from the idea that the vitality and normal and abnormal status of any tissue could best be tested by observing its reactions to certain interferences brought to bear upon it. Beginning from the experience that certain stains brought into the circulation, would appear at different times and with different intensity in the urine, they investigated whether or not the secreting efficiency of normal and abnormal kidneys might be influenced in a way peculiar and characteristic of normal and abnormal conditions of the secreting tissue. If that were the case, the osmotic concentration of the urine voided before and after staining certainly ought to show marked differences. The results of their investigations so far would seem to bear out these theoretical speculations. As the most sensitive test, they resorted to the test of electric conductivity, and as a method of staining they selected hypodermic injections of indigo carmine. After the stain was brought into the circulation, and after the urine became colored, the urine of normal kidneys always showed a slight decrease of electric conductivity which depression, however, would never exceed nine international ohms. In case the urines simultaneously drawn from both normal kidneys showed different electric conductivity before staining, the decrease of conductivity appearing after staining was exactly the same in either specimen. So far, the authors believed they were justified in saying that any increase after staining of electric conductivity beyond ten international ohms was characteristic of impaired health of the kidneys. If this increase remained inside the limits of twenty ohms, the kidney might be considered safe in a surgical sense, that is, it could reasonably be expected to be of sufficient functional capacity to attend to the eliminating process after its mate had been removed. Any kidney whose urine after staining showed an increase of electric conductivity beyond twenty ohms, had to be considered as absolutely unsafe in a surgical sense. If this method should prove to be reliable, the authors said, they would have succeeded in determining the fact that there are cases of one-sided nephritis. They hoped they would be able to determine by this method in advance whether a given individual would react as to his kidneys favorably or unfavorably to the administration of a general anesthetic. Dr. **B. C. Corbus** demonstrated an apparatus for testing the electric conductivity of urine.

Dr. **R. R. Campbell** spoke on the "Diagnosis of Syphiloma of the Kidneys." He pointed out the possibility of gumma of the kidneys, especially when dealing with surgical kidney, and whether the amount of blood and débris was large or small, it should cause one to consider surgical interference. In establishing the diagnosis of syphiloma of the kidney, if the gumma or gummata were of large size, the kidney with these irregularities might be palpated. There might be cachexia present; the patient might naturally have lost in weight. With all these signs and symptoms, it became necessary to differentiate from a malignant growth. The indolent character and the benign course of such a tumor always spoke for a luetic cause. Wherever these findings were present, a nephrectomy should not be done until the possibility of syphilis was excluded.

Chicago Medical Examiners' Association

At a meeting held February 27, 1905, Dr. **James Nevins Hyde** read a paper entitled "Syphilis as Related to the Problems of Longevity." He drew the following conclusions: (1) Syphilis, like unmodified variola and tuberculosis, may destroy life. In its gravest expression, when not destructive of life, it may disfigure and mutilate the human body to a formidable extent. The disease should be counted among the dangerous scourges of the human family. Once in the presence of infection, neither physician nor patient can afford to neglect skillful, energetic, and prolonged treatment, with a view to setting aside the possibilities of future danger. (2) In the case of inherited syphilis, the fatality, working destruction alike of ovum, fetus, and infant, varies between eighty and ninety per cent. of the infected. The mortality, exceeding that resulting from any of the great plagues of the human race, is due to the unprotected condition of the embryo. (3) By reason of the absence of trustworthy statistics, the percentage of fatality in acquired syphilis, where the germ of the disease is implanted upon a previously sound organism, cannot be accurately determined. Estimates based upon clinical records furnished in the larger cities of the United States, coupled with the facts detailed in the volumes of vital statistics published by the United States Census Bureau, make it appear probable that the fatality in such acquired disease is represented by a percentage of less than two per cent. (4) The fatality in acquired syphilis results less often from the active invasion of the disease than from an entailed loss of resistance, by reason of which common agencies of disease produce serious effects, especially in the nervous system. (5) The efficient factors in the production of these effects are fairly well understood. They include chronic alcoholism, long-continued tobacco-narcosis, extreme fatigue, severe affliction, the malnutrition that may result from poverty, the stress and strain endured by the nervous centers in the anxieties of business. (6) In the absence of these efficient factors in the production of the grave conditions which may follow syphilis, the skillful management of that disease may terminate with brilliant results in from seventy-five to eighty per cent. of acquired cases. (7) The damage wrought by syphilis is not to be measured solely by its lethal issues, though these are of chief concern to the life insurance actuary. The lowering of the standard of average health wrought by the inroads of the malady, often appreciable in the skin, bones, testes, liver, and other organs, and the moral results of the acquisition of a disease popularly described as "loathsome," may jeopard the best play of the body functions, pave the way for the inroads of other toxins, and possibly lay the foundation for mental degeneration, alienation, and even suicide. (8) The expectation of life, after acquisition of syphilis, is based in part only upon the tendencies of the morbid process. Such expectation is in large measure affected by the inherited tendencies, the habits of life, and the environment of the individual. The longevity prospects are unquestionably better for women than men, by reason of the relative placidity of existence of the former. Briefly, the medical examiner confronted with a history of syphilis in an applicant for life insurance, should be influenced in acceptance or rejection of the risk not merely by the historical facts of the case, including the character of the symptoms exhibited, and the duration of time since the last objective manifestations of the disorder were recorded, but especially by the reasons which would lead to his acceptance or rejection of applicants giving a history of other enfeebling maladies. The ideal applicant for life insurance who has suffered from syphilis should have had active and unmistakable symptoms of that disease early in life; should have had, after efficient treatment, several years of exemption from all evidences of infection; should have an excellent family history, free in particular from instances of nervous diseases affecting immediate relatives; and should be leading, and have led, a life relatively free from strain, stress, and excess of all kinds, including indulgence in alcohol, tobacco, or other of the narcotic stimulants.

Culinary Typhoid Fever.—After a club dinner at a hotel in Stockholm, recently, several score of persons were taken ill with typhoid fever, due to unfiltered river water that had been used for the washing of the salad.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Medical Epitome Series. Medical Diagnosis. By Austin W. Hollis, M.D. Series edited by Dr. Victor Cox Pedersen, A.M. 8vo, 319 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $1.00 net.

Die physiologischen und pathologischen Beziehungen der weiblichen Sexualorgane zum Tractus intestinalis und besonders zum Magen. Von Dr. Edwin Kehrer. 8vo, 315 pages, paper. S. Karger, Berlin.

Eighteenth Report (Fifth Biennial) of the State Board of Health of the State of New Hampshire for Two Years Ending November 1, 1904. 8vo, 270 pages, illustrated, muslin.

Manual of Psychiatry. By J. Rogues De Fursac, M.D. Translated by A. J. Rosanoff, M.D. Edited by Joseph Collins, M.D. 8vo, 352 pages, muslin. John Wiley & Sons, New York. Price, $2.50.

The Urine and Feces in Diagnosis. By Otto Hensel, Ph.G., M.D., and Richard Weil, A.M., M.D. 8vo, 334 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia.

The Practical Medicine Series of Year Books. Edited by Gustavus P. Head, M.D. Vol. 1. General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, M.D. Vol. 2. General Surgery. Edited by John B. Murphy, M.D. 8vo, 347 and 545 pages, illustrated, muslin. The Year Book Publishers, Chicago. Price, $1.00 per volume.

The Vermiform Appendix and Its Diseases. By Dr. Howard A. Kelly, A.B., and Dr. E. Hurdon. 4to, 827 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $10.00 net.

The American Year-Book of Medicine and Surgery for 1905. By various authors. Edited by George M. Gould, A.M., M.D. Volume 1, General Medicine. Volume 2, General Surgery. 8vo, pp. 701 and 696, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $3.00 per volume.

The Physical Culture Life. By H. Irving Hancock. 12mo, 229 pages, illustrated, muslin. G. P. Putnam's Sons, New York.

Progressive Medicine. Vol. VII., No. 1, Whole No. 25. March 1, 1905. Edited by Dr. Hobart Amory Hare. 8vo, 298 pages, illustrated. Lea Brothers & Company, Philadelphia. Price, $6.00 per annum.

Annual Reports of the Department of Agriculture for the Fiscal Year Ending June 30, 1904. 8vo, 560 pages, muslin.

The Intestinal Catarrhs. Being a clinical study of Colitis, Appendicitis, and their Allies; with a special new section on Sprue. By Edward Blake, M.D. Second Edition. 8vo, 356 pages, illustrated, muslin. W. T. Keener & Co., Chicago. Price, $2.00 net.

Elements of Applied Microscopy. A Text-Book for Beginners. By Charles-Edward Amory Winslow. 12mo, 183 pages, illustrated, muslin. John Wiley & Sons, New York. Price, $1.50.

Gynecology—Medical and Surgical Outlines for Students and Practitioners. By Henry J. Garrigues, A.M., M.D. 8vo, 461 pages, illustrated, muslin. J. B. Lippincott Co., Philadelphia.

Saunders' Question-Compends. Essentials of the Practice of Medicine. By William R. Williams, A.M., M.D. 12mo, 460 pages, muslin. W. B. Saunders & Company, Philadelphia. Price, $1.75 net.

Recherches Cliniques et Therapeutiques sur L'Epilepsie, L'Hysterie, et L'Idiotie. Par Bourneville. Vol. XXIV. 8vo, 346 pages, illustrated, paper. Felix Alcan, Paris.

Zeitschrift für Krebsforschung. Herausgegeben von Komitee für Krebsforschung zu Berlin. Redigiert von Prof. Dr. D. v. Hansemann und Prof. Dr. George Meyer. Dritter Band. Erstes Heft. 8vo, 193 pages, illustrated, paper. August Hirschwald, Berlin.

Surgical Suggestions.

A Modified Bassini Operation.—Polya has found the following a satisfactory modification of the Bassini technique. In incising the external oblique, the lower flap is left quite wide and is turned down out of the way, as usual. The rectus sheath is slit up 1 cm. from its outer edge and reflected, this flap being then drawn over the inner part of the junction of conjoined tendon and Poupart's ligament by the sutures used to close the posterior wall of the canal. The cord is stripped of most of its veins, and the upper edge of the external oblique is sutured to Poupart's ligament. The cord is then placed in a new canal made by bringing over it the lower wide flap of the external oblique, the upper edge of which is made fast to the part of the external oblique above the line of incision. The author has treated forty-seven cases by this method and considers that it offers greater security against recurrence than the usual plan of procedure.—*Zentralblatt f. Chirurgie.*

Colles' Fracture.—Painful manipulations are not necessary to determine the presence of a Colles' fracture. The styloid process of the radius normally occupies a level lower (nearer the fingers) than that of the ulna. When the tip of the radius styloid has receded as far as or beyond the level of the ulna styloid, as determined with the thumb and fore-finger applied, respectively, to each, a fracture of the radius is present. On the other hand, a Colles' fracture occasionally occurs, without any of the external signs being present. An *x*-ray examination, conducted both laterally and sagitally, will demonstrate it.—*Massachusetts Medical Journal.*

Venereal Warts.—Rohrer says that while it is probable that these excrescences are not contagious the question is not yet definitely settled. The use of a dusting powder of calomel and bismuth will generally cure the growths when few and small, or one of the caustics in common use may be applied. Where they are multiple removal with curved scissors under local anesthesia and touching the base with carbolic acid or the cautery is necessary.—*American Journal of the Medical Sciences.*

Varicose Veins.—Favel recommends the following procedure in those patients in whom the saphenous vein is easily visible. With a curved needle a strong silk ligature is carried under the vessel. The point of the needle is reinserted into the opening of exit and is carried under the skin so as to emerge at the original point of entrance. The vein now lies encircled by a ligature of which both ends pass through the same opening in the skin. The thread is tightly knotted and the ends cut short so that the knot is drawn under the skin.—*Correspondenzblatt f. Schweizer Aerzte.*

Compound Fractures.—Lawbaugh, whose practice is in a mining district where such injuries are very common, says that the guiding principles in the treatment of compound fractures are: Thorough cleansing and rigid asepsis, drainage and careful immobilization, which will enable the surgeon to save limbs which at first sight seemed hopelessly lost. There is never an immediate necessity for amputation in cases in which there is sufficient circulation to sustain the parts and sufficient tissue to preserve a useful limb. Only in the case of the most severe crushing can amputation take the place of the conservative though tedious prospect of saving treatment.—*Journal of the Michigan State Medical Society.*

Spinal Cocainization.—Deloup uses a plain 4 per cent. solution of cocaine made with sterile water and heated to the boiling point at the time of the operation. Based on an experience of a little over 100 cases, he believes that the following conclusions are justified: (1) That the method is as safe as, if not safer, than general anesthesia. (2) That we may safely employ up to half a grain of cocaine without fear of toxic effects. (3) That shock, when present, is decidedly less than that of general anesthesia. (4) That it is attended with less danger of annoying sequelæ and symptoms. (5) That it can be relied on for prolonged operative procedures.—*New Orleans Medical and Surgical Journal.*

Indications for Vaginal Hysterectomy.—Vaginal hysterectomy may be resorted to in cases of small fibroma, of painful or incurable metritis, and exceptionally in inceptive epithelioma of the cervix in corpulent and aged women. On the other hand, it should be resorted to in cases of inversion and of prolapse when it is found desirable to remove the uterus, and it is absolutely indicated in cases of extensive, virulently septic periuterine lesions which persistently get worse and which colpotomy appears insufficient to cure, in cases of puerperal infection which do not improve under ordinary means of treatment, and in subacute pelvic peritonitis propagating itself toward the abdominal cavity.—*Faure in British Gynecological Journal.*

The Treatment of Club Foot.—B. E. McKenzie offers the following conclusions: (1) The ideal time for active treatment by the surgeon is early in the second year. (2) Deformity of the foot *per se* should be fully corrected; afterward the relation of the foot to the leg. (3) Cutting other than that of a subcutaneous section of the ligaments, tendons and fascia is seldom or never required. Manipulative replacement and retention by fixed dressings sufficient. (4) After-treatment.—A retentive night brace and a properly constructed leather day boot. (5) Removal of bone contraindicated and harmful. (6) Open incision in young persons interferes with normal development of foot. (7) In persons under fifteen years of age congenital club foot may be so perfectly cured as to give practically perfection of form and function. (8) In adults perfection of form may be secured. Function is somewhat impaired. (9) The time required for active surgical treatment need not be more than three months. (10) Age is no serious bar to treatment.—*American Journal of Orthopedic Surgery.*

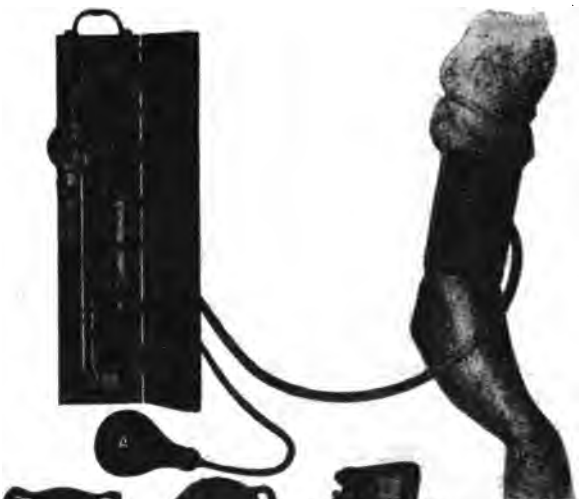
Ectopic Gestation.—Ladinski considers the following as positive signs: (1) Enlarged uterus. (2) Bleeding from the uterus, the blood being dark and grumous in character, differing from bright menstrual blood with its peculiar odor, and from the clotted blood and bits of tissue resulting from an abortion. (3) Distension of a part, or of the whole tube, the mass being peculiarly elastic, sensitive and movable. No other condition, unless it be a hematosalpinx, is so characterized. (4) Paroxysmal pain is always present as a significant sign. (5) Amenorrhea is invariably present. Among the negative signs are: (1) Absence of intrauterine pregnancy. (2) In tubal pregnancy, before a rupture of the tube, there are no changes in temperature more than observed in normal, intrauterine gestation.—*Clinical Review.*

New Instruments.

A PORTABLE SPYGMOMANOMETER.

By ALLAN McLANE HAMILTON, M.D., F.R.S.E.,
NEW YORK.

I have had constructed an instrument which I believe is free from some of the objections of other alleged portable spygmomanometers, and which contains additions that I think will be found useful.



As the jointed manometer tube of the Cook and Janeway instruments is not only liable to error, but the joint is easily broken, thus losing some of the mercury, I have adopted a straight capillary tube, 40 centimeters long, with a trap and ascending tube, terminating in a brass *T*, and a three-way stopcock, the whole being placed in a strong box, 48 cm. high, 11 cm. wide and 5½ cm. deep.

The following three additions, not found in other instruments, will prove serviceable to those engaged in office and bedside investigation:

1. A pliable armlet or leg-band, consisting of a stout canvas strap, of sufficient width, which is reinforced by bands of steel; and where, instead of straps or hooks and eyes, its ends may be united; or it may be reduced in size, by rings which fit over a row of what are known as "lace hooks."
2. A foot-bellows (B or C), which enables the operator to have his hands free; although, if preferred, a Politzer bag (A) or other hand air-compressor may be used.
3. A magnifying glass, so adjusted that the markings on the millimeter scale may become more legible, and more quickly read.

The apparatus is made by Messrs. Charles E. Dressler & Bro., 143-145 East Twenty-third street, New York City.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 25, 1905:

	Cases.	Deaths.
Measles	379	9
Diphtheria and Croup	294	38
Scarlet Fever	258	13
Smallpox	......	......
Chickenpox	180	......
Tuberculosis	576	198
Typhoid Fever	19	6
Cerebrospinal Meningitis	167	85
Typhus Fever	......	......
Yellow Fever	......	......
Cholera	......	......
Totals	1,873	349

Interstitial Emphysema of the Lung.—M. J. Andrieu cites this case. The patient, a boy of two years, was brought to the hospital suffering with whooping cough. Within eleven days symptoms of bronchopneumonia developed. Dyspnea continues to increase, until death supervened on the seventeenth day after the patient's entrance to the hospital. At autopsy, the thorax was found to be dilated to the maximum, the diaphragm being pressed back. On the anterior and external surface, the lungs showed glistening spots that were easily recognized as being sub-pleural zones filled with air. In the two bases were little islands of bronchopneumonia. Over the mediastinum here and there, the same appearance was noted as over the lungs. The neck and thorax did not show similar infiltration. There were no lesions of other organs. The pathogenesis of this case of interstitial emphysema seemed to be as follows: Bronchopneumonia, compensatory pulmonary emphysema, rupture of an alveolus by the spasms of coughing due perhaps to the whooping cough, perhaps to the bronchopneumonia, the passage of air into the cellular tissue of the lung from which it penetrated as far as the visceral pleura, and into the cellular tissue of the mediastinum. The diagnosis of this complication had not been made before death. It was especially noticeable that the crepitant râle with large bubbles was not heard—a sign which Laënnec considered pathognomonic of interstitial emphysema of the lung.—*Bulletins et Mémoires de la Société Anatomique de Paris,* November, 1904.

Peroxide of Zinc in the Treatment of Varicose Ulcers.—De Beurmann and Tanon advocate the use of peroxide of zinc in the treatment of varicose ulcers. On its contact with organic liquids, it gives up oxygen which is a logical reason for its use in these lesions. The writers have employed it in different forms, such as powder and various pomades, until after many trials, they find the following formula best suited for these cases: Peroxide of zinc, 20 grammes; light vaseline, 100 grammes. With this mixture they cover the entire surface of the ulcer, after first washing it thoroughly with hydrogen peroxide. Over the pomade is applied a dressing of sterilized gauze. The entire application remains in place for from three to six days without being touched, according as the ulcer is more or less infected. In all of their cases the writers have obtained a complete disappearance of infection, a granulation of the base, and a cicatrization earlier than that brought about by other topical applications. When this improvement once begins it is rarely arrested. All leg ulcers are treated by the writers in this manner, and all have done well. They rapidly cease to suppurate, they have no disagreeable odor, and the patients can often walk a little without increasing the duration of the treatment.—*Revue Française de Médecine et de Chirurgie,* February 6, 1905.

Chronic Alcoholism in a Child with Kidney Lesions.—Guido Berghinz calls our attention to the fact that chronic alcoholism is not very uncommon in young children among nations where the drinking of alcoholic liquors is a daily family habit. The author has observed marked psychic excitation and persistent insomnia in children of two and three years of age, as a result of stimulants, and nocturnal eneuresis and nervous excitation in a child of seven from their daily use. He gives at length the case of a child of five years, who had been in the habit of taking aquavita several times a day, who came to the hospital in Rome with much dyspnea, gastric disturbances and universal edema, insatiable thirst and scanty urine, containing albumin and casts. This child called continually for aquavita to relieve his sufferings. After death the kidneys showed marked congestion, increase of connective tissue, with periarteritis and hemorrhages. There was hydrothorax and beginning sclerosis of the liver, with hypertrophy of the heart. There was an entire absence of a history of any other cause for these conditions other than the constant use of alcohol.—*Rivista di Clinica Pediatrica,* January, 1905.

Throat Complications in Typhoid.—F. J. Quinlan gives an elaborate résumé of the litlerature of this condition, and says that in case of obstructive lesions supervening in the larynx, tracheotomy offers many advantages over intubation in that the air current can be tapped by the former operation below the obstruction and the danger of forcing fragments of cartillage into the trachea is overcome; again, the tube may rupture an abscess and flood the respiratory tract with pus which (if not causing imminent danger) may provoke a septic pneumonia at a later day. A laryngitis occurring during the course of typhoid fever must always modify our prognosis. Continued hoarseness with slight dyspnea should at once demand an inspection of the larynx and trachea. A faulty movement of the laryngeal muscles should require internal local medication. Marked dyspnea should at once call for operative surgical interference.—*The Laryngoscope.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended March 25, 1905:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
District of Columbia, Washington	Mar.	11–18	1	1
Florida, Jacksonville	Mar.	11–18	3	..
Illinois, Chicago	Mar.	11–18	20	3
Kentucky, Lexington	Mar.	11–18	1	..
Louisville	Mar.	8–16	4	..
Louisiana, New Orleans	Mar.	11–18	11	..
Michigan, at 65 Places	Feb.	25–Mar. 4		(Present.)
Missouri, St. Louis	Mar.	11–18	43	2
Nebraska, Omaha	Mar.	11–18	2	..
New York, Mount Vernon	Mar.	11–18	1	..
New York	Mar.	11–18	1	1
Ohio, Toledo	Mar.	4–18	9	..
Tennessee. Memphis	Mar.	11–18	10	..

SMALLPOX—FOREIGN.

			Cases.	Deaths.
Argentina, Buenos Ayres	Dec.	1–31	..	17
Brazil, Nictheroy	July	1–Jan. 1	..	248
Santos	Jan.	15–22	..	1
Ecuador, Quayaquil	Feb.	1–8	..	3
France, Paris	Feb.	25–Mar. 4	22	1
Germany, Bremen	Feb.	18–25	2	..
Great Britain, Bradford	Feb.	18–25	5	1
Leeds	Feb.	25–Mar. 4	1	1
Leith	Feb.	25–Mar. 4	2	..
London	Feb.	18–Mar. 4	11	..
Newcastle-on-Tyne	Feb.	25–Mar. 4	3	..
India, Bombay	Feb.	14–21	..	164
Calcutta	Feb.	11–18	..	3
Karachi	Feb.	12–18	..	3
Madras	Feb.	11–17	..	1
Italy, Locco Province	Jan.	16–23	6	..
Russia, Moscow	Feb.	18–25	8	1
Spain, Barcelona	Feb.	21–28	..	5
Uruguay, Montevideo	Feb.	10	34	7

YELLOW FEVER.

			Cases.	Deaths.
Panama, Panama	Jan.	1–Mar. 7	36	14

CHOLERA.

			Cases.	Deaths.
India.......Calcuta,	Feb.	11–18	..	24
Turkey in Asia (general)	Jan.	14–21	40	12
Van	Jan.	14–21	34	7

PLAGUE.

			Cases.	Deaths.
Africa (British), Kisuma	Jan.	5–12		(Present.)
Arabia, Aden	Feb.	11–18	374	342
Chile, Chanaral	Mar.	16		(Present.)
Iquique	Mar.	16		(Present.)
Pisaqua	Mar.	16		(Epidemic.)
Egypt, Suez	Feb.	2–9	4	1
Tukh	Feb.	4	1	..
India, Bombay	Feb.	14–21	..	666
Calcutta	Feb.	11–18	..	88
Karachi	Feb.	12–19	59	58
Madras	Feb.	11–17	..	1
Russia, Urlask Territory	Nov.	1, 1904–Jan. 16.	..	343

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Original Articles.

THE TREATMENT OF PYELITIS.*

By HOWARD A. KELLY, M.D.,
BALTIMORE, MD.

I SHALL endeavor to show from a personal experience extending over some sixteen years that pyelitis is an affection of the utmost importance to both physician and surgeon, and that in one of its most important phases, namely, its earlier stages, it is still rarely recognized, or, when found, is often thought worthy of but little attention because it is not immediately provocative of serious symptoms.

It is always interesting and sometimes helpful to take account of nature's method in dealing with a disease. A pyelitis of recent origin which is let alone often gets well spontaneously by the natural process of irrigation as the urine sweeps the infecting organisms down through the renal pelvis and the ureter into the bladder. This kind of a cure can only take place where the passages are well open. If there is an obstruction at any point causing a damming up of the urine, the pyelitis is almost sure to linger in a chronic form.

Many cases of pyelitis remain for long periods *in statu quo*. Again, other cases grow worse and worse until they end in a high grade of pyelonephritis or the kidney becomes converted into a veritable abscess sack.

A pseudo cure may take place by the closure of the sack, when the abscess may either persist or may rupture into the bowel, into the pleura, into the loin, into the groin, or even into the peritoneum.

In addressing a general audience of physicians upon the treatment of pyelitis, let me at the very outset emphasize the importance of a careful investigation of the particular cause in each case, as the mainspring of any rational plan of treatment.

It is not within my province just now to discuss the question of etiology at large; I desire, however, to point out a few of those causes which must be borne in mind in order to make the simpler plans of treatment effective. The removal of the contributing cause in many cases suffices to cure the trouble, and even if it does not cure, it often helps a great deal by lessening the grade of the infection. The treatment of the cause is then almost always a necessary antecedent to the treatment of the pyelitis, which often persists obstinately as long as the cause continues. It is alone unnecessary to consider the cause in carrying out the treatment where the cause has been of a transient nature, as, for example, in the case of an acute fever, a furuncle, or a typhoid fever, which has left a pyelitis in its trail. One of my patients, for example, had had typhoid fever thirty years previous to my treating her for a pyelitis in which the infecting organism was the bacillus typhosus; she recovered rapidly under irrigations of the kidney.

Some pyelitides depend for their source upon a gastrointestinal disturbance such as an obstipation or a catarrh. Instances of this sort are not infrequent in children, and the relief of the exciting cause of the trouble often does much towards relieving the pyelitis.

Even sucklings have been affected, and the disease has been known to advance so far that a nephrotomy or a nephrectomy has been found necessary in children of tender years. Aside from the treatment of such intestinal disorders as exist, urotropin and salol have been found valuable drugs in children.

Again, some pyelitides are lit up by the presence of a small or a large stone in the pelvis of the kidney, and this possibility must always be borne in mind. To detect a stone, either use wax-tipped renal catheters to secure a scratch mark, or the *x*-ray, or both, as mutually confirmatory or exclusive; upon removing such a gross cause the attendant pyelitis may disappear spontaneously.

Such was the case of Miss S., who came under my care in 1894. She had a right pyelitis, so diagnosed by Czerny of Heidelberg in June, 1890. A cystoscopic examination showed the right ureteral orifice red and injected, and the urine from that side contained some pus and bacteria. The right kidney was washed out eighteen times. She did not improve after a time under these irrigations, but, on the contrary, the separated urine contained even more pus. One day some little black particles escaped through the catheter, and these on examination proved to be scales of a calculus! A nephrotomy was then done and the calculus removed, when she recovered and the urine became entirely free from pus. The interesting point in connection with this case is the fact that the pyelitis after a time was aggravated by the treatments; this was manifestly owing to the presence of the foreign body.

Again, a not infrequent cause of a pyelitis is the unsuspected presence of a hydronephrosis of low grade, or the retention of a little urine in the pelvis of a kidney, not as yet distended. I have discovered many such cases in women who have had vague pains in one side of the abdomen and variously diagnosed as nervous, neuralgic or intestinal. When the pain is on the right side, I have repeatedly seen women belonging in this category from whom the vermiform appendix, the right uterine tube, and the right ovary, had been removed without, of course, the slightest benefit. There is no difficulty in tracing the source of the pain to the kidney by using the method of introducing a renal catheter as far as the renal pelvis and then injecting enough fluid to make it tense; in this way an attack of pain is brought on, which the patient at once recognizes is, or is not of the same character, and in the same place, as that from which she has been suffering. I constantly have such cases on hand, and have made demonstrations of this character repeatedly to physicians from all parts of the country for years past. It is these often baggy pelves which are most likely to catch a low-grade inflammation through a colon bacillus infection, when for any reason the general health becomes depressed, or in the case of a focus of suppuration elsewhere, such as a carbuncle or a furuncle. Such a patient with an attack of grippe is almost sure to have a pyelitis afterwards.

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*Read before the Medical Association of the Greater City of New York, March 13, 1905.

An instance of a distended pelvis in which a pyelitis became evident and threatening in the course of an attack of influenza, was that of Mrs. G., the wife of a prominent physician. She had been feeling unusually well when she was seized with febrile disturbance, with aching and soreness in body and limbs and headache followed by a marked chill. The temperature then rose to 103° F., and there was soreness all over the abdomen, especially in the epigastrium. On the second day there were two more chills, and three to four on the third day. There was no nausea or vomiting; the bowels were constipated. There was nothing to attract attention to the urinary organs except the increased amount of urine passed. The urine, however, became turbid and flocculent; it contained some whitish sediment, albumin, pus cells, and a few red blood corpuscles.

Just before I examined her she had several attacks of severe pain in the left side of the abdomen. I catheterized the left ureter February 27, 1897, and drew off 53 c.c. of a pale watery fluid in 6 minutes and 10 seconds. The last 2 or 3 c.c. consisted of a thick white sediment which dripped slowly from the end of the catheter. This single evacuation by the catheter gave entire relief, although some pus persisted in the urine. She had another attack in the following August, and on March 1 of the following year I injected 25 c.c. into the kidney, which produced severe pain exactly in the spot where the cramps had been. Following this injection I drew off 40 c.c. with less sediment than before. March 4 6 c.c. were drawn off. Complete recovery followed these treatments until March 31, 1898, when she was six weeks pregnant. She was in a wretched, depressed state of health, and was only relieved by the evacuation of the uterus. Since that time, now six years ago, she has had excellent health.

The note above made relative to the discharge of the thick sediment from the pelvis of the kidney at the end of the catheterization is most important, as it shows the true value of the evacuation and the irrigation treatments by the renal catheter. In many instances, especially where the renal pelvis is dilated, this débris is left behind to perpetuate infection indefinitely. It is easy to see how, in this way, a single treatment might give great or even entire relief, as in a case which came into my hands some years ago in consultation with Dr. Norment of Baltimore. I passed a renal catheter up into the left kidney and at once drew off about 30 c.c. of very turbid, purulent urine. The patient, who had been wretched for a long time, was so completely relieved that she refused any further examinations or treatments.

I might here also refer to the case of a Mrs. B., a patient over fifty years of age, from whose large right dilated kidney Dr. Halsted had removed a calculus. After recovery from this operation he referred her to me for the treatment of the residual pyelitis. I found that there was no secretion whatever from the left kidney, which was either absent or permanently silent, while the right hydronephrotic kidney was secreting from 2,250 to 2,400 c.c. of a pale milky urine containing abundant pus and colon bacilli. I was unable to relieve her completely of this infection, but for about two years I continued to irrigate the right kidney at intervals of a few weeks with solutions of boric acid, nitrate of silver and weak formalin. Following such treatments she was always much improved and able to return home to her somewhat arduous social duties at the National Capital. The constant reduction of the inflammation kept down the infection and kept her alive in spite of the greatly crippled kidney. After two years she died suddenly while traveling abroad.

I might add here, relative to pyelitis in displaced kidneys, that it is best as a rule to clear up the renal infection before suspending the kidney. If an infected kidney is suspended, the wound in the side may break down and a fistula will be the result.

Another class of pyelitides somewhat akin to this last group, to which I wish to direct urgent attention, are those due to a cystitis, often mild in character, affecting the base of the bladder and causing stricture of the vesical orifice of the ureter. Such a stricture causes more or less stasis of urine above, and this, associated with the ever-present vesical infection, offers all the conditions for an ascending pyelitis, lacking the mere accident of the presence of the germ.

Mrs. F. was a patient of this kind, sent me by Dr. F. M. Hicks of Texas. She had a mild vesical infection and a peculiar pain low down in the pelvis on the left side. The infection improved under local treatments, but the discomfort continued until one day while examining the bladder I saw a peculiar swelling as large as the end of the finger in the act of elongating and pushing down across the lumen of the speculum; this was followed by a retraction. During the elongation, when the swelling was at a maximum, a little stream of water was ejected from a minute orifice near the apex. This enlargement proved to be a ureter whose orifice had evidently become stenose by an inflammatory process affecting the mucou margins alone. Upon entering one of the shar points of a pair of scissors into the orifice and slittin it open, there was an immediate gush of urine an entire relief of the symptoms. I do not kno whether there was an actual infection of the kidne in this case, but all the conditions existed in t retained urine and the adjacent infected vesic mucosa.

A case of a pyelitis depending on a cystitis w that of Mrs. B., seen November, 1901, who had intense cystitis (colon bacillus) with a deep inj tion of the trigonum, especially about the left ur ral orifice, which was inflamed and bled on the slig est touch. She had been complaining for about years. My first step was to drain the blad through a vaginal incision, at the same time curetti the inflamed surface. The bladder recovered rapi under this treatment, and the fistula was closed; treatment of a persisting right renal infection then continued by catheterization of the kidney the injection of from 25 to 30 c.c. of a 1 to 1 solution of a nitrate of silver into the pelvis. received in this way seventeen treatments in all; disease disappeared, she made a perfect recov and remains well to this day.

Again, a pyelitis sometimes originates in this w An adherent ovarian or a fibroid tumor, which been pressing upon the ureter and damming b the urine, is removed; then, in the course of the c valescence, there is some febrile disturbance, before long the crippled kidney catches an infecti

Such cases must come not infrequently into hands of gynecologists. My colleague, Dr. W. Russell, had one in my service at the Johns Hop Hospital, in which he removed a large ovarian everywhere extensively adherent. The pressure the right ureter at the pelvic brim had caused a tation of the ureter above the brim to the siz the thumb, while the kidney and pelvis forme large hydronephrotic sac. The bladder was tor the enucleation and sutured, and for this reas drainage catheter was inserted through the ure Over two weeks after the operation there was a marked elevation of temperature, and an ascending infection was found with a large, tender mass in the right side. Dr. G. L. Hunner catheterized the ureter, drew off 280 c.c. of thick pus, and washed out the kidney; he continued these treatments for three weeks, when the patient went home free from fever, feeling well, but with some pus still in the urine. She was seen a year later in perfect health.

A case of my own, Mrs. McC., aged forty-four, gave me a great surprise. She came under my care for a large parovarian cyst. The urine was clear on entrance and contained no pus. In about ten days after the cystectomy the temperature went up to 101° F.; a week later it was almost 104° F., and the urine was cloudy and full of pus. I did a right nephrotomy, letting out a large quantity of pus and removing large renal calculi whose presence had never been suspected.

I have in many instances seen extensive, dense strictures of the lower end of the ureter associated with tuberculosis of the kidney. In some of these the larger size ureteral catheters which I introduced, say 2½ to 2¾ mm. in diameter, could be pushed in only with great difficulty, and after the introduction, the catheter was held in the bite of the stricture as if in a vise. In such cases there is often associated with the tuberculosis a secondary invasion by one of the pyogenic organisms, a condition to which Albarran has called especial attention. The treatment is, of course, always nephrectomy, if the condition of the other side permits. Of tuberculous cases, however, I do not wish to speak at length at present.

I have never seen but one bad case of gonorrheal infection of the ureter, and that was in 1894. The ureter and renal pelvis above the stricture held 150 c. of milky urine full of pus. I gave this patient, *all*, forty treatments, injecting solutions of boric id, nitrate of silver 1 to 200, and bichloride of rcury as strong as 1 to 16,000. Under these treatnts all infection was cleared up, and by using ccessively larger catheters, up to 5 mm. in diamr, the stricture was so far dilated that the amount retained urine was reduced to 90 c.c., with a comte symptomatic recovery.

A pyelitis may also be caused by a vermiform apdix adherent over the ureter, compressing it supplying the source of the infection.

I saw a case of this sort through the courtesy of . McCoy, of Paterson, N. J. I was operating at Paterson Hospital for a large fibroid tumor. er the removal of the uterus, I followed my tine custom of examining the appendix, and d it plastered down over the ureter, which was tructed above it and led up to a pyonephrotic ey. The kidney was successfully removed at ter date by Dr. McCoy.

It is obvious that removal of the cause in all of e conditions is a necessary antecedent to the cure the disease.

We have at our command the following plans of atment of a pyelitis:

Expectant treatment, with rest, the use of diluents d drugs, such as urotropin and salol.

The local treatment of a cystitis, especially those as adjacent to a ureteral orifice.

Incision or dilatation of a stricture of a ureteral ifice.

Catheterization of the ureter and renal pelvis.

Irrigation of the ureter and renal pelvis.

Distention of the renal pelvis.

Instillations into the renal pelvis.

Permanent catheterization of the renal pelvis for some hours or days.

Nephrotomy (nephrolithotomy).

Nephrostomy for more or less permanent drainage through the side.

Nephrectomy in the advanced cases of pyelonephritis or pyelonephrosus.

An acute pyelitis arising in the course of febrile affection should be treated for the most part expectantly with rest, the ingestion of fluids, and the use of urotropin. If the pyelitis becomes severe, I would do a nephrotomy and drain the kidney.

Urotropin is the most valuable remedy we have today; it is also useful in preventing the disease where previous experience has shown that we might expect an attack, as for an example in a patient with an acute fever with a dilated kidney. It is of most service I believe in recent cases of colon bacillus infection.

In the direct local treatment of the disease we have at our command the following aggressive and precious methods: First, the catheterization of the ureter, which may serve the purpose, as in a case cited above, of emptying a lot of urine full of pus from the pelvis of the kidney, and so giving immediate and entire relief. In the second place, catheters of various sizes and metal catheters which I have used as high as 5 mm. in diameter may be used to dilate a ureteral stricture, so giving free vent to the urine and serving to cure the disease by natural drainage. In the third place, the pelvis of the kidney may be catheterized every two or three days for the purpose of irrigation, running through the kidney a liter or more of a bland, or a mild antiseptic fluid. As a rule, I use a boracic acid solution or nitrate of silver 1 to 1,500 or 1 to 1,000 or stronger. In the fourth place a few c.c. of a nitrate of silver solution as strong as 1 to 200 or even 1 to 100 may be thrown into the pelvis of the kidney and left there by the withdrawal of the catheter (instillation). In the fifth place, a nephrostomy may be done, draining the kidney through its dorsum in the loin, and in order to keep the ureter open for a few days, the permanent catheterization of the ureter may be added to this. The catheter introduced in this way through the ureter up into the pelvis of the kidney drains it *per vias naturales*. Albarran closed a fistula in this manner which had previously proved rebellious to treatment. In the worst cases, in which the opposite kidney is competent to do all the work, a nephrectomy must be done.

The treatment of a pyelitis must, I find by experience, often be modified by complicating conditions. Let me for example cite one or two illustrative cases.

Miss C., a trained nurse, aged 37, came to me through the kindness of Dr. P. H. Ingalls, of Hartford, Conn., in 1896. I removed a large left pyelonephrotic kidney, and demonstrated a mild colon bacillus pyelitis in the remaining kidney. In February, 1900, I removed both uterine tubes for tuberculosis together with the vermiform appendix which was covered with tubercles. During the convalescence from the pelvic operation, the grade of infection of the renal pelvis became such that large quantities of thick purulent urine were discharged through the bladder, so fetid that it was impossible for a nurse to remain in the room with the urine exposed in an open vessel. This extreme and apparently hopeless condition was so far improved by irrigations of the kidney that she was able to return to her work, which she continued for four years, when she died of a pneumonia.

Another interesting case was that of Miss P., aged 52, who had an extensive tuberculosis of the left kidney and ureter with such an intense distressing cystitis that she was completely bedridden, crying and moaning day and night, one of the most wretched and pitiable patients I have ever seen.

She had lost all control of the bladder, and the urethra was intensely inflamed. The cystoscopic examination showed an intense widespread ulcerative cystitis and the vesical walls were covered here and there with pus and clots of blood. In addition to the tuberculous left kidney, the right kidney was infected with a colon bacillus pyelitis. I removed the left kidney and ureter, and drained the bladder both suprapubically and by the vagina; this brought such complete relief that I was able at last to treat the right kidney by nitrate of silver irrigations, with the result of giving absolute and entire relief and removing the infection, so that there was but a faint growth. For about a year past she has been in perfect health and able to resume all the responsibilities of housekeeping in city and country.

Let me, in concluding, again emphasize the importance of the mild pyelitides to the profession at large, as an almost unknown affection, and yet one that is very common and most important. It is my own conviction that these mild pyelitides are at the present moment the most important subject in the realm of urology, for two reasons. First, because of serious consequences possibly following a persistent infection, which is like a train of powder, burning slowly and leading up to a mine situated at an unknown distance, liable, therefore, to explode at any moment with disastrous consequences. Second, because timely aid and right methods will almost always bring relief and obviate the dangerous sequelæ. This subject appeals to me much as though, as a gynecologist, I were enabled to take up afresh the subject of pyosalpinx, and declare that, instead of directing attention to the great sealed uterine tubes distended with pus, I had found a way to recognize this disease in its incipiency, while as yet it amounted to nothing more than a mild catarrh, curable by mild measures and obviating the need for a radical operation. With what eager interest the entire gynecological world would investigate such an important announcement!

And yet here we have an organ of far greater value to the economy than either or both of the uterine tubes; we have long recognized the advanced gross destructive lesions called pyelonephritis and pyelonephrosis; and now, if clinical histories show that these are often but the end-products of a mild infection which is amenable to treatment, how urgent the need of investigating and relieving it. The general indifference to mild pyelitides, while great attention is bestowed on the large pus kidneys, is much as though an internal specialist were to devote great attention to the crumpled and thickened heart valves of advanced heart disease, while refusing to pay any attention at all to an endocarditis in its earlier stages, because it is so mild. *Verbum sapienti satis est!* Let me apply to these cases the well-worn metaphor of the sword of Damocles. Personally, I have too often seen the sword fall on the unsuspecting neck not to heed the warning given by pus and microorganisms in the urine in every case, whether from a cystitis or from a pyelitis.

Let me conclude this brief sketch by offering a few practical deductions.

1. It is important to take cognizance of a pyelitis of any grade whatever, as it may, at any time, become a menace to the functional value of the kidney, or even to life itself.

2. The severer grades of the affection are often the sequelæ of a milder pyelitis of long standing.

3. The first step in the investigation is to determine the extent of the affection by estimating the amount of pus in the urine and the relative number of organisms.

4. It is important to determine the cause of the infection, which is often of a mechanical nature, and therefore easily relieved.

5. By removing the cause, the disease may either be cured, or be so far benefited that a subsequent complete relief by means of local treatments is easily brought about.

6. The milder forms are best treated by rest, abundant water and urotropin.

7. If there is not a speedy improvement, the next simplest plan of treatment is the catheterization of the kidney every two to four days for the purpose of evacuation, distention of the pelvis, irrigation, and instillation. Boric acid and nitrate of silver are the best drugs in this connection.

8. Improvement should be measured by the disappearance of pus from the urine and the diminution in the organisms, taking say three platinum loops as the measure in conveying the infected urine to the agar.

9. A patient improved, but not cured (complete absence of bacteria), should be watched in the intervals of treatment, and guarded with especial care in case of any intercurrent disease. Should such a disease supervene, urotropin is a good prophylactic.

10. The severer forms of the disease may be treated by irrigation, which often brings great temporary relief. As a rule, however, the kidney must be opened and drained; if it has been extensively diseased, it should be removed.

1418 EUTAW PLACE.

ETIOLOGY OF ENLARGED PROSTATE.*

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THE subject of enlargement, or so-called "hypertrophy," of the prostate still occupies a very important place in the medical mind, not only because of the prevalence of the malady, but also because of the impetus given to its surgical treatmen by the clinical and experimental observations the last five or eight years. Surgical method have been perfected, and the death rate has gradually been reduced, but the latter is yet important factor when considering what shou be done to a given case. Therefore, notwithstanding the improvements in technique and valuable results of the operation, any attack the prostate is still to be regarded as an impor operative procedure, not to be undertaken ligh nor without due consideration of other conditions the patient who is to be subjected to operative pr cedure. Several years ago, in attempting to accou for enlargement of the prostate, I asked mys the question, "Why should the health of such large proportion of men begin to be undermined a harassing, and sometimes alarming, series symptoms, at a period of life when they ought to the most comfortable and capable of their greate and best work?" There must be some cause f this very wide in its application. Moreover, seemed to me that if we could get a reasonable th ory of this cause, prophylactic deductions might made which, in the future, would prevent the ev lution of the pathological conditions necessitatin surgical intervention, and thus add another chapt to the glorious volume of preventive medicine. Wi this in view, I beg leave to present briefly what have been forced to believe is the underlying cau of the tissue changes in the prostate gland. Long ago John Hunter advanced the theory that prostatic enlargement was of inflammatory origin. His experiments upon the lower animals were corroborative of this, but, in the course of time, his views were entirely overlooked, and various other theories, some of them ingenious and plausible, were advanced. But none of them satisfied the scientific mind. Virchow, in his noted work upon *Krankhafte Geschwülste*, in 1863, reasserted the belief that the process was an inflammatory one, beginning, as a rule, in the glandular parts of the gland, and extending thence to the stroma. This view was not supported by any extensive histological investigations, and did not receive the attention which it deserved. But, recently, *i.e.* within a few years, more positive scientific work has again brought to the front the inflammatory origin of enlargement of the prostate. The French view, that enlargement of the prostate is a senile process, due to general arteriosclerosis, and that even when it occurs in the comparatively youthful, it is a state of "pre-senility," has, in my opinion, been disproven, and does not need to be considered. The inflammatory theory appears to be the one which accounts for the onset of this malady, which explains the changes in the gland, and which has the most and strongest evidence in support of it. This view accords so with my own clinical observation that I give it my adherence.

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* Read at the Ninety-ninth annual meeting of the Medic Society of the State of New York, February 1, 1905.

It has been shown that the enlargement is histologically a proliferation (in many cases to an immoderate degree) of the constituent elements of the prostate, the various forms which the gland assumes being due to the location and degree of the proliferation. According to Ciechanowski's opinion, the different forms of prostatic hypertrophy are difficult to differentiate. They are one and the same thing. His investigations point to the conclusion that any division of hypertrophy of the prostate into different forms and subdivisions is forced and unjustified, and that the so-called (pseudo- or fibro-) adenomata of the prostate are due to accumulations within the acini of the gland. The order of events, according to his view, is as follows: A catarrhal process occurs in the acini, producing active proliferation, desquamation, and degeneration of the epithelium; at the same time a productive change takes place in the stroma, which compresses the excretory ducts of the acini, narrowing or obliterating them. The latter prevents the escape of the contents, the secretions accumulate within the acini, and the lobules enlarge. Occasionally a suppurative process is added, abundant leucocytes being added to the excretion of the gland. The enlargement of the lobules, due to increase of connective tissue elements, is quicker and of higher grade if the excretory ducts are numerous and nearer the obstacle. The enlargement of the lobules is also greater according to the extent and intensity of the endoglandular process always present. This view of Ciechanowski has been confirmed and supplemented by Greene and Brooks, in their article on "The Nature of Prostatic Hypertrophy," and which is well worthy of careful study. The invidious nature of this inflammatory process is unquestioned. It may be latent for years, with no symptoms to attract the attention of the subject of it, and the data upon which to base a diagnosis of prostatitis have entirely passed from the patient's memory. According to histological examinations, the point of origin seems to be in the prostatic urethra, extending thence along the gland ducts from the urethra towards the periphery of the prostate, the round-celled infiltration being most marked in the vicinity of the verumontanum. The latter statement is, in my opinion, of importance. It accords so with the clinical observations which I have made that it seems to me worthy of some consideration. In examining persons who have come to me in adolescence or early manhood, I have been struck with the excess of sensibility appreciated when the location of the verumontanum is touched during the process of the examination, and with the hyperemia of this little organ when viewed through the urethroscope. This I have found most marked in masturbators and in those who have practiced coitus reservatus or coitus interruptus, and in those who have committed sexual excesses, even if the sexual act has been done normally. This led to the question, "May this be the starting point of chronic prostatitis?" Although I have been unable to verify this statement by any personal histological investigations, the statement of Ciechanowski in respect to the preponderance of inflammatory elements in the neighborhood of this subdivision of the prostate is, to my mind, of considerable importance. The anatomy and physiology of the prostate are peculiar and distinct from any other organ of the body. It is subject to what I might term voluntary engorgement, and which, induced frequently, according to the temperament of the individual, easily renders it liable to infection and to the tissue changes which we call inflammation. Hyperemia of this organ stimulates the sexual nerve centers, which in turn react upon the prostate, and sexual activity becomes aggravated. Thus, in some individuals, sexual craving becomes excessive, and no amount of good sense or philosophy can fully control it. The brain and prostate reciprocate in their effect upon each other, and the subsequent tissue changes in the latter take place in response to excessive nerve stimuli. From the age of puberty onward this is liable to occur, and the man who escapes without some damage to his prostate may well rejoice.

Manson Moullin states, "It is certain, from the facts of human, as well as comparative anatomy, that the normal development of the prostate is dependent upon that of the testes and vasa deferentia. If the testes are removed in early life the prostate does not grow. If the vasa deferentia is not developed upon one side of the body, the prostate upon that side fails too, even though the corresponding testis is present. There are exceptions, but not sufficient to prevent the acceptance of the general principle. It is almost as certain that enlargement depends upon some influence exerted by the same structures. The relative frequency with which enlargement occurs diminishes as the activity of the testis fails."

In my opinion, hypertrophy of the prostate is not a senile disease. It begins in early manhood. It is present when least suspected. The changes in the prostate are coincident with the active life of the testes and vasa deferentia. The late phenomena of urinary difficulty and obstruction are often preceded by symptoms of irritation of the prostate and neck of the bladder, which are purely congestive in their nature, but are the "shadows of coming events," the prodromes of the conditions which eventually produce the more or less severe grades of insufficiency of the bladder. These phenomena do not appear in any intensity until after the age of 45 or 50, but their beginning is at the time of life when the individual is in the active exercise of his sexual functions, and when all the structures of his body are at their highest capabilities. Such considerations as these long ago led me to appreciate that the mode of life of the individuals presenting themselves with enlarged prostate had much to do with the origin of their malady. This further led to careful, persistent, and tactful cross-questioning of each individual, with the object of developing his sexual life from boyhood onward. The material for this study has not been limited to persons of any one class of society. All grades, the refined and the vulgar, the trained mind and the untrained, have furnished the material. A careful analysis of three hundred such histories of persons with unmistakable enlargement, who have been under my personal observation, shows that over 85 per cent. of these persons were subjects of abnormal or unphysiological sexual indulgences, which were excessive in degree and continued for years. In the 15 per cent. remaining, in which no history of sexual aberration was present, the primary prostatic congestion was apparently due to a derangement of the portal circulation, due to sedentary life or to excessive eating and drinking. My claim is that the overactive and unphysiological—especially the latter—exercise of the prostate precedes, finally excites, and then prolongs the inflammatory irritation, which eventuates in the recognized tissue changes. To substantiate and make clear this claim, let me give you types from my recorded cases. A lad, either from the teaching of companions or from natural tendency, and without the restraint of proper and sensible instruction, becomes a masturbator. He repeats the act frequently or infrequently, according to his temperament or opportunity. But, no matter, even infrequence is too often, and before long he is in a state of chronic sexual erythism. The prostate participates in each erection, it becomes congested in response to each erotic thought, and, sooner or later, its vessels remain dilated. Even at this stage evidences of disturbance of function and of tissue change are present. The act of urination may be increased in frequency, and may be lame or hesitating, and in the urine, if examined carefully, may be found floculi or shreds of epithelium from the prostatic urethra. The whole urethra is hypersensitive, the prostatic portion especially so, and the location of the verumontanum will be found to be soft and exquisitively sensitive. At this time the lad's attention is arrested, his conscience aroused, and his innate manhood asserts itself. He stops the unnatural habit, and some of the local hyperemia disappears. But his mind is not at rest sexually. He is alive to every erotic suggestion. Partial erections are excited by trivial things. His prostate remains in a state of erythism, and lame urination persists. Involuntary seminal emissions now disturb him. Each one is like a prick of conscience to him; he would rather walk the floor all night than have one. He now falls a ready victim to "remedial institutions" and quacks of all kinds. In the meantime he has fallen in with a person of the opposite sex who is responsive to him, and a sort of virtuous calf-love begins. He seeks her society constantly, remains with her by the hour if he can, and all the time in a state of partial or complete erection. They go on from step to step and excite each other wofully. He caresses and fondles her. She permits everything but the sexual act, and to him the effects are disastrous. From some of them he never recovers. His symptoms are now aggravated and increased. Besides the lame or hesitating urination and the floculi of epithelium which have multiplied, he has shorter intervals between the acts of urination, and, in some individuals, even at this period of life, I have seen a few drops of blood follow the urine. He is irascible, morbid, and at times in a state bordering on sexual frenzy. Sexual intercourse now seems to him the only relief and to be the cure-all of his miseries. If the prostate be now examined, a distinct increase in volume will be appreciated. The organ has lost the sense of firmness and vigor which are characteristic of its normal state, and which can be distinctly appreciated by the skilled finger. Even soft pressure upon the lobes will provoke a peculiar sensation, as if the glans penis were being pounded or hammered, and the slightest touch upon the location of the verumontanum will cause an intense sensation of scalding or burning. In some cases an outcry of pain will be caused by the gentlest manipulation. From this point onwards there is a divergence, according to the moral status of the individual. Let us follow the lad who, restrained by good morals, timidity, or want of opportunity, does not fornicate. He is among those who come to you in after life with prostatic disease and say: "Doctor, I do not understand it. I never had any venereal disease. I never even had intercourse until I was married, and now, look at me." The doctor himself does not understand the etiology, unless he has been able to follow such cases as I am now describing to you. But when, by questioning, you remind him of his youth, and of that period in his development when, by repeated excitation, whether he had previously been a masturbator or not, overactivity of his prostate had been caused, and, finally, symptoms had resulted, he does come to understand, with you, the relation of cause and effect. The indulgences which I am describing are persisted in, but, college or business life intervening, they are forcibly restrained in number and duration, and the boy gets freedom from the acuteness of his symptoms. If now he remains continent in thought and deed, the congestion gradually subsides, the swelling of the prostate reduces, and even lame urination disappears. But, unfortunately, the reverse is too often the case. A habit easily gratified has been formed. In vacation hours, or hours of social relaxation, it is gratified at least enough to maintain the prostatic hyperemia Now he really becomes engaged to be married, an happy is the one of these subjects whose circumstances permit speedy marriage! For during th period of engagement (or "keeping company" many of the foregoing circumstances, with their a companying physical conditions, are renewed. H is now married, and the presupposition would that this physiological state would gradually relie the hyperemia and cure his symptoms. And so does for many who, through good advice or by t application of their own common sense, arrive at suitable sexual hygiene. But even many of the go through a period of feeble erection, prematu ejaculation, and urethral irritability before sexu equilibrium is attained. But let us follow the m whose marital relations are either excessive, or u natural, or both. Excessive in the sense of too fr quent intercourse is usually the rule, and not the e ception, in early married life, and if the individu starts in with a hyperemic prostate, it requires argument to show that the latter is easily maintain and augmented. Normally, the intervals betwe the acts of coitus should be long enough for t dilated vessels to recontract, for the nervous syste to recover from the reaction which follows such demand upon the vital forces, and for the sense general well-being to be maintained. This healt interval will vary with the individual, *i.e.* accordi to his age, temperament, nervous susceptibility a his recuperative power at the time. Suppose t man whom we are now considering does not wi children. Or his wife, being one of those wom who, having learned that "only fools bear childre or one who, thinking only of the responsibilities, a not the joys of motherhood, requires him "to something to prevent conception." In response these requirements he establishes the custom of "withdrawal," or "pulling out," "coitus reservatus," or "coitus interruptus." Coitus is, therefore, unphysiological, never satisfactory, and he is led to prolong the act. He is in an habitual state of hanker. Hence the act is frequently repeated, and always under the same circumstances, and presently the evidence of damage to his prostate makes its appearance. For, in response to increase of function, there is increased nutrition, and only a moderate additional irritation is required to produce the changes in the tissues. This begins insidiously, advances according to the activity and persistency of the cause, and according to the vitality of the individual, but may not manifest itself by symptoms for several years. There is another and large class of cases to which reference should be made, because in these persons we may easily overlook the important factor of sexual hyperemia. In these gonorrheal infection pervades the history. Satisfied by the history of gonorrhea, which they frankly give, we are apt to forget questions which would develop their sexual habits before and after the acquisition of gonorrhea. After analyzing a number of cases of prostatic hypertrophy with reference to this point, I have come to the conclusion that, while gonorrheal infection may be a factor in some cases in the production of the enlargement, there must be some other additional ause. A very large proportion of the cases of gon- rrhea are ephemeral. The disease is one of the con- itions of "sowing wild oats." Many men never ave it more than once, and, as a result of this ex- erience, resolutely live hygienic and temperate ves, which enables the infection, with all its ac- mpanying or complicating symptoms, to disap- ar entirely. The evidence is not strong enough to nvince me that gonorrhea alone is the primary se of hypertrophy of the prostate. Then again, pertrophy of the prostate occurs in men who have er had gonorrhea, whose character, honesty, and cerity enable one to believe they are telling the h when they deny gonorrheal infection. Belief their statements can easily be corroborated by confidence and evident sincerity with which they of the other intimate details of their sexual lives. refore, I am satisfied that something else besides rrhea is necessary (certainly in a large propor- of the cases) to induce enlargement of the pros- I believe that if a man, even if he has been cted by gonorrhea, will lead a normal, physio- al existence, especially as relates to his sexual atus, he will never have that condition, with attendant and consecutive phenomena, which ll enlargement of the prostate. From the fore- a few simple prophylactic rules, which seem nable and logical, may be deduced: (1) Sex- struction in boyhood; (2) chastity in youth; exual self-restraint in early manhood, and (4) ological sexual relations in the married state.

ROSCOPICAL EXAMINATION OF THE ASTING STOMACH CONTENTS AND ITS DIAGNOSTIC VALUE.

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deavoring to obtain a correct and early diag- of diseases of the stomach the practitioner lly devotes a great deal of attention to the ical analysis of the stomach contents, but is inclined to disregard the more important microscopical examination. Many times when the chemical examination fails to be of any value, the microscope, in skillful hands, proves a powerful aid to diagnosis, and frequently this examination discloses the first evidence of a beginning stagnation, when macroscopically the fasting stomach contents may have the appearance of normal gastric juice.

When the diagnosis is in any way obscure, it should be a routine practice to make a thorough microscopical examination of the contents of the fasting stomach. The importance and accuracy of this method cannot be overestimated, and in Cohnheim's Polyclinic it has frequently enabled us to arrive at an early diagnosis, which could not have been made otherwise. On account of its importance, and owing to the fact that relatively little has been written on this subject, we deem it opportune to describe the different microscopical findings and demonstrate their value in the differential diagnosis of gastric diseases.

Such examination is especially indicated when the slightest suspicion exists of gastrosuccorrhea, stagnation—whether due to benign or malignant obstruction—or ulcerating cancer not causing stenosis. In these cases one glance through the microscope oftentimes gives more information than could be obtained by any other method of examination at our disposal. It sometimes happens, however, that patients are sent from distant parts, and do not come with the stomach in a fasting condition. If they are unable to come for a second consultation, we are, at such times, obliged to withdraw and examine the contents of the non-fasting stomach. The same disadvantage exists when vomitus or a test breakfast is sent for examination.

The technique is simple. In this clinic stomach contents are extracted by the expression method only. For the fasting stomach we use a No. 9 or 10 soft rubber tube with two large lateral fenestræ, one a little higher than the other, and situated on opposite sides. We never find it necessary to use an aspirating bulb. If only a very small amount of contents is present, it can be withdrawn with Fenton Turck's brush or by the expression method, and the smaller particles which adhere to the inner sides of the tube can be obtained by blowing through it. Whenever we suspect the presence of infusoria the tube and receptacle for the stomach contents are heated to body temperature in order to prolong the activity of the protozoa.

After the withdrawal of the fasting stomach contents we carefully examine the material macroscopically as to its general appearance, quantity and odor. The fluid withdrawn may either have the appearance of normal gastric juice, or may be changed by the admixture of stagnating food remnants, mucus, bile, blood, pus, tiny pieces of mucosa or tumor particles, which, if present in large quantities, can be recognized with the naked eye. A small amount of fluid (5 c.c. to 15 c.c.) can be considered normal, as this may be either mucus and saliva swallowed during the night, regurgitated bile, or, possibly, gastric secretion due to increased glandular activity resulting from irritation of the stomach tube. The constant presence, however, of 20 c.c. or more of pure gastric juice must be regarded as abnormal. In cases of stagnation, the peculiar characteristic odor of gastric juice is sometimes changed by the presence of butyric and acetic acid, or by putrefactive processes. The well-known rancid odor of butyric acid is easily recognized, while putrefactive processes give rise to a fetid odor.

As already mentioned, we may find normally several cubic centimeters of fluid in the fasting stomach. If this is only swallowed mucus or sputum, we have a fluid of slightly *alkaline reaction,* containing stringy, tenacious mucus, which, if coming from the trachea or bronchi, occurs in small clumps, pigmented with tiny dust particles. This pigment is composed of iron or coal dust, and at times hematin may be present.

For a careful examination, the stomach contents are spread upon a white plate, and if, with the naked eye, suspicious particles can be distinguished, these should be selected for examination. This is important, as it may enable us to determine more quickly the microscopical changes, and obviate the necessity of repeated examinations. After this general survey we proceed to the microscopical examination, with which we determine points of vital importance. The microscopical field is carefully studied for the presence of those abnormal constituents which, from the clinical history of the case, we expect to find. If nothing abnormal is discovered at the first examination several slides should be made.

If the material is composed of swallowed mucus and sputum we see microscopically numerous alveolar cells. They are elliptical in shape, about twice the size of a leucocyte, and have indistinct nuclei, which at times cannot be seen without the addition of acetic acid. The protoplasm is granular and sometimes contains small fat globules. We also find many unchanged pavement epithelial cells, which come from the mouth, pharynx or esophagus; unchanged leucocytes, and, at times, homogeneous bodies similar to fat drops, having their origin in the sputum, the so-called myelin bodies.

On the other hand, if the small amount of expressed fluid is composed of swallowed mucus, plus gastric juice, the microscopical findings are vastly different from the above. Free nuclei of leucocytes and of epithelial cells, isolated yeast cells, bacteria, and, possibly, spiral or snail-like bodies are found. The spiral bodies and the free nuclei were first described by Jaworski, and through the investigations of Tellering, confirmed by Cohnheim, we now know them to be myelin bodies, acted upon by the HCl, and of no pathological significance. Free nuclei of leucocytes and of epithelial cells are also due to the peptic action of gastric juice, and *their existence is positive evidence of the presence of HCl and pepsin, and we are thus enabled to determine* microscopically *the presence of gastric secretion.* Therefore, when we find myelin, alveolar and unchanged epithelial cells, we know that they had their origin from the bronchi or upper digestive tract, and remained unchanged in the stomach on account of the absence of HCl and pepsin. On the other hand, if we find free nuclei of leucocytes, epithelial cells and snail-like bodies in the fasting stomach, then we are positive of the existence of HCl and pepsin.

Thus we have two distinct characteristic microscopical pictures of the findings in the contents of the fasting stomach, and a chemical examination is not necessary to prove the absence or presence of gastric secretion.

Having briefly described the microscopical findings which can be regarded as normal, we will now consider the pathological conditions found in the fasting stomach contents, and in order to present this subject in the most concise form possible, we submit the following tabulation:

A.—Without Stagnation. (1) With HCl, free nuclei, spirals of snail-like bodies, striated mucus. (2) Without HCl, (*a*) leucocytes and epithelial cells, which are unchanged; (*b*) pus, blood, mucus, and, possibly, infusoria and amebæ.

B.—With Stagnation. (1) With HCl, sarcinæ, yeast cells, food remnants. (2) Without HCl (
lactic acid), Oppler-Boas bacilli, yeast; absence
sarcinæ.

A.—(1) This comprises stomach contents w
are free from stagnation, but contain HCl.
the characteristic free nuclei of leucocytes, occur
in groups, and known as Jaworski's kernels,
present. When the medium is strongly acid
kernels are extremely shiny, while if only a s
acidity is present their appearance is dull and
are larger in size.

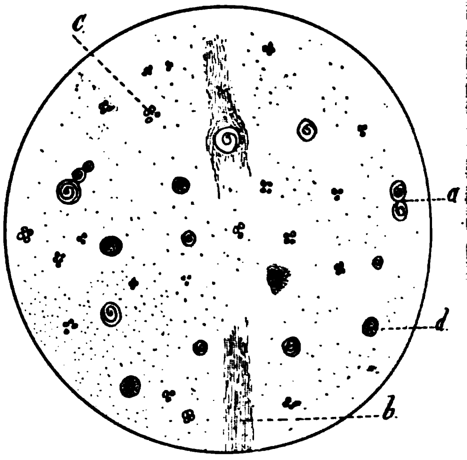

Fig. 1.—*a*, Spiral bodies; *b*, striated mucus· *c*, free nuclei of leuc
d, free nuclei of epithelial cells.

It has been demonstrated by Jaworski that g
juice (HCl + ferments) will act upon pus cell
produce these kernels; also that HCl alone will
the same result, the change, however, requir
longer time. Free nuclei of epithelial cells
come from the cylindrical or pavement variety
under favorable conditions may at times be
The pavement epithelial cells are large,
consequently their nuclei are far apart, but
to the shape and smaller size of the cylindric
thelium, the nuclei of these cells are closer to
If the protoplasm has disappeared, and the r
ing nuclei of the cells are few in number a
apart, it is evidence that they are derived fro
pavement epithelium, while if they are num
closer together, and appear in rows, then they
their origin from the cylindrical epithelium.
cording to Jaworski, the presence of very man
cocytes, the number of which can be deter
from their remaining nuclei, indicates an anat
change of the mucosa, as Sachs demonstrate
in catarrhal conditions the leucocytes w
through the epithelial cells of the mucosa. St
mucus and spiral bodies, already described, ar
found.

In cases where these findings are present, a
quantity of fluid upon repeated examinations e
20 c.c., we are justified in believing that th
an overstimulation of the glandular elements.
condition is known as a continual hypersecreti
gastrosuccorrhea. The fluid in these cases s
always be examined microscopically, as the pre
of sarcinæ, yeast cells in chains, food remnants,
as starch granules, muscle fibers, etc., prove a
companying stagnation.

A.—(2) Under this division HCl and food
nants are absent from the stomach contents.
subdivisions are noted: (a) Contents conta
epithelial cells and leucocytes which are uncha
and (b) cases in which the unchanged leuco
and epithelial cells are present, but, in addition,
blood, and, possibly, infusoria and amebæ are fo

(a) When a large amount of mucus is present a diagnosis of gastritis is often made without a microscopical examination. This is absolutely wrong. A diagnosis of gastritis should never be made on account of the presence of mucus without first determining its origin, and this is only possible by a microscopical examination. As stated before, if pavement epithelial cells are present in large numbers, the mucus comes from the upper digestive tract. Mucus from the bronchi and lungs is characterized by the presence of myelin drops and alveolar cells, while the occurrence of a great many cylindrical epithelial cells is positive evidence of its origin from the gastric mucosa. If the source of the mucus can be traced to the gastric mucosa, and there is no HCl present, we are then justified in making the diagnosis of gastritis anacida.

(b) Neoplasms, though most frequently found at the gastric orifices, do not arise from them, as was formerly supposed, but generally take their origin from the smaller curvature, and then radiate either towards the pylorus, cardia, or fundus. This can be best illustrated by the following diagram, for which we are indebted to Dr. Cohnheim.

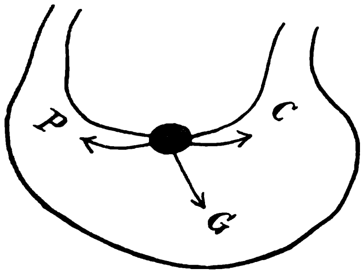

Fig. 2.—*P*, pylorus; *C*, cardia; *G*, greater curvature.

The reason the smaller curvature is most fre-ently the primary seat of carcinoma is undoubt-lly due to the fact that this is the part most ex-sed to mechanical, chemical, and thermal irrita-n from the ingesta. If a cancer has its origin at e smaller curvature and radiates towards (*P*) e pylorus, an early stagnation usually results, and e findings in this condition will be described later. carcinoma growing in the direction of (*C*) the rdia is, as a rule, not difficult of diagnosis, as in s condition the patient experiences difficulty in allowing, and a resistance to the passage of the stric bougie is met at about 40 cm. from the isor teeth.

If, however, the carcinoma is situated on the aller curvature, between the cardia and pylorus, d does not affect either one of these orifices, but iates towards (*G*) the greater curvature, a con-ion exists which is extremely difficult to diagnose. ually in these cases the subjective symptoms, as ell as the physical and chemical examination, point a gastritis anacida, as in both of these diseases arcinoma and anacid gastritis) there is no stagna-n, and the test breakfast shows an absence or minution of HCl, pepsin, and rennet. We are, erefore, utterly in the dark as to the true nature the disease, and here the microscope is often-nes of inestimable value in giving a clear picture the pathological processes taking place in the omach. If, with these conditions, the microscopical amination shows the constant presence of pus and ood, and their origin can be excluded as coming om an acute phlegmonous gastritis, or purulent flammation from other parts (mouth, tonsils, bron-i, etc.), a positive and early diagnosis of ulcerating terosteal carcinoma can be made long before a mor is palpable or characteristic symptoms are resent.

Single leucocytes are found normally in the stomach, more especially, though, in the different forms of gastritis. They are only pathognomonic of cancer when accompanied by blood and appear in compact form. They may occur either in small clumps or thick, tenacious mucus. The appearance of pus in fetid, putrid contents of the fasting stomach, together with caseous masses, is of much greater diagnostic importance than when the contents are non-fetid; but the former occurs very much later, and usually after a tumor is palpable. Therefore the presence of pus in non-fetid contents affords, as a rule, a relatively early diagnosis.

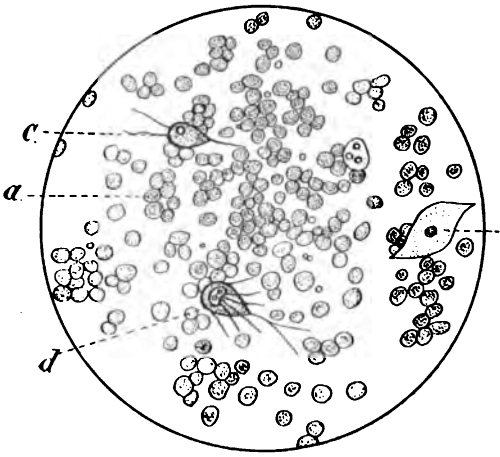

Fig. 3. — *a*, Pus cells; *b*, pavement epithelium; *c*, trichomonas; *d*, megastoma.

In all suspected cases, especially with progressive emaciation, anorexia, gastric distress, etc., without stagnation, but with achylia gastrica, we should endeavor to procure some of the fasting stomach contents. Usually but very little is obtainable, perhaps only a few cubic centimeters, but this is sufficient for a microscopical examination. These are the cases in which infusoria and amebæ are likely to occur, and therefore the stomach tube and receptacle should be warmed.

Much importance has been attributed by many investigators to the protozoa found in the intestinal tract, but very little attention has been paid to the occurrence of these organisms in the stomach. Here two varieties of infusoria have been found, namely, *Trichomonas hominis* and *Megastoma entericum.* Under proper precautions, these infusoria are readily recognized by their motility and peculiar characteristic shapes. *Trichomonas hominis* is elliptical in shape, similar to an almond kernel, is from 8 to 12 microns in length and has one caudal and two or three ciliary head processes, the latter being in rapid motion. *Megastoma entericum* is pear-shaped and a little larger than the Trichomonas. It may be distinguished by its two tail threads and six long flagellæ, which serve as propellers. On the broader extremity are two cavities, which resemble suction cups. Infusoria of stagnating water may be confounded with the above, and therefore great care should be taken in making the microscopical preparation to avoid the possibility of regarding these infusoria as coming from the stomach, which would lead to a faulty diagnosis.

For the development of infusoria, four conditions are necessary: (1) absence of HCl; (2) presence of alkaline reaction; (3) absence of stagnation; (4) the existence of pouches or deep folds in the gastric mucosa. Therefore infusoria are always found with pus and blood, and these conditions are present only in cases of interosteal carcinoma, not attacking the pylorus. As already stated, when pus and blood are constantly found in the fasting stomach, the diagnosis of an ulcerative process is justifiable. This could certainly be substantiated in no better way than by the finding of infusoria. *Trichomonas hominis* is frequently found in carious teeth and *Magastoma entericum* in the intestine, but the presence of either in the stomach is evidence of extra-pyloric carcinoma, as they have never been observed unless this condition existed.[1]

Strube was the first to demonstrate the presence of infusoria in the stomach. Hensen, Zabel and Ullman have also contributed to the literature on this subject, but Cohnheim deserves the credit of having given the true diagnostic value to these protozoa, and in his publications on this subject he emphatically states that he is far from believing that these parasites can be considered as the cause of carcinoma, but that their presence is pathognomonic of a carcinoma not affecting the motility of the stomach. Not being disturbed by an acid reaction, they are able to live and propagate in the pouches of the ulcerated mucosa. In a stomach with simple atrophy, the pouches are missing, while when stagnation occurs, whether it be due to benign or malignant obstruction, an acid medium results. If the obstruction is benign, an acid medium exists due to hydrochloric acid, while if it be malignant in character, lactic acid is present owing to fermentative processes. Under these conditions there is, necessarily, an absence of the infusoria, as they are killed by acids, and thrive and multiply only in alkaline media. Infusoria die very quickly at room temperature and when exposed to light, and unless special efforts are made to keep them at body temperature and to exclude the light they rapidly become encysted. They can then be recognized by the oval form and homogeneous character of the cyst. The conditions governing the growth of infusoria also favor the propagation of amebæ, and consequently the two are often found together.

The finding of amebæ and infusoria is not only of extreme value as a pathognomonic sign of carcinoma, but their presence often enables the early diagnosis of this disease, as they are found long before the appearance of a tumor. The reason that so little can be found in literature on gastric infusoria is due to the fact that the practitioner usually neglects the microscopical examination of the fasting stomach's contents, and with the exception of a few authors, comparatively little effort has been made to determine their existence.

At this point tumor particles or small fragments of gastric mucosa sometimes found in the stomach contents may appropriately be mentioned. Boas was the first to utilize such specimens for diagnostic purposes, and is of the opinion that we are often enabled to ascertain, by a microscopical examination of these bits of mucosa, the exact morbid anatomical conditions existing. Many others (Cohnheim, Hayem, Einhorn, Leuk, Martius, Hari, Hemmeter) have since made a study of these pieces of tissue. It is, of course, of the greatest diagnostic value to find specific elements of carcinoma, but they rarely aid in making an early diagnosis, as they are usually found after the disease is well established, and very frequently the shreds of mucosa obtained are necrotic and therefore unfit for histological purposes.

B.—We will now consider the second division, namely, gastric secretion plus stagnation.

By stagnation is meant the finding in the fasting stomach of remnants of food taken one or more days before, and this indicates a stenosis of the pylorus. This stenosis may be caused by benign or malignant growths, spasmodic contraction of the pylorus due to fissure, erosion or ulcer; to a cicatrix of an old ulcer, to perigastritis or to mechanical factors, as tumors of adjacent organs, causing pressure from without, all of which may affect the pylorus. As benign obstruction of the pylorus occurs with hydrochloric acid, and malignant obstruction without it, there are, therefore, two distinct subdivisions: (1) Stagnation occurring with HCl and (2) Stagnation without HCl.

B.—(1) Stagnation with the presence of HCl This is indicative of either benign obstruction or o an ulcus carcinomatosum of the pylorus. Ver frequently on withdrawing the contents of the fasting stomach, it is presumed that there exists a simpl gastrosuccorrhea, as with the naked eye no food remnants can be detected, but the microscope discloses the first evidence of stagnation. Accordin to Strauss, in order to have a true gastrosuccorrhea no sarcinæ or yeast cells in chains must be found and further, the fermentation test must be negativ In our opinion, the fermentation test is unnecessar because if sarcinæ, yeast cells in chains, food-remnants, such as starch granules, muscle fibers, fa globules or crystals and plant cells are found in th fasting stomach contents, it cannot be regarded as pure uncomplicated case of gastrosuccorrhea. Th presence of these substances is a positive sign th there is an appreciable disturbance of the motility the stomach combined with gastrosuccorrhea.

In cases of hyperacidity and hypersecretio muscle fibers are partially digested, and as a cons quence the striæ have more or less disappeared, b amylaceous food will not be changed. Yeast cell single, or in pairs, are usually found in the stoma contents, but in cases of stagnation they occur chains, and when the obstruction is of a benig nature, are usually accomplished by sarcinæ.

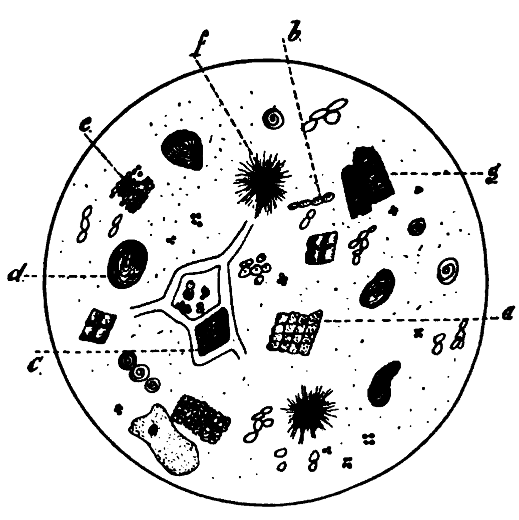

Fig. 4.—*a*, Sarcinæ; *b*, yeast cells; *c*, plant cells; *d*, starch granul degenerated sarcinæ; *f*, fat crystals; *g*, muscle fiber.

The latter are never found unless the stom contents contain hydrochloric acid, and their pr ence is proof of benign obstruction of the pylo with one exception, namely, in cases where a ca noma develops upon the base of a previously exi ing ulcer. This is commonly known as ulcus ca nomatosum.

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[1] Since the writing of this article, Rosenfeld, in the *Deutsche med. Wochenschrift*, 1904, No. 47, reports six cases in which the trichomonas was found in the fasting stomach contents. In five of these cases tumors were present, but the sixth, after 18 months' observation, presented no symptoms of carcinoma. The flagella were found only twice, and in close succession; therefore the possibility exists, as Rosenfeld suggests, that they were carried down from the carious teeth, their presence in the stomach being only temporary. However, Zabel reports a case in which the protozoa were found two years before pronounced symptoms of carcinoma developed. If Rosenfeld's case does not prove to be gastric cancer, it is the first one reported in which protozoa were found in a non-carcinomatous stomach.

In obstruction caused by spasmodic contraction of the pyloric ring due to fissure, erosion or ulcer, or in obstruction caused by the cicatrix of an old ulcer, there is a hyperchlorhydria and an abundance of sarcinæ. If the base of the ulcer undergoes a carcinomatous transformation, then there occurs a gradual diminution of the hydrochloric acid owing to atrophy of the glands, and a simultaneous decrease of sarcinæ. In the course of this disease the hyperchlorhydria soon gives way to a subacidity and with the latter we still have the presence of sarcinæ, though they are fewer in number and of a degenerated form. As the growth of the carcinoma progresses, there is a gradual decrease of the hydrochloric acid and sarcinæ, until finally there may be a total absence of both; the HCl being supplanted by lactic and other organic acids, and the sarcinæ by the Oppler-Boas bacilli.

If the transformation is a rapid one, there is a possibility of finding a few degenerated sarcinæ, together with the Oppler-Boas bacilli, in the same stomach contents. Sarcinæ are generally found in groups of four, eight or sixteen, etc., and are very seldom observed singly. In shape they resemble cotton-bales or packets and occur in two sizes—large and small. Degenerated forms, which are rounded, irregular and more or less fragmented, are also observed in cases that have been under treatment.

B.—(2) Stagnating contents containing lactic acid likewise has its characteristic constituents, and by the microscopical examination we derive as much information as can be elicited from the many chemical tests. With the exception of a slight change in the muscle fibers where hydrochloric acid is present, the examination of the food particles will not aid in differentiating one division from the other, as there is stagnation of food remnants in both divisions. Yeast cells in chains are also common to both.

The examination of the leucocytes is more satisfactory, as they are found in different stages of digestion. When hydrochloric acid and pepsin are present, the protoplasm is entirely digested, leaving nothing but the centrally grouped nuclei (Jarworski's kernels). In lactic acid fermentation, the protoplasm is granular and shrunken, but still retains a faint definite outline.

The same applies to the epithelial cells. Instead of free nuclei being found, as in the presence of HCl, they are surrounded by coarsely granular protoplasm. Spiral bodies may also be found, due to the action of lactic acid on the myelin cells.

The differentiation of these two divisions can, however, be very readily made.

The sarcinæ are so constantly found in stagnating stomach contents containing HCl, that their appearance is regarded as distinctly characteristic of benign obstruction, with the exception before noted, that of carcinomatous ulcer.

In the stagnating stomach contents containing lactic acid, the sarcinæ are supplanted by the Oppler-Boas bacilli, and these should be considered of even more diagnostic importance as indicating malignant stenosis than the finding of sarcinæ in benign obstruction.

The Oppler-Boas bacilli are unusually long and non-motile bacteria, and can be recognized by their large size and end-to-end arrangement.

The finding of the Oppler-Boas bacilli in the gastric contents is not only of importance as a diagnostic sign, but is of the greatest practical value. In pyloric carcinoma, the situation of the growth is such that it is hidden by the liver, and by the detection of these bacilli we are often enabled to make a diagnosis long before the tumor becomes large enough to be palpable. They may, therefore, serve as an indication for surgical intervention.

Oppler was the first to draw attention to the lactic acid bacilli, and their practical diagnostic value was then demonstrated by Boas, who at first regarded them as pathognomonic of carcinoma. It is now known, however, that stagnation with lactic acid formation is not specific of pyloric carcinoma, but depends upon the concurrence of two factors present in this disease, namely, the absence of hydrochloric acid and the presence of stagnation. These same conditions exist in gastritis gravis or stenotic gastritis, where there is an inflammatory hypertrophy of the pars pylorica, resulting from a long-standing atrophic gastritis. Primarily, there is an atrophy of the gastric glands and as a consequence of the passage of coarse foods over the pyloric end of the stomach, a compensatory hypertrophy of the pars pylorica ensues. This gradually leads to a stagnation, and the conditions eventually become the same as in pyloric carcinoma, as in both diseases there is stagnation of food with subsequent lactic acid fermentation, and an absence of hydrochloric acid and the gastric ferments. These bacilli may also be found in carcinoma of the esophagus or cardia. In both of these affections there occurs a dilatation of the esophagus above the obstruction, in which there is an accumulation of food remnants in an alkaline medium, and the conditions are then analogous to those produced in carcinoma of the plyorus.

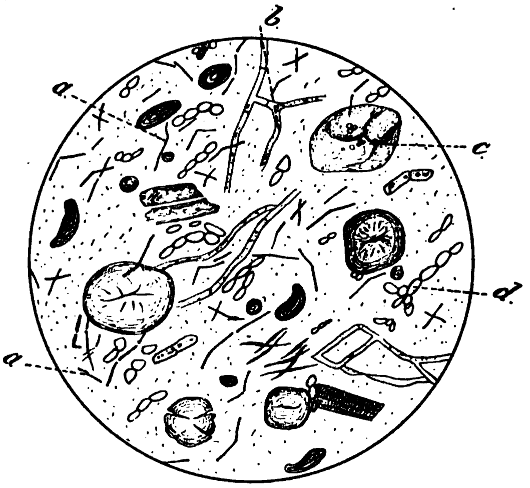

Fig. 5.—a, Oppler-Boas bacilli; b, leptothrix; c, potato cell; d, yeast cells.

Another fact to be taken into consideration is that not only carcinomas of the stomach but of all other internal organs may cause an atrophy of the gastric mucosa, and if from any cause whatsoever, a pyloric obstruction occurs, the Oppler-Boas bacilli are liable to be found in the stagnating stomach contents. Therefore, carcinomas of neighboring organs, by exerting pressure on the plyorus, may cause an obstruction, and as the systemic effect of the cachexia in these cases has already produced a gastric atrophy, the findings of the stomach contents will be the same as in gastric carcinomas affecting the pylorus. Thus it is evident that the findings of pyloric carcinoma, gastritis gravis, a carcinoma of a neighboring organ pressing on the pylorus and thus causing stagnation, are the same, but as the two latter conditions are so very rarely found, they need hardly be considered in differential diagnosis. According to Cohnheim, about 99 per cent. of the cases with stagnation and Oppler-Boas bacilli or lactic acid, are pyloric carcinoma, the remaining 1 per cent. being either gastritis gravis or a carcinoma in the vicinity of the pylorus. Boas reports only three cases of gastritis gravis.

Therefore, the presence of the Oppler-Boas bacilli can be regarded as an indicator for operative procedure, and the remote possibility of a stenotic gastritis does not modify the treatment, as surgical intervention is indicated in either case. Thus, the practical diagnostic value of these bacilli is evident and their early detection may be the means of prolonging and perhaps saving many a life in a disease where the prognosis is necessarily fatal without surgical intervention.

Résumé.—1. The presence or absence of hydrochloric acid can be determined by a microscopical examination of the fasting stomach contents.

2. The origin of mucus can be determined only by a microscopical examination.

3. By the microscopical examination, mild cases of pyloric stenosis can be differentiated from simple gastrosuccorrhea.

4. Constant presence of pus, blood and possibly infusoria in the fasting stomach contents is absolute evidence of extra-pyloric carcinoma.

5. Benign obstruction can be diagnosed early by the finding of sarcinæ, yeast cells in chains, or food remnants.

6. The early diagnosis of malignant obstruction of the pylorus can be made by the finding of the Oppler-Boas bacilli.

We desire to express our thanks to Dr. Paul Cohnheim for his valuable advice and supervision of the microscopical work.

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ACUTE CHOLECYSTITIS IN THE PUERPERIUM. REPORT OF TWO CASES. CHOLECYSTOTOMY. RECOVERY.

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It is rather singular that so little has been written on cholecystitis in the puerperium. In looking through a number of works on obstetrics, both recent and ancient, I find the subject mentioned in only two—that of P. Müller, Bd. II, p. 918, and Schauta, *Lehrbuch der Gesammten Gynækologie*, Leipzig, 1896, p. 631. Schauta covers the subject in six lines, and Müller in five lines. Schauta says pregnancy and the puerperium seem to favor the formation of gallstones. He quotes Thiriar, from an abstract in the *Berliner klinische Wochenschrift*, 1885, No. 48, in which it is stated that a case of cholelithiasis during pregnancy of such severity was seen that it was necessary to perform cholecystectomy, and Schauta adds that he himself had seen a case of biliary colic in the fifth month of pregnancy with such severe symptoms that he considered cholecystectomy indicated. After a careful search of the literature for the past ten years, I found the report of only four cases of cholelithiasis necessitating cholecystotomy in the puerperium (Potocki,[1] Pinard,[2] Eiermann,[3] Rose[4]), and two such cases in pregnancy (Van Engelen,[5] Doleris[6]).

During the past summer it was my good fortune to be called into consultation in two instances in which I made the diagnosis of acute cholecystitis, and the diagnoses were verified by subsequent operation. In both cases the attending physician had previously made the diagnosis of puerperal sepsis.*

Case I.—Acute Cholecystitis Nine Days After Delivery; Cholecystotomy on the Twelfth Day; Recovery.

On July 30, 1904, I was asked to see in consultation a patient in the downtown district, who had been delivered twelve days before, and who was now suffering, as the doctor thought, from puerperal sepsis. The patient was 31 years old, had been married ten years, and this was her fifth child. The labor had been normal, but took place amid unsanitary surroundings, and with as imperfect precautions to asepsis as usually obtain in such homes. The woman seemed fairly well for the first nine days, and apparently had no elevation of temperature. On the ninth day she was seized with rather severe pain in the abdomen, the temperature went up to 103°, pulse 120. She had no nausea nor vomiting. The abdominal pain and fever persisted until I saw her. At my visit I found a large and stout woman, with a heavily coated tongue and a considerably distended abdomen. Her breathing was rather short and jerky. The first impression she made was that of one suffering from acute puerperal peritonitis. On questioning her, she said that the pain was all over the abdomen, and that she had not had any movements of the bowels for two days, although several efforts had been made to move them, both by purgatives and enemata. A bimanual examination found the uterus in a normal state of involution for that period of the puerperium, and the adnexa were apparently normal. No exudates nor swellings were found in the pelvis. I extended my examination to the abdomen. It was considerably distended and fairly rigid, especially on the right side. The rigidity seemed most marked in the right hypochondrium, and here also was the greatest tenderness. By direct interrogation I learned that the pain was very severe at this point, and on further interrogation the husband stated that his wife had been subject to attacks of "cramps in the stomach" for several years, and that frequently during these attacks a ball would appear in the epigastric region, which he would rub away. As far as either husband or wife knew, these attacks were not attended or followed by jaundice. The patient showed no evidences of jaundice at the present time. I made the diagnosis of acute cholecystitis, rather to the surprise and relief of the attending physician. The patient was taken at once to Mt. Sinai Hospital, where the same night I performed cholecystotomy. The gall-bladder was very much distended, was the size of a medium-sized pear, and contained some free pus and

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*Since writing this paper I have received the January, 1905 number of the *Monatschrift für Geburtshülfe und Gynäkologie*, which contains an article by Dr. Christian on Cholecystitis in the puerperium. The article embodies the report of two cases observed by the author. The first case showed symptoms on the fourth day of the puerperium, and was seen by the author on the ninth day. He made the diagnosis of acute cholecystitis on the following day. The patient recovered, palliative treatment only being employed. The second case showed symptoms eight days before labor which set in at the usual time. The symptoms persisted after delivery and the patient made a slow recovery under palliative treatment.

dark colored bile, with numerous small stones. The temperature fell to normal on the third day after operation, and the recovery was rapid, the patient leaving the hospital on the seventeenth day. The fistula closed in about six weeks. Latterly the patient has been complaining of considerable discomfort in the epigastric region, but has not had any disitnct attacks of pain.

Case II.—Cholecystitis Ten Days After Delivery; Cholecystotomy on the Same Day; Recovery.

In October, 1904, about two months after I had seen the first case, I was requested by a physician to see a patient who was suffering, as he thought, from puerperal septic infection. He had delivered the patient, a primipara, 20 years of age, ten days before. The placenta seemed to be adherent, and the doctor had to remove it manually, otherwise the labor was normal. The puerperium seemed to have progressed normally until the morning of the day I was called, when the patient was seized with a severe chill, followed by fever and pain in the left iliac region. After a few hours the pain spread over the entire abdomen, and was most marked in the right half of the abdomen. I saw the patient at 4 P. M. She appeared to be very ill, with a dry coated tongue, a temperature of over 103°, and a pulse of 120. The abdomen was not distended, but was rather rigid, especially in the right umbilical and hypochondriac regions. There was an area of decided tenderness in the region of the gall-bladder, and it appeared to me as if I could make out an ill-defined mass in that region. On bimanual examination the uterus and adnexa did not show any abnormality, the uterus being in the usual degree of involution. There were no wounds in the vagina, and the slightly torn perineum looked healthy. I unhesitatingly made the diagnosis of acute cholecystitis, notwithstanding the fact that the patient stated positively that she never had had any attacks of pain in the epigastric or hypochondriac regions, and that she had always been healthy. There was no nausea nor vomiting, and there were no evidences of jaundice.

I had considerable difficulty in convincing the attending physician and another consultant who was present that we had to deal, not with a case of puerperal sepsis, but with an acute affection of the gall-bladder.

The patient was at once removed to Mt. Sinai Hospital, where, a few hours later, I performed cholecystotomy. The gall-bladder was very much distended, being the size of a large pear, and its walls were considerably thickened. It contained very little pus, being filled chiefly with a thick dark fluid and numerous small stones. The temperature fell to normal on the third day, but convalescence was somewhat protracted by rheumatic pains in both legs. The patient left the hospital four weeks after the operation. The fistula persisted for some weeks thereafter, but closed rather promptly after the expulsion of a small calculus.

Taking into consideration the frequency with which women suffer from gallstones,* bearing in mind the statement made by reliable authorities (Naunyn, Schauta) that pregnancy and labor favor the occurrence of biliary colic, acute cholecystitis in the puerperium ought to be a more frequent occurrence than the literature would seem to warrant. It is probable that the disease is often overlooked, or is mistaken for puerperal sepsis.

Even so able and experienced an observer as Pinard treated his case as one of puerperal sepsis for ten days before the true condition was diagnosticated by accidentally discovering a tumor mass in the right hypochondrium.

Dr. H. Huchard[8] collected twenty-two cases of biliary colic during pregnancy and the puerperium. In several of the cases the diagnosis of puerperal sepsis had been made before Huchard was called into consultation. In one case he himself had first diagnosticated puerperal peritonitis. He relates an interesting instance in which he was called, in absence of the family physician, to attend a woman in supposed labor. The woman was having severe abdominal pain, which she interpreted as labor pains. After watching the patient for some time he came to the conclusion that the so-called labor pains were the manifestations of an attack of biliary colic.

The attack of cholelithiasis during pregnancy or during the puerperium may be the first the patient has experienced, as in my second case.

Berline-Hering[9] collected fifty-one cases of biliary colic, in eleven of which the first attack occurred during pregnancy, in four the first attack followed an abortion, and in the remaining thirty-six cases the first attack followed labor in periods varying from one day to one month.

Willemin (quoted by Dreyfus-Brisac[10]) relates an instance in which a woman had an attack of biliary colic after her two labors at an interval of nine years, and another, that of a woman who had an attack after each of the four labors she passed through. These women had not experienced an attack at any other time.

In Schroeder's statistics, upon which Naunyn places the greatest reliance, as the autopsies were under the direct supervision of V. Recklinghausen, 90 per cent. of the women who had gallstones had borne children. The conclusion that must be drawn from these facts is that pregnancy favors the formation of gallstones. It does this, according to Naunyn, by interfering with the flow of bile through the ducts. He says we know that the expulsion of the bile from the common duct is materially aided by the pressure to which the liver is subjected by the movements of the diaphragm in respiration. This has been demonstrated by the experiments of Heidenhain and his pupils. In women, the corsets keep the diaphragm at rest, and in pregnancy the same result is produced, but in a different way. The absence of diaphragmatic respiration, and the exclusively costal type of breathing in women is not conducive to the flow of bile. For the production of acute cholelithiasis in addition to stagnation of the bile, it is usually conceded at the present time that some form of microorganism is necessary. The most frequent organism found is the bacillus coli.

C. A. Herter[11] quotes the statistics of W. Peterson, who, in fifty operations for gallstones, found bacteria in the bile forty-four times. In thirty-six instances the bacillus coli was found. In the constipation that usually attends the pregnant state we have a favorable condition for the migration of the bacillus coli into the gall-bladder. According to Skutsch,[12] the outbreak of an attack of biliary colic during the puerperium is to be attributed to the change of abdominal pressure, thus favoring the passage of calculi from the gall-bladder into the ducts. Is it not more likely that the outbreak of acute cholelithiasis during the puerperium is favored by the time-honored custom of not allowing the parturient woman to have a movement of the bowels during the first three days of the puerperium, and of keeping her in the dorsal position for at least the same period?

We have already noted the difficulties besetting the diagnosis of acute cholecystitis in the puerperium. Some authors lay great stress upon the presence of vomiting and jaundice. Both of these symptoms were absent in my two cases. The presence of a tumor in the right hypochondrium would, of course, greatly aid in the diagnosis. But this tumor, even when present, is not easily palpated in an obese patient, with general distention of the abdomen, as in Case I. In Case II, the general rigidity of the abdomen prevented a satisfactory examination. But in both cases, after the patients had been transported to the hospital and a thorough evacuation of the bowels had been effected, a tumor mass could be definitely felt in the gall-bladder region.

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* Schroeder found that in all the autopsies in the Strassburg Hospital from 1880-1877, 20.6 per cent. of the female cadavers had gallstones (Naunyn).[7]

In making the diagnosis in a given case, the first essential is to be able positively to exclude an infection of the genital tract. This very often is not an easy task, particularly if we are called during the first three or four days of the puerperium. What struck me especially in the first case was the short, jerky respiration. Respiration of such a character, to be caused by peritonitis, would mean a very extensive process, and this I was able to exclude. I therefore sought for another cause, and found it in the tender and painful area in the right hypochondrium.

The treatment of acute cholecystitis in the puerperium must be based on the same principles that govern that disease at other times, and need not be entered into here. It may, however, be stated that the parturient woman seems to bear surgical intervention as well as the non-parturient. The pregnant woman who enters into labor with a distended empyemic gall-bladder, does so with great peril. I vividly recall being asked to see in consultation some years ago a patient who had just passed through a normal delivery, and who within a few hours after delivery was suffering from symptoms of acute general peritonitis. Her condition was so grave as not to warrant any surgical intervention. She died about twenty-four hours after delivery. The attending physician, a careful and capable man, told me that the patient had had several attacks of biliary colic during pregnancy, but had gone through them all safely. Before labor set in he thought he could map out a distended gall-bladder. During the progress of the labor, which was normal in every respect, the patient uttered a shrill cry at the acme of a labor pain, and said she felt something give way. Delivery occurred shortly afterward, and then symptoms of violent peritonitis set in, with the result already stated. I made a vaginal examination and found the uterus and vagina in a normal condition. There can be but little doubt that during the height of a pain the gall-bladder ruptured, and its septic contents were discharged into the general peritoneal cavity. An autopsy was not permitted.

Rose[13] also reports a case of empyema of the gall-bladder, with gallstones, that ruptured during labor. In spite of operative intervention, on the second day, and drainage, the patient died on the third day from a septic infection, presumably of the peritoneum.

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CONSERVATIVE TREATMENT OF PROTRACTED CASES OF ACUTE OTITIS MEDIA PURULENTA, WITH ITS COMPLICATIONS.*

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We usually expect an acute otitis media purulenta to get well in from two to three weeks. When such an otitis continues beyond this time there is something at fault which protracts the healing. That such protraction is often to be traced to etiological influences, and the constitutional condition of the patient before the attack, should be borne in mind.

During the past winter (1903 and 1904) it was my object to pursue as conservative a policy as was consistent with the strictest surgical principles in the treatment of this class of cases, and to observe and record carefully the results. I was surprised to find in what a large percentage of my cases such a policy could, under certain conditions, be followed with absolute success. In four of the cases radical interference had been advised by a second consultant, an opinion in which I must confess I also would have concurred, had I not previously planned for myself a conservative form of treatment, which, if allowed to be carried out, I thought would prove just as successful. In this I was not mistaken. I feel I owe no apology, therefore, if I put on record my experiences with this plan, at a time when we otologists are inclined to be less conservative than we should. It claims acknowledgment and trial on the part of all. To insist upon delay and not to indulge in needless surgery when the opportunity is offered of carefully watching and treating each individual case, will bring forth results which will cause astonishment. Such rational therapeutics in the hands of competent otologists will assist the reparative processes to a very great degree. I am quite ready to agree with Pyle, who says, that "as a physician, there is not one of us who would not trust to rational, conservative measures until indications were pronounced, before he would submit to surgical interference." The laity demand just as deliberate and conservative consideration. I do not wish to be understood as deprecating all radical surgical measures, but the pendulum has swung too far. Unnecessary mutilation of the human body for the sake of exploratory procedures, when more time should be taken to study our clinical ear pictures, and an attempt made to arrive at a diagnosis, is not to be encouraged.

In order to demonstrate in the most convincing manner possible the methods which I pursue, I have chosen to relate in detail the histories of selected cases of the severer type. In all, during a period of five months, there were treated in my clinic at St. Luke's Hospital, and in my private practice, 22 cases of this particular type, and, with the exception of three cases, all the patients recovered completely without any radical measures having been resorted to. These three cases were due to an acute inflammation having engrafted itself upon ears which had undergone previous inflammation, or were still the seat of a subacute form, and, therefore, offered very little power of resistance. I shall limit myself in this paper to the narration of six cases.

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*Read before the Metropolitan Medical Society.

Case I.—A child four years of age was seen in consultation with Dr. Koplik. This child was just recovering from an attack or scarlet fever. It was during the third week that a spontaneous perforation had taken place in the drum of the left ear, followed by a slight discharge. At the end of the fourth week, there was a sudden rise of temperature, with vomiting, and nothing to account for this change except the ear. I was asked to see the child and we at once found sufficient in the ear to explain the change. A pale, anemic looking child, very much emaciated, and who appeared to be suffering a great deal of pain, judging from the anxious expression on its face and the constant moaning. Its temperature taken in the rectum at the time was 104°. There was just a trace of edema over the mastoid portion of the temporal bone. In regard to tenderness on pressure, it was a very difficult matter to decide this point, as the child resisted any manipulation whatever. It appeared at times, however, to be especially sensitive over the region of the antrum. Examination of the ear showed the following: The tympanic membrane was reddened, swollen, and bulging to such a degree that its distinctive marks, such as the handle of the hammer, the short process, and the sharp outline between itself and the external auditory meatus were entirely obliterated. Especially prominent was this bulging in the upper and posterior quadrant. In regard to the diagnosis, I felt reasonably sure to assume that, in addition to the purulent inflammation of the middle ear, there was also an empyema of the antrum, as both the picture on the drum and the excessive tenderness over that part of the bone demonstrated. How severely the mastoid region was involved was a question which I decided could best be solved by measures which I proposed we should follow in the treatment. We know perfectly well that high temperature in these cases can be produced by a toxemia. If this is the case, then a thorough cleansing and drainage of these parts should at once have a decided influence upon this temperature. Especially in children can such drainage be carried out. In the newly born the antrum is the only pneumatic space present in the mastoid bone, situated behind the tympanum, and, what I wish to lay special emphasis upon, at a higher level. *A cellular mastoid at this time does not exist.* These cells in the mostoid do not develop until the period between the second and third years (Bezoldt). According to Schwartze and Eyesell, these cells, when they do develop, are arranged in a typical manner radiating towards the antrum. This arrangement in the adult is seldom recognizable, partly through the formation of new osseous septa, and partly through the disappearance of those already formed. The above arrangement of these cells in the mastoids of children is a very advantageous one, as one can at once understand how materially this will assist in the drainage of this part. The treatment carried out in this case was the following:

The external auditory canal was thoroughly cleansed and an incision was made extending through the posterior superior portion of the canal, posterior superior and inferior quadrant of the drum, and the secretion carefully wiped out. This was immediately followed by a thorough politzeration and aspiration of the middle ear. More secretion appeared in the canal; was wiped away and the following dressing was now applied: A piece of strip iodoform gauze, one-half of an inch wide, dipped into a ten per cent. solution of liquor Burowii (an aqueous solution of acetate of lead and alum) was placed in the canal. An occlusive external dressing, wet with the same solution, was placed over the ear and a bandage applied. The child slept well that evening. The next day the temperature was 99° and the child was in very much better spirits. The dressing was removed, the opening in the drum probed to prevent it from closing, the middle ear politzerized, and the same dressing applied. On the third day the patient was so well that the external dressings were discontinued. For certain reasons now it was not possible to see the child daily. The mother was instructed how to carefully wash out the secretion in the external canal. For this purpose a two per cent. solution of lysol was used. I wish to say right here, this is a procedure that I am not in favor of, as I invariably, when the treatment cannot be followed out by a competent nurse, personally irrigate or cleanse such ears only with cotton wrapped probes. For seven days this child did well, when there was a sudden rise of temperature, and I was asked to see the child again. The same condition was found as on the first occasion, due this time to the fact that the incision made a week ago had entirely closed. A paracentesis was made at once and the same treatment followed out as before, but now by the attending physician. In addition, some advice was given in regard to baths, fresh air, and good, wholesome food. The child now gradually improved, and after four weeks was entirely well.

Case II.—Referred to me by Dr. Heiman. A child 16 months of age, perfectly healthy in appearance, had suffered from an attack of bronchopneumonia two months previous to the time that I first saw it. Directly after its recovery from the above attack it developed an acute otitis media purulenta. It was placed under special care, but the ear did not seem to get well. After two months' treatment, the child began to suffer with pain over the antrum and mastoid on pressure, and, in addition, began to have slight evening rises of temperature. About this time I was asked to treat the child. On examination I found a tympanic membrane bulging over its posterior superior portion and directly below this part, situated in the posterior inferior quadrant, a nipple-shaped perforation close to the margin of the drum. The drum was reddened, but did not present that angry look which we find in the more acute condition. There was distinct tenderness over the mastoid, but especially over the antrum. The secretion had a slight odor. Temperature taken at my office was 100° by the rectum. The right ear revealed a retracted tympanic membrane, and when the pharynx was examined the cause was at once evident. Obstructing it was a large mass of adenoids. The question at once arose in regard to the treatment, whether it would be wise to open the antrum in this case, or attempt to pursue a conservative policy for a few days. As there was surely no urgent reason for operative interference, I pursued the following plan. I made a large incision through the posterior superior and inferior quadrants of the tympanic membrane, including the perforation in the incision, cleaned out that ear as thoroughly as I possibly could, and then placed upon it an occlusive wet dressing with gauze drain in the canal. This treatment of thorough cleansing and wet dressing was kept up for four days in succession. The temperature now being normal I at once removed the adenoids, and within three weeks the child had entirely recovered and the ear was practically well.

Case III.—A child 13 months of age, seen with Dr. Koplik in consultation. This child was just recovering from a mild attack of scarlet fever and suddenly developed a temperature of 105°. Dr. Koplik had already convinced himself that the temperature could not be accounted for in any other way except through the ear. This patient was extremely poorly nourished and with a most violent temper, so that only by main force was a most difficult examination made. In the canal of the right ear I found some discharge which had an extremely bad odor. The whole canal was narrowed and it was just barely possible by pushing the speculum in somewhat forcibly to get a view of the tympanic membrane. This was reddened and bulging, further I could determine nothing. The paracentesis was made under difficulties and the politzer applied, and the cleansing and dressing as in the previous case followed out. For three days I saw this child twice a day and renewed the dressings. I used the politzer each time and carefully cleansed the ear with cotton probes, until the temperature dropped to 99° and the child was feeling better, and appeared to be in excellent spirits. The parents who now wished to undertake the treatment were given this privilege, under protest, with the result that on the third day thereafter I had to reopen the drum, due to a premature closure, and a sudden rise of temperature to 105.2°. It took four days to bring the temperature down to normal, but there were still evening exacerbations to 100°. A second consultation was asked for with one of my colleagues, who advised operative interference, viz., opening the mastoid. I personally could not persuade myself to believe that there were any urgent indications for any such procedure. The small rise in temperature, in my mind, was simply due to a toxemia, due to the poor powers of resistance on the part of this little patient. I was very much averse to producing a still further tax upon this child, first, in the way of an operation, and, secondly, exposing a large, raw surface for the further absorption of toxic material. I was finally allowed to proceed with my plan of treatment, Dr. Koplik carefully looking after the constitutional condition of the child. This patient was dressed daily by myself for three consecutive weeks, and recovered completely in a period of eight weeks. The only additional treatment used besides the dressings and the politzer was aspiration with the Delsanche. I have found frequently that after the unsuccessful use of the politzer, the Delsanche will still succeed in bringing some secretion into the canal.

Case IV.—The brother of a physician had been suffering for some time from a catarrhal otitis media and developed suddenly an acute otitis media purulenta. I saw the patient in the second week of his attack, when he had already developed mastoid symptoms. The patient was not a robust individual. On examination he presented the following conditions: A chronic otitis media purulenta of about ten years' duration, with periods of quiescence, was present in the left ear. The tympanic membrane here showed a perforation high up posteriorly, just below the posterior fold and on the margin. The membrane was retracted and of a dirty grayish color. There was no tenderness on pressure over the mastoid, but some over the antrum. The discharge had a slight odor. The right ear was in an active state of inflammation. The tympanic membrane was bulging throughout its entire extent and reddened.

Between the posterior superior portion of the canal and the tympanic membrane no sharp, distinctive line could be discerned. At first no perforation could be seen, but with the help of a Siegel's speculum this was quickly found, posteriorly, just behind the short process of the hammer, and below the posterior fold. There was tenderness on pressure over the mastoid and over the antrum. The latter was exceedingly sensitive. The temperature taken by mouth in my office was 100°. The left ear was unimportant so far as urgent treatment was concerned, but there was no time for delay in regard to the right ear. A paracentesis was made, followed by politzeration and the use of Delsanche, with thorough cleansing, drainage, and the application of a wet, occlusive dressing. The patient was sent home and told to keep quiet for the rest of the day. The left ear was cleansed and the usual measures advised which are employed for these chronic conditions. After two weeks of daily dressings and cleansing the patient had improved to such an extent that I thought it wise on account of his poor general condition to send him off into the country. This had a most beneficial effect, not only on the right ear, but also on the left ear. After ten days he returned with his right ear well and his left ear very much improved. After two weeks more the left ear had again become quiescent, so that when I discharged the patient he was practically well.

Case V.—The patient, M. N., was referred to me by Dr. B. Sachs. For two months he had been suffering with pain and profuse discharge from his right ear. About the middle of September, the pain had become severe and extended over the right side of the head. At the time of the examination, which took place on September 29, it was impossible for him to extend, flex, or rotate the head without excruciating pain. Even the attempt to open his mouth gave him severe pain over the temporomaxillary articulation. There was no tenderness to pressure over the lower portion of the mastoid, but as one approached the region of the antrum and the root of the zygomatic process, there was distinct tenderness. The canal was filled with a bad smelling secretion, which, after being wiped away, revealed a tympanic membrane that was bulging very markedly over the anterior and posterior superior portions. Close to the short process of the hammer and above it was a nipple-shaped perforation. There was no edema over the mastoid or within the canal. The temperature taken at my office was 101.2°; the pulse ranged between 84 and 100, and was irregular. The patient was a poorly nourished, anemic looking individual, and very much depressed; the latter condition due to the fact that he had been told that he was a very sick man, and that only an immediate operation might save his life.

An examination of the optic discs and bloodvessels proved negative. The pain produced by the movements of the head were purely muscular. It was aggravated only by muscular contraction, not at all by pressure upon the muscle. There was an absence of the painful pressure points, so characteristic of neuralgia, and not the slightest paralysis or contracture so conspicuous in neuritis. There was simply a stiffness of the head. The pain over the temporomaxillary articulation is not at all uncommon in a great many cases, when there is a large cell in the root of the zygomatic process which communicates freely with the antrum. In these cases when an empyema exists within the antrum, it is apt to spread very rapidly towards the root of the zygomatic process. The diagnosis arrived at in this case was an otitis media purulenta, complicated by an empyema of the antrum.

In regard to the treatment, my plan of procedure was as follows: As all the symptoms pointed to a lack of proper drainage, I was willing to allow this patient forty-eight hours more to respond to the following measures. The usual incision, politzer aspiration, cleansing, drain and dressing as in the above cases was carried out. Salol, 5 grains, every three hours was given for his rheumatic pains. He was sent home with instructions to keep absolutely quiet, and, if there was no temperature, to return to my office on the next day. On the following day his condition had very much improved, and within thirty-six hours from the time of the paracentesis, an operation was no longer considered necessary. After the third day the patient was advised to spend the greater part of the day out of doors, salol to be taken three times daily, good, nourishing food, with the addition of a tonic of iron, was prescribed, and after two weeks the ear had ceased to discharge.

Case VI.—A child of two years of age was referred to me by Dr. Waller. This little patient, after an attack of bronchopneumonia at the age of eleven months, suffered from a recurrent acute otitis media purulenta, which perforated the drum of its own accord each time, and after the third attack refused to get well. After four weeks of constant discharge, and the sudden appearance of temperature and pain over the mastoid region, the child at the same time becoming very fretful and looking poorly, I was asked to see him. The temperature taken at my office was 100.4°. On the right side, over the mastoid and antral regions there was distinct tenderness to pressure. The drum was swollen, reddened and bulging very markedly, probably a little more over the posterior superior quadrant than in the other portions. On the left side the drum was also reddened and bulging, but there was no tenderness to pressure over the mastoid or antral regions.

In regard to the diagnosis in this case, on the right side we undoubtedly had to deal with an acute otitis media purulenta and empyema of the antrum, together with a stagnation of the secretion due to the small perforation. On the left side, there was a beginning acute otitis media. Although I understand that this child had had its hypertrophied pharyngeal tonsils removed twice, the nasopharynx again revealed a soft mass still present in this region. The child was sent home, and that same afternoon, under anesthesia, the adenoids were removed, a paracentesis was done on both drums, and the usual treatment as above described was carried out with especial care on the right side. The temperature rose to 101.5° that same evening, but on the following morning dropped to normal. There was a slight evening rise to 99.8° for three consecutive days. The tenderness to pressure began to diminish after the third day, and at the end of ten days disappeared entirely. After three weeks the right ear ceased to discharge. The left ear recovered ten days after the removal of the adenoids.

Thus I might go on relating the histories of other individual cases, but I deem the above number sufficient for my purpose. I have seen an adequate number in my private practice and in my clinic at St. Luke's Hospital to convince me that more conservatism is allowable in these cases than we suspect.

In regard to the treatment, I wish to emphasize one fact in particular, viz., that I have not allowed myself to be influenced by either the etiology or the bacteriological findings, so far as operative procedures are concerned.

The presence of streptococcus undoubtedly means a severe infection. It does not mean, however, an immediate operation. Such patients will have their strength taxed to their very utmost. In these cases the most rigid cleansing, drainage, and constitutional support will be demanded of us. Simply because a patient has been suffering from an acute otitis media purulenta for two weeks, and suddenly develops a temperature of 104°, with mastoid symptoms and the presence of the above bacteriological findings, would not persuade me to adopt at once radical measures. I should certainly, first of all, employ the conservative treatment, and if within thirty-six hours there was no *decided improvement*, then there should no longer be any hesitation. If the improvement is only temporary, and there is no ascertainable reason for a second exacerbation, then, again, operation should be advised. In simple and acute cases, with mastoid complications, I prefer to wait from four to six days before advising operative interference, at all times bearing in mind that urgent symptoms would at once call for a radical operation.

Considering for a moment the plan of the above treatment in detail, it will be noticed that the primary object of everything that is done is for the purpose of accomplishing a thorough drainage.

First of all, in regard to the incision. This is made with a sickle-shaped knife, which allows a liberal incision to be executed rapidly. I prefer it to the straight knife and the lance needle, which I would not use under any circumstances. This incision must extend through the posterior superior portion of the canal and throughout the entire posterior portion of the drum. I at once follow this with the politzer and blow out all pent-up secretion in the tube and tympanic cavity. Remember that this ear is in a state of acute inflammation, that the mucous membrane of the Eustachian tube, middle ear, antrum, and undoubtedly that of the greater part of the mastoid cells are, more or less, in a state of tumefaction, and that the point of least resistance is the opening in the drum. That a current of air directed through the nose, Eustachian tube, and middle ear would certainly take this direction of least resistance, and pass into the external auditory meatus. That this does so, together with varying quantities of fluid secretion, is without doubt. You have only to employ this measure once to convince yourselves. To blow secretion from the throat of such a patient into his middle ear, through a tube which is already partially closed on account of the swollen mucous membrane, unless undue force is used, is a statement which I most severely question. To blow it into the mastoid cells, when there is a large opening in the drum, and at the same time remembering that these cells are probably shut off from communication by a swollen mucous membrane, I am unwilling to believe.

I dwell upon these last two statements because you will be warned on all sides against using a politzer in acute affections of this kind, as you are liable to infect the middle ear with secretion from the throat, or blow the secretion into the mastoid cells. If the politzer is unsatisfactory in this respect, I make use either of a Siegle's speculum or the Delsanche instrument to aspirate the secretion. Remember, I am referring to protracted cases, where you would always expect to find secretion. It takes from twenty-four to thirty-six hours in primary acute cases for the secretion to form. The secretion is now most carefully wiped out with absorbent cotton wound on probes until the ear is as clean as it is possible to make it. As a drain, and at the same time to exert a beneficial influence upon the edema within the middle ear and surrounding parts, I place a piece of strip iodoform gauze wet in a 10 per cent. solution of Liquo Burowii, and over the entire ear and surrounding parts, an occlusive wet dressing of the same solution. This treatment is continued daily until the acute symptoms have passed off, when the wet dressings are left aside, and simple cleansing measures are carried out. It is very often necessary to probe the opening in order to keep it from closing too early.

Now, I do not wish to claim that this treatment is so ideal that every case will respond to it. I am still very far from any such idea, but what I do wish to emphasize, is that we should hesitate advising radical operative procedures, before we have convinced ourselves that the symptoms present are urgent enough to warrant such interference. If the opportunity is given to a competent man to watch and handle such cases daily, it is hardly possible that he will overstep the danger line of conservatism. In a great many cases the cause of our failure with the conservative method lies in the fact that we pay too much attention to the local treatment, and very little, if any at all, to the constitutional treatment. If we would only stop and think a moment, it would be seen that most of these protracted and severe cases come on in patients after infectious and exhausting diseases. These have already taxed the patients to their utmost, and placed them in our hands when there was very little recuperative power left. A great deal can be done, however, for such patients, by means of good hygienic treatment—fresh air and sunshine, and plenty of it; good, wholesome food, and a proper regulation of baths. In the way of tonic treatment, iron and cod-liver oil are of especial value. In rheumatic cases, salol will prove very beneficial.

In our eagerness to prevent our patients from approaching the danger line, we have slighted our conservative principles, and are in danger of becoming too radical. Otology has advanced to such a degree, that to-day the principle, "operate one case too many rather than one case too few," is no longer tenable. When the privilege is accorded you to observe carefully your cases, you will certainly uphold your good surgical reputation just as much through conservatism as through radical measures.

A MODIFICATION OF THE HELLER TEST FOR ALBUMIN IN THE URINE.

By ABBOTT SMITH PAYN, M.D.,

NEW YORK.

The object of the Heller test is to precipitate albumin in a suspected urine by the contact of the urine and nitric acid. As is well known, the test is performed by placing a small quantity of clear, colorless nitric acid in a test tube and overlaying the acid with the urine. This is accomplished by inclining the tube and allowing the urine, from a pipette, to run slowly down onto the acid. At the line of contact, if albumin be present, there may appear a white line or zone.

There are times, especially in the event of very small quantities of albumin, when this cold contact test gives a negative result, although a positive reaction may be obtained in the same urine with the potassium-ferrocyanide test. This discrepancy in the cold Heller is overcome by the use of the modification to be described presently.

It is important that the urine be perfectly clear before attempting the Heller, less so the modification. Filtration may clarify the urine if the turbidity be due to mixed urates, crystals of urea nitrate, or earthy phosphates, and to a less degree or not at all if the turbidity results from the presence of mucus, pus, fat, or bacteria. Heat in most instances will dissipate the urates and phosphates if amorphous. The other ingredients are either not affected by it or heat increases the turbidity. Resins are dissolved by the addition of a few drops of alcohol. Resins, notably copaiba, when ingested cause the formation of a zone at the contact in the Heller test; this is a dirty yellow. A drop or so of alcohol to the urine will dissolve the resin. It is of interest to note that if albumin be present the alcohol will aid in its precipitation. The zone of albumin is always white. A violet line at the contact is due to decomposed indican. A reddish zone indicates an excess of uric acid, and an olive zone an excess of bile. Above the contact—in the urine—a haziness may be noted. This is due to mixed urates, phosphates, crystals of urea nitrate, mucus, or bacteria.

It is at this point that the modification of the Heller test is of twofold advantage. It may be performed thus: Place the inclined tube—which contains the Heller as described above—in a low flame and heat the urine; urine only, not the acid, just short of ebullition, that is to a single bubble, care being taken not to disturb the contact. Set aside for a few moments. Examine by placing the tube against a dark background, and it will be noted that the urine is not only clarified, especially if the turbidity was due to the urates or phosphates, which is usually the case, but at the line of contact there will be found precipitated small quantities of albumin not apparent when the test is performed cold.

545 West One Hundred and Forty-eighth Street.

Pneumonia from the Practitioner's Standpoint.—Wm. E. Anderson believes that the percentage of deaths from pneumonia is much larger than it should be. The strongest point in the treatment of this disease, he declares, may be termed individualization. He generally uses strychnine, and has never had any occasion to regret it. It has a good effect on both the heart and nervous system. He also uses in nearly every case quinine, from 5 to 60 grains a day. When the pulse indicates its use, digitalis should be given. The heart should be fortified from the beginning, and peripheral circulation should be encouraged. In cases of much consolidation and slow resolution, a cantharidal plaster is of great use. The patient should be well sustained by good concentrated liquid nourishment, and in the later stages alcohol, whiskey or brandy, when needed, should be given. The writer believes that alcohol is first a stimulant, and afterwards a sedative. When the respiration gets much above 40, it is well to use oxygen inhalation. Plenty of pure water should be given, as this is most important. As much salt in the food as can be relished is very useful. In nearly all cases of pneumonia the deficiency of chlorides in the urine may be noted. The writer has treated several hundred cases of pneumonia, and has lost only two cases. One of these patients developed a large abscess of the lung, and in the other tuberculosis followed rapidly upon pneumonia, or probably existed prior thereto. The writer urges the careful study of the conditions of each case, and the application of common-sense principles. He believes if more attention were given to the patient and less to the theory of the disease, the death rate would be greatly diminished.—*Virginia Medical Semi-Monthly.*

The Sterility of the Skin.—Klemm, in attempting to analyze the factors concerned in the production of the inexplicable stitch abscesses and other infections which from time to time occur in clean wounds, comes to the conclusion that air infection hardly requires consideration in this connection. The risk of contact infection also, produced through the hands of the surgeon or his assistants, may be reduced to an unimportant degree through careful methods of hand disinfection. It is the skin of the patient that is the weak point of modern surgery, as we have no means at our disposal for rendering the operative field entirely germ free. Germs transported into the wound from the surgeon's hand or from other sources must first adapt themselves to the new environment, and many of them perish in the attempt; but the autocthonous organisms deep in the lower layers of the skin are only awaiting an opportunity to develop under familiar conditions. Of forty sutures extracted from wounds under aseptic precautions, that had run an aseptic course, not a single one was found sterile, showing that whether infection appears or not is largely a matter of individual powers of resistance of the tissues. The author believes that we have gone as far in this direction as is possible, and that even after all precautions have been taken there will always be some chance of a wound doing badly.—*Deutsche Zeitschrift für Chirurgie*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M. D., EDITOR.

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THE INFLUENCE OF HABITATION ON TUBERCULOSIS.

DR. SAMUEL BERNHEIM, writing in the *Revue Internationale de la Tuberculose* for November last, subjects the importance of the house factor in the spread of tuberculosis to a searching examination. He concludes with Brouardel, that "the house is the foe; the unsanitary lodging." The article is unfortunately too long for us to give more than a brief outline, but it is one which will repay reading in full. Bernheim marshals a series of the most reliable statistics to prove his conclusion. The studies of Lancereaux on the geographical distribution of tuberculosis show that it is unknown among savages. It is, in fact, a disease of civilization, or as Hauser of Madrid says, it is a social disease, and one that society alone can eradicate, by subjecting its members to the laws of individual hygienic life. The movement city-ward, so characteristic of modern civilization, has created veritable foci of tuberculosis. Thus while of 300 immigrants from the provinces into Paris who developed tuberculosis, only 15 (or 5 per cent.) were sick previous to their arrival in the city, Launois and Bourgeois show from a quarter century's records at the Hôpital Tenon, that tuberculosis constitutes 46.7 per cent. of all cases on the medical side, and that two-thirds of the cases occur in immigrants. Again the prevalence of the disease in cities may be inferred from Letulle's record of 189 autopsies for non-tuberculous affections, which yielded: Exempt from all tuberculous lesions, 79; latent or cured tuberculosis of the respiratory passages, 92; suspected cases, 18. Also the statistics cited by the author prove that the disease is more prevalent in the larger than in the smaller cities. What factors determine the distribution of the disease within the cities themselves? Of these all that group of influences which go to make up pauperdom are the most important. For example, the amount of annual income exerts a marked influence. Thus in Hamburg, the deaths (referred to 10,000 of the population) are: For annual incomes over 3,500 Marks, 10.7; 3,500 to 2,000 M., 20.1; 2,000-1,200 M., 26.4; less than 1,200 M., 29.3; less than 900 M. (estimated), 60. But of all the influences comprised in this group, overcrowding plays certainly the chief rôle. Thus in Budapest, the mortality figures run: With 1 to 2 persons in a room, 20; 3 to 5 persons, 29; 6 to 10, 32; and above 10, 79. The better districts in Marseilles show a rate of 20 per 1,000, as against 46 for the worse. In Vienna in the districts where 9 per cent. of the lodgings are crowded, the rate is 25 per 1,000, whereas in those in which only 1 to 2 per cent. are crowded, it is only 17.22 per cent. In the Duchy of Baden, Kugler found in 1890, that where 1,000 persons inhabited 845 rooms, the mortality was 2.29; while with 745 rooms it was 2.66; with 645 rooms, 3.10; and with 547 rooms, 2.30. For the city of Baden, given 800 rooms per 1,000 persons, the mortality was 2.20; with 500 rooms, 3.03.

Moreover, in these pest spots cases of tuberculosis do not occur isolated, and one can be sure that in an undisinfected room or house where a tuberculous patient has lived or died other cases will develop. Thus Biggs and Meyer have shown that in the poorer districts of New York cases follow on one another rapidly. In certain houses with 28 to 36 persons, as many as 9 to 12 cases have occurred in three years. And in one district, 10.5 per cent. of the houses have yielded 55.8 per cent. of all the cases of tuberculosis. In Bernheim's own investigations into the histories of 340 cases in previously powerful and robust persons (all alcoholics and hereditarily predisposed persons being excluded and only cases being taken in which no other cause than direct acquisition could be supposed), the lodging was incriminated 124 times; that is, it was known to have formerly harbored tuberculous subjects. One anterior contagion was demonstrated 99 times; two, 14 times; and three, 11 times. Also a number of instructive instances are cited, which are with difficulty explicable on any other assumption than that the lodging was responsible. For example, every one of a family of eleven persons coming from the provinces contracted tuberculosis after living in a lodging in which a tuberculous patient had died. The lodging had not been disinfected.

The danger may last several months or several years. Koch found dried tuberculous matter still virulent after six to eight weeks. Also Galtier had a similar result with such matter dried and exposed to temperatures below 30° F. And Cadiac and Malet found the bacilli to retain their virulence even after 100 days. On the other hand Straus has destroyed them by half an hour's exposure to June sunlight.

The author then analyzes the other factors which go to make up the sanitariness or unsanitariness of the lodging; the amount of floor space, of cubic space, the number of windows, etc., and shows that each of these is faithfully reflected in the cold, unsympathetic figures. Like the mills of the gods, though slowly, they grind exceeding small. Into all these details, however, we cannot follow him.

The measures found necessary, in the light of this study, are then discussed. What can be effected in the way of remedying the condition of the habitation is shown by the general reduction in England of the mortality from 23 to 18 in consequence of the adoption of a hygienic sanitary code and the enforcing of severe sanitary police regulations. In Edinburgh the mortality of 25.8 dropped to 18.8 after the prosecution of important works of sanitation. The only remedy for these conditions then lies in a thorough sanitary surveillance by competent medical authority, of all lodgings, with plenary powers to require the necessary remodeling (and if that will not suffice the demolition) of the premises. Tuberculosis should be classed among the diseases whose report to the sanitary authorities is obligatory, and the disinfection of all lodgings occupied by such cases should be done by those authorities. Tuberculosis being a contagious disease, every patient affected with it should have a bed to himself, and where in family life this is not possible, he should be sent to a hospital. The reports on the sanitariness of lodgings should be open to the public. These measures in their entirety constitute, Bernheim holds, the best means for the suppression of the disease.

FIRST AID IN NAVAL WARFARE.

In the *Journal of the Association of Military Surgeons* for March, Dr. John Cropper Wise writes, or rather reviews recent literature, on this subject. Three articles dealing with the matter have been recently written by officers of the English, French, and Spanish services respectively. The important questions at issue, according to Dr. Wise, are: (1) The location of dressing stations; (2) the station and duties of medical officers during an engagement; (3) emergency dressing.

Dr. Juán Redondo of the Spanish navy says that in regard to dressing stations, the planning of places suitable for the wounded has been unjustifiably disregarded. The essential conditions of a dressing station he states as follows: (1) It should be such a point as might be called strategic, that the wounded may be brought to it without much difficulty; (2) it should be protected from the enemy's fire; (3) it should have direct communication of its own with the deck and batteries. He recommends two dressing stations, one forward and the other aft, and considers that these stations are the proper post for the medical officers during battle.

Referring to the first aid package, Dr. Redondo is of the opinion that it is unquestionably of great use in land battles, but has comparatively little value in warfare at sea, owing to the severe nature of the injuries which the men do not possess the knowledge to dress.

Dr. De Forges of the French naval service says that there are no *postes de blessés,* properly speaking (on the *Pascal,* his ship), because of lack of space under the protective deck and also on account of the great difficulty of access. "What then will become of the wounded during the combat? They will be laid aside by their comrades, in such manner as not to interfere with the fire of the guns or of those serving them." As to the station of the medical officers, the same writer holds the view that the surgeon should remain under protection during fire and should do nothing until after the action. He also states with emphasis that relief should be attended to solely by the medical officers.

Dr. Randall of the British naval service expresses opinions in direct opposition to those of the French and Spanish medical officers. He says that in the fighting line only first aid should be rendered the wounded, and for this purpose dressing stations should be established where possible and convenient. The medical officer and his assistants, he says, should be free to move about the ship, as expeditiously as they can, and wherever they are most urgently needed, as for instance, in a casemate wrecked by a shell.

Dr. Wise is distinctively of the opinion that the French and Spanish views that the medical officers should remain under protection during an action and not attempt to attend to the wounded until after the fight is over are unwise in many ways. Not to treat the wounded during a sea combat would be to deny the very object of a medical department's existence, and, furthermore, the effect on the morale of the fighters would be bad.

Toxicosis Resulting from the Modern Cold Storage Methods.

A paper on the above subject was read by Dr. M. Cavana at the fourteenth annual meeting of the New York and New England Association of Railway Surgeons, held in New York City, November 17 and 18, 1904. Poisoning by means of food is frequent nowadays, owing to the manner in which adulteration is carried on, and to the methods used in preserving food products. Dr. Cavana pointed out that in spite of the increasing number of cases of sudden and violent attacks of illness resulting from food poisons, little or nothing has been done either by our legislatures or by the medical profession to protect the people. The most frequently recognized of the toxinfections is that form due to food infection and is generally the result of eating such flesh food products as have become partially decomposed from long periods of storing in the modern cold storage plants. The author showed that 80 per cent. of the cases of exogenous toxicosis in New York State resulted from poultry foods alone, in his opinion due principally to the filthy and abominable practice of cold storage companies of storing poultry for months, and even years, in its undrawn or undressed state. Attention is drawn to the reports of the New York State Board of Health which show that eight thousand deaths occur from diarrhea in a single year. The large majority of these fatal cases, Dr. Cavana asserts, are due to food toxicosis. Finally, the writer declares that the time is ripe for radical action in this important field, and the medical profession should exert itself to secure legislation which would go far towards putting an end to this form of exogenous toxicosis.

Investigations Into the Plague.

In the *Journal* of the Royal Army Medical Corps for February, 1905, Dr. T. P. Smith, reviewing some current medical literature, refers to a few remarks on the resistance of the plague bacillus, its presence in the blood of patients, and the part played by fleas, which were published by M. Uriarte, director of the Epidemiological Laboratory at Buenos Ayres, in *Le Caducée* of October 1, 1904. M. Uriarte had left untouched seventeen cultures of the plague bacillus, made in October, November, and December, 1899, the object being to estimate the duration of the vitality and virulence of the microbe. These cultures were used on February 28, 1904, and gave fourteen positive results. The most interesting of the investigations were those in which attempts were made to discover whether fleas of the rat could bite human beings. Of the insects found on rodents caught near a plague focus, eighty-two belonged to the species *Pulex irritans,* and four to *P. serraticeps.* Men were bitten by some of both kinds, even when the insects were not fasting. The determination of the species showed that fleas found on rats do not always belong to the species that usually occur on these rodents. Further experiments, like those previously published, show that fleas of the species *P. irritans,* caught on rats suffering from plague, by simply passing over the surface of jelly, cause the appearance of many colonies of the specific microbes, which are also to be found in the intestines of the insects.

THE DEFENSE AGAINST DIPHTHERIA.

IN the weekly bulletin of the Chicago Health Department for March 25, the statement is made that "no child dies of diphtheria to whom 3,000 units of antitoxin are administered within the first forty-eight hours of the attack—repeated, of course, if necessary." Ten years ago the antitoxin treatment of diphtheria was begun by the Department. During the previous ten years ended December 31, 1894, there had been 13,566 deaths from diphtheria and croup reported to the Bureau of Vital Statistics, a yearly average of 1,356, and a proportion of 13.53 deaths in every ten thousand of the population. During the ten years ended December 31, 1904, there were only 8,129 such deaths reported, a yearly average of 812 and a proportion of less than 5 (4.88) in every ten thousand of the population. These figures show a reduction of 5,437 in the actual number of diphtheria and croup deaths since the Department began the antitoxin treatment. They show a relative reduction, in proportion to increased population, of nearly 64 per cent.—63.9. Which is to say that, if the ravages of diphtheria had not been checked by the use of antitoxin during the last decennium, there would have been 22,538 deaths from this former scourge of the nursery, instead of the 8,129 that did actually occur—a probable saving of 14,409 lives.

News of the Week.

Cerebrospinal Meningitis.—There were 131 deaths from cerebrospinal meningitis reported in this city during the week ending April 1, an increase of 46 over the total for the previous week. In Cleveland 35 deaths have occurred from this cause, and the health authorities are beginning to be seriously alarmed at the prospect of an epidemic. The total number of deaths from the disease in Boston is so far 25 as against 14 for the corresponding period last year, and 37 for the entire year of 1904. Middletown, N. Y., and Lowell, Mass., are also showing numerous cases. A despatch to *The Sun*, dated April 2, states that an epidemic of cerebrospinal meningitis is causing many deaths in Silesia. In the Kattowitz district 450 cases have been reported, 37 per cent. of which have proved fatal. A number of cases are reported at Konitz and Czersk, and the residents of these towns are becoming alarmed. Many have already left Czersk. The government has now forbidden migration from the infected districts. Some cases have also occurred in Berlin.

Typhoid Fever in Philadelphia.—During the month of March 1,054 cases of typhoid fever, with 91 deaths, were reported to the health authorities in Philadelphia. In February there were 600 cases. The last week of March showed a falling off of seventy-five cases, the total being 231 new cases, as compared with 306 returned the week before. There was an increase of more than 100 per cent. of deaths from the fever, however, thirty-two dying, as compared with fifteen for the week before. The fever is worst in the northeast section of the city, which is getting filtered water, and is less prevalent in the wards receiving unfiltered Schuylkill.

Low Death Rate at Panama.—According to a communication received by the War Department from Governor Davis, sanitary conditions in the canal zone are steadily improving. During the month of February the number of sick in hospital was less than 2 per cent., and the death rate was less than one-fifth of that suffered by the French in 1881. The last case of yellow fever to occur in Panama was on March 8, and the last case in Colon on March 18. The total number of cases among the entire population on the isthmus during January was 19; during February there were 13, and during March, 9. The present sanitary force consists of over 1,000 employees, costing over $25,000 monthly.

Investigating an Epidemic in Hawaii.—The inter-island steamship *Likelike*, chartered by the territorial government, has left Honolulu for Pelekunu valley, on Moloki, carrying Army Surgeon Yost, eight men of the hospital corps, and two nurses. It is a relief expedition, sent out on account of reports of an epidemic in the form of an unknown sickness believed to be typhoid fever. Eight deaths have already taken place. There is no doctor on the island, outside of the practically inaccessible leper settlement.

Complaint of Neglect of Duty by Health Boards.—The State Board of Health has made complaint that the local boards are very lax in the matter of filing birth certificates and the registration of marriages. Section 22 of the public health law makes it mandatory on the part of all local boards of health to supervise and make complete the registration of all births, marriages, and deaths occurring in the municipality, and to forward the certificates promptly to the Bureau of Vital Statistics. The registration of deaths is considered nearly complete, but the others certainly are not.

Health Department Census.—One hundred and fifty inspectors have been appointed to take a new census of the city for use of the Health Department. The inspectors will receive $100 a month. The census will cost approximately $35,000, which has already been appropriated. While the census will be complete for the city, it will cover health and sanitary conditions especially, and the congested tenement districts of the city will receive the most careful attention.

Medical Association of the Greater City of New York.—At the meeting of this society on April 10, there will be a symposium on immunity and serum therapy, papers being read by Drs. H. K. Dunham of the Carnegie Institute, Eugene L. Opie of the Rockefeller Institute, H. T. Marshall of the Johns Hopkins Hospital, H. D. Pease of the New York State Board of Health, and H. W. Berg, of the Willard Parker Hospital, New York.

Parasitic Larvæ in the Human Tissues.—Mr. F. L. Washburn of St. Anthony Park, Minn., State entomologist, writes that as the fact that the larvæ of dipterous insects, "maggots" or "bots," are sometimes found in human subjects is one of interest, not only to physicians, but to entomologists, he would be grateful, should any such case come to any physician's attention, if the latter would send him specimens of the maggots *alive*, in moist cotton or in earth, that they may be reared and their identity established beyond a doubt. In return, Dr. Washburn will be glad to give any information which the possession of the parasites in the Experiment Station laboratory may produce. It is sometimes very difficult, and even impossible to determine the genus and species accurately from structural characters of larvæ of flies, hence the necessity of procuring the same alive and rearing them to the adult stage.

The Fiftieth Anniversary of a Manufacturing Drug House.—The house of Frederick Stearns & Co. of Detroit was established fifty years ago by Mr. Frederick Stearns, who removed to that city from Buffalo in 1855. He opened a drug store there and constructed a laboratory in a small back room. In this laboratory, equipped with a cook-stove, he began the manufacture of a few pharmaceutical preparations, and gradually established a trade in the State. In 1882 the business was incorporated, and in 1887 Mr. Frederick Stearns, after a business life of over forty years, retired and was succeeded in the presidency of the company by his son, Mr. Frederick K. Stearns. The current issue of *New Idea* contains a history of the house and portraits of the founder and of the leading men of the company.

A Farewell Dinner to Dr. William Osler will be given at the Waldorf-Astoria in this city on the evening of May 2. Information regarding the same may be obtained by applying to Dr. James Tyson, chairman of the committee, 1506 Spruce Street, Philadelphia.

Healers' Bill Vetoed.—The Legislature of Nebraska passed a bill requiring all "healers" to take a four years' course in medicine and to pass the examinations required of regular physicians. The bill originally included Osteopaths and Christian Scientists, but a strong lobby forced the physicians to agree to amendments which exempted Osteopaths. The governor vetoed the bill on the ground that it was unconstitutional.

To Check the Spread of Consumption.—An ordinance passed by the Municipal Assembly of St. Louis provides measures to prevent the spread of consumption. Physicians hereafter will be required to notify the Health Commissioner of cases of consumption just as they are required to report all contagious diseases. Houses, however, will not be placarded, but the Health Department will supervise the control of consumptive patients, and in extreme cases have the power to isolate them.

Gift for a Day Nursery.—The Jewish Charitable and Educational Society of St. Louis will erect a building to be used for a day nursery and kindergarten for the poor children at a cost of $10,000, which sum has been donated by Mr. and Mrs. Elias Michael of St. Louis.

"Gaillard's Southern Medicine" is the name which has been adopted for the journal formed by the amalgamation of *Southern Medicine* and *Gaillard's Medical Journal.* Dr. William Edwards Fitch continues in editorial charge of the journal.

Resolution on Commissions.—At a recent meeting of the Chicago Medical Society, the following resolution was submitted to and adopted by the Council of that body: "It is derogatory to professional character for physicians to pay or offer to pay commissions to any person whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to solicit or to receive such commissions."

Contract Work Harmful.—At a meeting of the Northwest Branch of the Chicago Medical Society, recently held, the following resolutions were adopted: (1) That it be the sense of the Northwest Branch of the Chicago Medical Society that contract work is harmful to the best interests of our Society, and should be abolished; (2) that the minimum fee should be as follows: Visits, $1.50; office visits, $1.00; normal obstetrical case, $15.00; (3) that this Branch heartily endorses the establishment of a business bureau by the Chicago Medical Society.

Tennessee State Medical Association.—The seventy-second annual meeting of this association will be held at Nashville on April 11, 12, and 13, under the presidency of Dr. Paul F. Eve. The programme contains thirty-two titles of papers announced for this meeting, and in addition there will be a public discussion on the "Prophylaxis of Tuberculosi" on the evening of April 12. The secretary of the association is Dr. Deering J. Roberts of Nashville.

Defective Hygiene in the Spanish Army.—At the recent meeting of the Spanish Academy of Jurisprudence in Madrid, Dr. Canalejas, in his presidential address complained bitterly of the wretchedly defective army hygiene. He said that in Spain the mortality in the army was 11 per cent., while in France it was only 5 per cent. It was the inadequate sanitary arrangements, which Señor Canalejas himself saw in the Cuban hospitals, that were responsible for the terrible mortality in the Spanish-American War.

Herkimer County Medical Society.—At a meeting of this society Dr. W. B. De Garmo of New York read a paper on hernia, and the following officers were elected: *President,* Dr. Williams of Newport; *Vice-Presidents,* Dr. A. C. Douglas of Ilion and Drs. Ellis and Brainard of Little Falls; *Secretary,* Dr. Suiter of Herkimer; *Treasurer,* Dr. Graves of Herkimer.

Appropriation for City Hospitals.—The Board of Estimate has sanctioned an issue of $1,000,000 of bonds to be used by the Board of Health in improving the city hospitals. The board also voted $750,000 to improve the sanitary condition of Gowanus Canal, which has long been regarded as a menace to health. It will be deepened and new inlets provided so that fresh water will enter the canal twice daily.

Dr. Lucy A. Bannister who for four years has been superintendent of the Mills Training School for Male Nurses, at Bellevue Hospital, has resigned from this position in order to go into the practice of medicine in Philadelphia.

Clark County Medical Association.—At the recent meeting of this association, held at Kahoka, Ia., the following officers were elected: *President,* Dr. Dickson; *Vice-President,* Dr. Sisson; *Censor,* Dr. Shanks; *Secretary* and *Treasurer,* Dr. A. C. Bridges; *Counsellor,* Dr. F. B. Hiller.

University of Minnesota.—A new medical building is to be added to the equipment of the university at a cost of $100,000. Aside from the university medical department, the new building is to be a home for the state board of health, and a Pasteur institute.

The Society of Sanitary and Moral Prophylaxis will hold a meeting at the Academy of Medicine, on Friday evening, April 14. The society will adopt a constitution and by-laws, and papers on sexual hygiene and allied subjects will be read by Drs. John H. Elliott, Edward L. Keyes, and Prince A. Morrow, the Rev. Henry A. Brann, and Mr. Frank Moss. The papers will be discussed by members of the laity and of the medical profession.

Dr. Lewellys Franklin Barker, now head of the Department of Anatomy in the University of Chicago and Rush Medical College, was elected by the trustees of Johns Hopkins University, at a meeting held April 3, to the Professorship of Medicine, made vacant by the resignation of Dr. William Osler. At the same time Dr. William Sydney Thayer, Associate Professor of Medicine in Johns Hopkins, was elected Professor of Clinical Medicine.

Crawford County Medical Society.—The following officers were elected at the last meeting of this society: *President,* Dr. E. D. Helfrick of Galion; *Vice-President,* Dr. C. A. Marquart of Crestline; *Secretary,* Dr. Lewis Yeomans of Busyrus; *Treasurer,* Dr. Catherine Rayle of Galion; *Member of the Board of Censors,* Dr. J. F. Fitzsimmons of Busyrus.

Obituary Notes.—Dr. William Bodenhamer died at his home in New Rochelle, N. Y., on March 31, at the age of ninety-seven years. He was born in East Berlin, Pa., and was graduated in medicine from the now defunct Worthington Medical College, the medical department of Ohio University. He practised successfully in Paris and Louisville, Ky., and New Orleans, and come to New York in 1859. During his active medical life he was an authority on diseases of the rectum, and even after his retirement continued his studies in this department of surgery, and occasionally wrote on the subject for the medical journals.

Dr. Frank H. Rice died at his home in Passaic, N. J., on March 27, at the age of seventy-five years. He was a graduate of the Medical Department of the University of Vermont, in the class of 1855.

Dr. Richard H. Sullivan died at his home in Brooklyn, on March 27. He was born in Brooklyn and was graduated from the New York University Medical School in the class of 1883.

Dr. Willis P. Spring died at Minneapolis on March 23, at the age of fifty-one years. He was a graduate of the Harvard Medical School in 1879. He was formerly coroner of Hennepin County, Minn. He was an enthusiastic student and worker in electrotherapeutics and radiology.

Dr. John W. Gamwell of Pittsfield, Mass., died suddenly at Daytona, Fla., on March 26. He was born in Washington, Mass., in 1830, and was graduated from the Berkshire Medical College in 1852.

Dr. George F. Corse, died at his home in Baltimore on March 23, at the age of sixty-five years. He was a graduate of the University of Maryland Medical School in the class of 1864.

Dr. Gustavus A. Doren, superintendent of the Ohio Institution for Feeble-minded youths, died at Columbus, on March 23, after a short illness. He was a graduate of the Berkshire Medical College, Pittsfield, Mass., in the class of 1859, and had been superintendent of the institution for over forty years.

Dr. William H. Warder died at Philadelphia on March 28, at the age of seventy-two years. He was born at Russellville, Ky., and was graduated from the University of Nashville in 1859. He went to Philadelphia in 1864 as a Southern refugee, and became associated with Jefferson Medical College as an extramural teacher, giving instruction to private classes in surgery and obstetrics. He was one of the obstetricians to the Philadelphia Hospital from 1874 to 1881, and he was a member of numerous medical societies.

Dr. George F. Leick of Cleveland, Ohio, and for several years head of the City Department of Health, died March 31, aged forty-nine years. He was a graduate of the Cleveland Medical College in the class of 1885.

Dr. Charles Wright Fuller died in Washington, D. C., on March 22, at the age of fifty-four years. He was born in London County, Va., and was graduated in medicine from the University of Maryland in the class of 1876. He practised for sixteen years in Baltimore and then removed to Washington.

Dr. Thomas C. Dolan died in Detroit on March 21, of renal tuberculosis. He was graduated from the Detroit College of Medicine in the class of 1904 and had been in practise in Lima, Ohio, for a few months only before his health broke down.

Dr. Horace Wardner died at La Porte, Ind., on March 22. He was a graduate of Rush Medical College, Chicago, in 1856, and served in the medical department of the Union Army during the Civil War. He was well known as an alienist.

Correspondence.

SECOND ANNUAL MEETING OF THE PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

(From Our Special Correspondent.)

THE PHILIPPINES AS A PLACE OF RESIDENCE FOR THE WHITE MAN—MEDICAL PHASES OF IMMIGRATION LEGISLATION—DISPENSARY WORK IN MANILA—CONTROL OF TUBERCULOSIS.

Manila, P. I., March 4, 1905.

The second annual meeting of the Philippine Islands Medical Association, which began on the afternoon of March 1 at 4 P. M., was preceded by a function more or less social in character, which was held at the new government laboratory building on the evening of February 28. This building is now entirely completed and was thrown open on this occasion for the first time to the public for inspection. Fully a thousand persons were present, and for more than two hours many visitors thronged through the spacious corridors and the many different laboratories. The building was brilliantly lighted by electricity, which was made by the laboratory's own electric plant. At about 9:30 P. M. the visitors were requested to assemble in the library, and in the presence of the Governor General, the Hon. Dean C. Worcester, Secretary of the Interior and head of the Department which exercises jurisdiction over the Bureau of Government Laboratories, delivered a short address. He stated that much misinformation had been circulated with regard to the building, especially to the effect that the cost of the building had been an enormous drain upon the resources of the government, the statement being often heard that the building had cost a half million dollars or more. This was not true because the actual cost had been under $108,000. He said that the Islands might feel proud of such an institution, in which so many kinds of both practical and theoretical experiments might be carried on. The institution, he said, was the most complete that existed in the outlying possession of any country, and compared favorably with similar institutions in Europe or America. From a practical standpoint it was of the greatest economical value, because experience had demonstrated that until science had come to the rescue the white race had never been able to inhabit the tropics successfully, and that much more work was required in this direction so that the danger might be still further reduced.

The first session took place in the library of the government laboratory. The program included an address of welcome by Governor-General Wright, but owing to his receipt of an important cablegram from Washington shortly before the hour of meeting, this duty devolved upon Commissioner Worcester. The meeting was called to order by the president, Dr. John R. McDill. An opening prayer was offered by His Grace the Archbishop of Manila, the Most Reverend J. J. Harty. Mr. Worcester in his short address to the delegates extended them a warm welcome in behalf of the chief executive and the insular government. He stated further that he was somewhat out of his element because he could not lay claim to being a doctor of any description unless the intricacies confronting an official of the Department of Interior could be deemed sufficient warrant for the bestowal of such title upon him. He referred to the condition existing in these islands by saying that the government is at present employed in an experiment in colonizing, and that a great deal had been accomplished, especially with regard to health conditions, which had made it possible for the white man to live in the tropics with almost the same security as he inhabited the temperate zone. Particularly was this true if excesses were avoided and a clean and moral life followed. Statistics of Manila showed that the death rate among the white race was 9¾ per cent. per thousand, while that of the natives was 53 per cent. The comparison was not absolutely fair, however, because many white persons on becoming ill immediately leave for the mother country, and thus many of the deaths which should be registered here are recorded elsewhere. He spoke of the provinces and the extensive travels he had made in them. He was often impressed with the lack of medical attention and was often distressed to see persons dying of diseases which would have yielded readily to medical or surgical aid, had it but been at hand. He said that even in Manila 50 per cent. of the deaths which were recorded occurred without the sufferer having had medical attention for the preceding illness.

Mr. Worcester was followed by Dr. John R. McDill, who delivered the president's annual address. He said that the medical men who came to the Philippines with the Army were the ones who had laid the foundation for medical research in the Islands. Our experience had been that with the exception of some intestinal disorders which we are rapidly preventing and curing there was nothing unusual about the amount or kind of disease encountered, and that its treatment was as successful as anywhere when hospital care was available. For old people and children it was an earthly elysium. Pride in the achievements of our insular Board of Health was shared by the public and the profession alike. He regretted to state that while every endeavor had been made to get the cooperation and the participation of the native physicians in the meetings of the medical society, thus far the efforts had met with very limited success. The Filipino medical students have two striking characteristics: (1) their astonishing capacity to absorb and expound theory, and (2) that the abler members of the profession have always been among the foremost political leaders of their country. The time when we could expect their cooperation would perhaps come only when the generation which is now being educated came to the front. He said that there were only 360 licensed physicians in the Islands, and that 217 of these were in Manila. These figures meant that while Manila had one physician for every 1,013 inhabitants, in the provinces there was only one physician for every 51,786 persons, or in other words, one doctor for each 430 square miles of territory. The whole hope for the medical future then lay in the establishment of a first-class medical school where the Filipinos might be properly educated. After this address the meeting was adjourned.

At 4 P. M., March 2, the Association again came to order. A paper on beriberi by Erwin Baelz, Emeritus Professor of Medicine, University of Tokio, was read by title only. The presiding officer, Dr. McDill, explained that Professor Baelz was prevented from coming owing to his services being required by the Mikado, who was ill. He said, however, that the paper would be published in the proceedings of the society. The next paper, "The Medical Phases of the Immigration Legislation," was read by Victor G. Heiser, P. A. Surgeon Public Health and Marine Hospital Service, Chief Quarantine Officer for the Philippine Islands. He stated that it was his intention to deal only with the medical features of the law, but that a brief résumé of the legislation might prove of interest. The various acts from that of 1819 to 1903 were briefly enumerated. It was not until 1882, however, that the medical aspect of the question had received any attention. In the law of 1903, however, the subject was rather fully covered, so that now the causes of rejection for medical reasons could be divided into two great classes: (1) those which are absolutely excludable, and (2) those which are likely to cause the alien to become a public charge. Under the head of those being absolutely excludable, trachoma was the disease for which the greatest number of rejections took place. He stated at length why this so-called minor disease received so much attention. Among other things, he said that 15 per cent. of the blind in the public institutions of the United States were there on account of trachoma. He also quoted from a letter received from the Health Commissioner of New York, which showed conclusively that trachoma was a serious disease from many standpoints, not among the least of which was the economic side. He also defended the placing of cases of tuberculosis in which the tubercle bacillus could be found in the sputum on the excludable list. He said that it was very communicable, that many of the immigrants would soon become public charges, that the United States could hardly be considered a charitable institution for the afflicted of other nations, and that the introduction of every case added just one more center of infection. Under the second class of causes which could be admitted by furnishing bond or other form of guarantee, were diseases like valvular disease of the heart. Such cases usually occurred in laborers, and after the strenuous exertion which was required in America there soon occurred a rupture of compensation, with the result that the victim became a public charge for many years. In short, any disease or deformity which would be likely to affect the immigrant's ability to earn a living would result in some sort of a guarantee being required before landing could take place. Another important result of the inspection was the detection of acute cases like typhoid fever, pneumonia, fractures, and other afflictions which would yield readily to treatment. Such cases were placed in the hospitals until they had recovered, at the expense of the transportation company bringing them. This one item alone was a saving annually of about $20,000 for each 100,000 immigrants that arrived. Whatever might be said to the application of the immigration laws to the Philippines as a whole, it was generally admitted that the application of the medical features had resulted only in good. The natives are afflicted only to a very limited extent with trachoma, and to protect them from the virulent cases that occur among the immigrants that come to the Philippines was a great protection to them.

The next paper, "The Episcopal Dispensary and the Medical Care of the Indigent," was read by Dr. C. Radcliffe Johnson. He said that the diseases treated by him differed but little from those found among similar classes in the United States. The free medical attention was not nearly so much abused as in America. The greatest difficulty with which they had to contend was the fact that the native did not in most instances apply for treatment until the disease had progressed so far that relief was impossible. He thought that the large infant mortality was probably due to some extent to criminal abortion. He stated that they had many applications for abortifacients, and that much astonishment was expressed when they were not forthcoming.

The next paper was by D. M. Appel, Lieutenant-Colonel and Deputy Surgeon-General, U. S. Army, on "The Control of Tuberculosis." He treated the subject briefly and with particular regard to the disease as it is found in the Philippines. He thought the disease made more rapid progress here and more particularly in transients than in colder climates, but that it was not so prevalent as in the older and more civilized communities. Since the disease was due to lessened tissue resistance, such conditions as overcrowding, insufficient diet, poverty, etc., were the principal factors in its spread. The destruction of sputum was the best means of control. Lack of fresh air could not be ascribed as a cause because the natives nearly all lived in nipa houses and these it was impossible to close up in a manner so as to exclude the admission of air. Dr. Maximilian Herzog, in discussing the paper, stated that the two principal avenues of entrance were the alimentary and the respiratory tracts, and that therefore the best method of prevention was the destruction of sputum and the sterilization of milk—the former because it soon became dried, was pulverized, and blown about, and inhaled, and the second because it was taken raw, and was the food which was most likely to contain tubercle bacilli.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE GARCIA CELEBRATION—CLOSE OF DEBATE ON APPENDIX CASES—SCOTCH AND IRISH DIPLOMAS—VACCINATION AND GOVERNMENT—HOSPITALS AND COST OF MAINTENANCE—TROPICAL SCHOOL.

LONDON, March 17, 1905.

TO-DAY we are celebrating the centenary of Señor Garcia. At noon addresses of congratulation on his reaching his one hundredth year were presented. Orders from the King of Spain and the German Emperor were first handed to him. Then followed addresses from our Royal Society, to whom his invention of the laryngoscope was first communicated; then from various academies, universities, laryngoscopical, musical, and scientific associations. The presentation of his portrait, painted by J. Sargent, R.A., and subscribed for by admirers in all civilized countries, closed the morning celebration. In the afternoon there was an exhibition of specimens, etc., by the Laryngoscopical Society. It was announced that the King had conferred the Victoria Order on the celebrated centenarian. In the evening the inevitable dinner comes off.

At the Medico-Chirurgical Society Mr. Harrison Cripps resumed the adjourned debate on the post-operative history of appendix cases. He drew attention to a cause of certain cases which has heretofore escaped notice. This is a twisting of the mesenteric attachment similar to that met with in some cases in the pedicle of ovarian tumors. He exhibited a model made of india rubber tubing attached to a piece of wash-leather, to show how the twisting occurred. If the twist were below the appendix got tucked under the cecum; if above the cecum appeared superficially. This twisting explains the sudden attack in these severe cases and the distorted, bent, and sometimes gangrenous state of the appendix. He had on two occasions been able to demonstrate the twist when operating. Very soon the pedicle becomes disguised by inflammation and adhesions, and can only be made out by careful dissection. The pedicle is no doubt sometimes cut through under the impression that it is an old adhesion. As it is universally admitted that suppuration or sloughing adds enormously to the risk of operation, it should not be delayed. He endorsed the views of Mr. Pearce Gould.

Dr. S. West spoke as a physician. He referred to the time when typhlitis and perityphlitis were regarded as medical and about 72 per cent. recovered without operation. Some cases recurred and could be operated on during quiescence. With signs of suppuration there must be no delay.

Mr. Bruce Clarke thought that in acute cases fatal results were generally due to infection of the peritoneum. In these he would not attempt to find or, unless it was easily seen or felt, remove the appendix. An operation could be performed without too great risk when the peritoneum was not fouled. If this seemed likely, it was safer to be content with evacuating the pus. In 191 out of 200 cases he found the epithelium denuded from inside the appendix, leading to septic invasion. In a recurrent case with additional signs abdominal section revealed a remarkable condition, ileocolic intussusception and polypus at the end of the cecum.

Mr. Malcolm advocated early operations and spoke of some very insidious cases. He said a localized spontaneous gangrene in the appendix might cause a rupture, and referred to a case of Mr. Lockwood's in which such a patch was found with pus in the iliac fossa. Such a case demanded immediate operation as much as perforated gastric ulcer. But the diagnosis was so difficult that only a rule of early operations would save such cases.

Mr. F. C. Wallis would confine his remarks to two points not mentioned in the debate. One was the state of the omentum in acute cases. He had found it more than once infiltrated but not inflamed. It should be anchored or else removed, and he preferred the latter course. He described a case which led him to this practice. Three weeks after an operation for appendicitis the patient had signs of obstruction, and on abdominal section the omentum was found adherent to the small intestine in two places. His second point was a protest against letting the patient get up on the tenth or fourteenth day after excising the appendix.

Dr. Newton Pitt held that there has been a marked increase of appendicitis coinciding with that of influenza.

Mr. Mayo Robson sent a communication which was read by Mr. S. Paget. He held that with rigid asepsis the mortality should be nil in the quiescent stage, unless there were complications. Thrombosis might be due to keeping the patient too long in one position. He advocated separation of the muscles. He supported Mr. Pearce Gould's advocacy of early operation and removal of appendix when possible.

The President, Sir Douglas Powell, closed the three nights' important debate with some judicious observations on a few points brought out. He regretted Sir F. Treves was unable to be present and reply, and tendered the best thanks of the society to those who had taken part in the discussion, "which had been of an intensely interesting character."

Our Scotch and Irish brethren are again on the warpath. The Scottish diplomates have formed an association to enforce their rights to fill posts on hospital staffs in London. At their meeting there was much denunciation of the common regulation in London hospitals that the physicians and surgeons shall hold the diplomas of the London College. This of course renders Irish and Scotch graduates ineligible, but the assertion that the rules were made with that object is not correct, and nothing is to be gained by charging London men with selfishness and fear of competition on account of the regulation. The rule in fact comes down from the time when the qualifying bodies had territorial authority, and naturally candidates were required to possess the diplomas which were the only legitimate qualifications for practice. The abolition of territorial distinctions and the recognition of all the corporations as conferring equal rights to practice altered all this but did not lead hospital committees to revise their rules. The alleged exclusion of provincial qualifications is an accident, and the new association might very well appeal to the committees of hospitals to make a change, rather than spend their time in abuse and unjust charges. One of the speakers at the late meeting asked "Who keeps out the Scottish graduates?" and then roundly declared "They are the English diplomates and not the lay members of the hospital committees." The statement carries its own refutation to any one who knows anything about the matter, and will certainly do no good to the association. Nor is anything to be gained by comparisons of the standards of examination of the several colleges. One gentleman said as a teacher a man could pass the London College without dissecting a body. Certainly that is possible to some few men. As a teacher I have myself known of such a thing, but it is no more likely to occur at the London than at a Scotch college, and if such incidents are to be put forward as arguments, the retort will be that many a man having failed in London has taken train to Edinburgh and returned with a diploma. In the vast majority of cases a man qualifies where he was educated, and this resolves itself into the accident of residence. The first qualification he takes only certifies his fitness to practice, and it is nonsense to talk of the state being deprived of the gift of genius through this grievance of Scotch and Irish doctors. After all, the staffs of the London hospitals number but few in comparison with the mass of practitioners, and it would be impossible to find a post for every Scotch or Irish doctor who, having qualified at home, comes to London to try his fortune.

The Anti-Vaccination League held its annual meeting on Wednesday with a Lieutenant-General in the chair, and letters of sympathy were read from a duke, two earls, and two ladies. That does not seem a very powerful assembly, from a scientific or any other aspect, but it announced positively that sanitation is a true preventive of smallpox, and it was sure to abolish vaccination in time. As far as the present government is concerned, this may very well be; for the promise to introduce a revaccination bill has not only been broken up to the present, but we are now told there is no intention of doing so this session. A bill has also been introduced into the House of Commons, which has no chance of passing, but is merely a bid for the votes of the fanatics by this jelly-fish government.

Some curious statements have been circulating in the newspapers as to the expenditure in Scottish and English hospitals. Differences in diet, the price of food, and other points were raised. The superintendent of the Edinburgh Infirmary has compared the prices paid in that institution with those of the London Hospital, and reports that: Meat in 1904 cost a fraction over 6½d. per lb. for home fed, as compared with 5d. for foreign meats in London. If the Edinburgh Hospital had bought meat at 5d., it would have saved £1,163 in the year. Milk in the same way would, if it could have been bought at the London price, have cost £485 less. Six articles given to Edinburgh patients, but not in the London Hospital, account for £11,152, or 69 per cent., on the food expenditure.

In 1903 the cost of provisions per head in the London Hospital is put at £31 5s.; in the Infirmary, at £20 11s. 8d. In 1904 the Infirmary paid £273 in pensions and £226 in window cleaning. If an investigation of the cost of the out-patients in London were made it would probably give more startling figures.

The Princess Christian has accepted the presidency of the Royal Maternity Charity, a post which has been vacant since the death of the late Duke of Argyll. On Wednesday the Princess presided at the annual meeting of the Royal Free Hospital and inaugurated the new additions.

Mr. Tweedy, F.R.C.S., presided at the annual meeting of the Royal Dental Hospital, on Tuesday, and testified to the progress of dental surgery and the good work of the hospital and school. Both hospital and school owe much of their prosperity to the dean, Mr. Morton Smale, who has lately resigned, after twenty years' service, during which the progress of the institutions has been uninterrupted.

The University of London has admitted the School of Tropical Medicine as a school of the university, and decided to make the subject one in which candidates may proceed to the M.D.

Professor McHardy presided at the Royal Eye Hospital, Southwark, and said 652 in-patients were treated during the year, and 1,250 accidents and urgent cases. Money is wanted for repairs, etc. The expenditure was £3,601, and, wonderful to relate, the deficit only £13.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

ORIGIN OF COLOSTRUM CORPUSCLES—CHEMISTRY OF THE GASTRIC JUICE AND ATONY OF THE STOMACH—TRYPANOSOMES IN SLEEPING SICKNESS—MECHANISM OF LABOR.

VIENNA, February 28, 1905.

At a meeting of the Society of Internal Medecine, Popper presented a paper on the origin of the colostrum corpuscles. As is well known, these are found in large numbers in the breasts after lactation has ceased. Czerny, as the result of his experiments on frogs, arrived at the conclusion that the colostrum corpuscles are emigrated leucocytes that have taken up fat. Popper contested this view and demonstrated that the bodies in question have nothing to do with leucocytes, as they are degenerated epithelial cells which desquamate into the lumina of the glands. The following facts confirm this standpoint. The colostrum corpuscles have a characteristic epithelial vesicular nucleus which is of a type not occurring in any variety of leucocyte, but which is normal for the mammary epithelia. Experiments on frogs and rabbits showed that although after taking up fat leucocytes may enlarge and somewhat resemble colostrum corpuscles, their nuclei never change in form and always retain the characteristic leucocytic appearance. Experimental fatty degeneration in female breasts causes some of the epithelial cells to change into colostrum corpuscles, as may be observed in microscopical preparations. The ameboid motility of the colostrum corpuscles, which was interpreted by Czerny as being evidence of their leucocytic origin cannot be assumed to have this significance, for it has been shown, especially by recent work, that this faculty is not a prerogative of the leucocytes alone, but that all other animal cells, such as connective tissue cells, epithelial cells, etc., may exhibit it if they are set free from their tissue connections. Besides, it is only the smaller colostrum corpuscles that are motile, and the phenomenon has never been observed in the larger cells. Popper also cites the fact that in pregnant animals the mammary acini are greatly increased in number, while at the close of lactation there is a gradual disappearance of the glandular elements, which, according to analogies in other organs, would most naturally occur through fatty degeneration followed by desquamation and absorption.

R. Kaufmann addressed the same society on atony of the stomach and the chemistry of the gastric juice. According to the usual statements in the literature the total acidity of the healthy stomach after a test meal varies between 30 and 60, and the free hydrochloric acid between 0.07 and 1.5. Kaufmann examined twenty-two healthy individuals and in two cases found achylia, in three cases absence of free hydrochloric acid, and in eighty a total acidity below 60, in nine about 60. The highest values were 80 to 100, and the free hydrochloric acid ranged from 0 to 3. It is therefore incorrect to assume that in health the total acidity is restricted to the narrow limits ordinarily given. The symptoms of patients suffering from hyperacidity or subacidity are ascribed to the corresponding abnormality of gastric acidity. On analyzing the gastric contents of twenty cases of hyperacidity the following values were obtained: In four cases over 90, in half the cases under 80, in one-third under 70; the free hydrochloric acid was in nine cases under 1.5, and the highest figure was 24. Therefore the degree of gastric acidity of patients complaining of the usual symptoms of pain several hours after meals, painful hunger, acid eructations, vomiting of acid material, etc., was by no means greater than in healthy persons, and could therefore not be the sole cause of the symptoms, especially as the total acidity remained unchanged after a cure had been effected. Similar conditions were observed in fifteen cases of subacidity. Here, again, values corresponding to the normal ones were obtained. The gastric disturbances must therefore be due to some other factor, which in Kaufmann's cases usually appeared to be atony, as could be demonstrated by inflation of the stomach and radiography. In some cases general neurasthenia or some anatomical lesion, such as ulcer, was concerned. Proof of the correctness of the view ascribing the major portion of the responsibility to gastric atony is to be found in the fact that after recovery the acidity remained unaltered but the atony had disappeared.

Trypanosomes as the cause of sleeping sickness were discussed by v. Steinitzer. Trypanosomiasis in animals ordinarily takes the form of cachexia, fever, anemia, indurations of the skin, falling of the hair, paralysis of the extremities, and swelling of the spleen and glands. Human infections are commonest among the natives of Central Africa, though European residents of the regions are not immune. The patients at first show cutaneous rashes and splenic swelling, which may form the only symptoms for some years. With the onset of the second stage, dizziness, backache, and the other manifestations of sleeping sickness set in, as shown by apathy, anemia, muscular weakness, refusal of nourishment, and death at the end of several months. On the injection of nagana trypanosomes into mice, the parasites may be detected in the blood on the second day, and they finally multiply to such a degree that they outnumber the red blood cells so that the animals die through the vascular obstruction caused. In sleeping sickness, however, in spite of the severe symptoms, no parasites are to be found in the blood, and the condition has been held to be produced by toxins, though none have as yet been isolated. Not all of the experimentally infected animals perish, as some acquire an active immunity. If pathogenic trypanosomes are injected into such immune animals the parasites may be found in the blood in a severely damaged condition, without flagella, and with rounded ends, and finally they are completely digested, apparently through a sort of phagocytosis. Orrhotherapy has not been effectual in combating the disease, and of the chemical remedies quinine has no action on trypanosomes in the living body, although in the test tube it has some effect. Better results follow the use of arsenous acid in combination with the dye, trypan red, and also with malachite green, which does not cure the disease, but does prolong its course. Isolation and hygienic precautions are the only means of prophylaxis at present.

Professor Herfeld delivered an address on the mechanism of labor before the Society of Physicians, illustrating his points by means of the ingenious models and manikins devised by Professor Sellheim. The entire mechanism of labor may be explained on purely physical grounds. In order to illustrate the internal rotation of the fetal head, two cylinders were used, one of which could be bent in two directions at right angles to each other, and the other one only in one direction. If such cylinders are fixed in a frame and a force is caused to act on them in the direction of their flexibility they bend without rotation. If, however, the force acts in an axis opposed to that in which the cylinder is flexible the peculiar phenomenon of rotation appears. The cylinder turns about its long axis until the direction of its flexibility corresponds to that of the force. The results of this experiment in physics may be transferred to the rotation of the fetal head. At the pelvic inlet the head has its long axis in the transverse pelvic diameter. The birth canal is not cylindrical, for the greatest diameter at the inlet is at right angles to the greatest diameter at the outlet. As the head is being driven downward by the action of the uterine musculature, it rotates about its axis until at the outlet its largest diameter corresponds to that of the outlet. Two of Sellheim's manikins were also shown. These were constructed to illustrate the principles of the child's vertebral column, which in the cervical portion most easily bends backward, in the thoracic portion bends laterally with ease but with difficulty backward or forward, etc. The manikins slide along a path corresponding to the axis of the parturient canal and are provided with weights to simulate the flexor and extensor tendencies of the fetus. The experiment shows that the vertebral column in its passage downward always places itself so that its line of greatest flexibility follows the curve of the canal. The apparatus serves to explain the mechanical factors present in any of the fetal positions.

Progress of Medical Science.

Boston Medical and Surgical Journal, March 30, 1905.

Angioneurotic Edema.—F. B. Harrington reports a case operated on during an abdominal crisis, giving at the same time a general description of the disease. His patient was a single woman of 26 years, whose initial symptoms were strongly suggestive of gallstones. Fifteen years before she began to have attacks of swelling in the hands. As she grew older the attacks became less frequent, but during the last few years they had occurred as often as every two weeks and were not confined to the hands alone, but reached to the elbows and involved the feet. Less often the face was involved. Various areas of the trunk were also affected. Finally the attacks of abdominal colic appeared, and one in particular was so severe that exploratory laparotomy was considered justifiable. The only abnormality found was an engorgement of the bowels with blood. There were no hemorrhagic areas in the intestinal walls, but at a point within a short distance of the ileocecal valve, a cylindrical enlargement of the ileum 2½ inches long was brought to light which entirely surrounded the gut, increasing the bowel circumference to twice its ordinary size. The swelling was evidently in the bowel wall, elastic to touch and did not pit upon pressure. It can be easily understood how such an infiltration could derange peristaltic action of the intestine. The lower border of the stomach was about half an inch below the umbilicus, and the pylorus admitted the tip of the index finger. The appendix seemed somewhat thickened and was removed, but at examination it was found to be normal. The engorgement of the intestines and the free fluid were explained by the violent peristalsis brought on in the effort to force down the lesion which was actually in the intestinal wall. There was no distention above the lesion since the finger could be easily passed into the swelling at either end. She had a comfortable convalescence, though some colic attended the first movement of the bowels after operation. An attack of skin swelling came on before her discharge, but otherwise she has not suffered any unpleasant sequelæ.

New York Medical Journal, April 1, 1905.

Recent Advances in Electrotherapeutics.—The special topics considered by W. J. Morton are the Röntgen ray, radium, and artificial fluorescence of living tissues. The *x*-ray has greatly increased the percentage of cure in cancer. Superficial growths are most likely to be permanently cured. Not much has been done for the disease when located in internal organs. Some cases of gastric cancer may be cured if the growth is of a superficial type. The same statement holds true of some cases in the upper respiratory region. Some cases of uterine disease have been cured, while the progress of many has been retarded. The same general statements may be made with regard to radium. Concerning both, it may be said that they ought to be used both before and after operation. With regard to the fluorescence of living tissues, the author has used quinine, asculin, and fluorescein, the latter being particularly good, owing to its non-toxic properties. He uses this method for tuberculosis, tupus, tuberculous glands, etc. Cases of chronic malaria have not been benefited. In one case of ameba coli, in which two abscesses had been opened, and in which it had been proposed, in order to stop the progress of the disease, to open the colon and inject ice-water, the microorganisms have been completely destroyed. Morton also notes that if we administer to a patient twenty drops of an aqueous solution of fluorescein, one part of fluorescein to thirty of water, and, say, forty minutes later on, make an *x*-ray exposure to a photographic plate, we obtain a radiograph of superior contrast and definition. In a similar manner, fluoroscopic examination of this patient, particularly of the thorax in tuberculosis of the lungs, is greatly aided.

The Management of Pneumonia in Infants and Children.—C. G. Kerley says that in dealing with pneumonia we are handling a disease we cannot *cure*. Our efforts must be confined to placing the patient in the best possible condition to resist the infection and wear out its effects on the system. A sick-room régime should be established with just as much definiteness as the surgeon uses in a major operation. Special attention must be given to details of ventilation, diet, quiet, and clothing. He has no special drug treatment to suggest. The indication for relief of high temperatures is found in their effect on the patient rather than by the reading of the thermometer. Detailed directions are given for the use of the pack. This need not necessarily be cold, or even cool. It may be begun with water at 90°. For cardiac stimulants, strychnine and strophanthus are found preferable to digitalis and the ammonium salts. The heavy expectorant syrups are avoided. In the bronchopneumonia of babies we may get good effects from inhalations, counter-irritation, and to a less degree from expectorants. As between the two common types of pneumonia, we have to remember that in lobar pneumonia we have a self-limited disease. We prepare the way and place the patient in the best position to resist, to take care of the infection. We endeavor to preserve his vital powers; and Nature, if she is kind, brings about a favorable termination. In bronchopneumonia we must perform all of these offices and more. Bronchopneumonia in babies does not possess the characteristic of self-limitation. In this type in babies there are measures as above suggested which directly assist in controlling the progress of the disease.

Medical News, April 1, 1905.

Nephritis Complicating Mumps.—J. A. Miller calls attention to the lack of definite literature upon this complication of mumps. He reports one case the features of which are summarized as follows: A case of acute exudative nephritis in the course of mild double parotitis, in a boy four years old, with a marked family predisposition to kidney disease, occurring in the twelfth day of the parotitis, which was further complicated on the eighteenth day by a moderately severe attack of measles. The measles exercised no influence upon the nephritis, which entirely disappeared in thirty-five days, and after several months had not recurred. A careful review of the literature has revealed reports of twenty-nine similar cases. In addition to these, several observers mention the occurrence of febrile albuminuria during mumps as not infrequent. The author presents the following conclusions: (1) Acute nephritis complicating mumps may occur in either children or adults, and is much more frequent in males than in females. (2) The parotitis is usually double, mild in character, and the nephritis is more liable to occur during early convalescence. Exposure to cold may be a predisposing factor. (3) The nephritis is usually moderately severe, of less than one week's duration, and ending in complete recovery. Rarely it may develop into chronic nephritis, or it may be so severe as to cause death. (4) This complication of mumps is infrequent, but probably not as rare as usually considered. Febrile albuminuria is probably very common in mumps, but this, as well as more serious kidney lesions, is probably often overlooked. (5) Careful urine examinations should be made, and strict precautions against exposure should be taken, in all cases of mumps, both during the acute symptoms and during convalescence.

The "Specific Therapy of Tuberculosis."—The paper of C. F. Denison is a general discussion of Professor Maragliano's recent address before the Henry Phipps Institute. He inquires, "Has the indirect serum method any advantage over the direct toxin method?" inclining to the latter when properly selected with refined technique both as to quality and dosage. He criticises the Italian professor as making much of the effects of the toxins of young cultures of bacilli in their inflammatory and destructive action in the tissues with which they come in contact. This is considered as due to the "necrotic acid" of certain authors. Denison asks concerning this acid, "What is is? and how much of it is necessary to produce the effects stated?" With reference to Maragliano's claim of a "double series of poisons"—the bacilli and the accompanying proterns. Denison asks if it is to be inferred that Maragliano claims such a mixed toxin is always used in the direct method? His own view is that success comes through the singleness and purity of the toxin used. He finds no warrant for expecting any better effect from the antitoxin previously developed in another animal over and above that slowly created in a given diseased organism. His own experience with the crude tuberculin test is to the effect that he has proved latent tuberculosis to exist in forty-seven out of fifty-three cases in which there was either no sputum to examine or only glandular or other suspicions of infection. Let us assume, he says, that there has been an advance possibly of 20 to 40 per cent. more of the course of the disease by the time the "mixed infection" period determines a still further stage in this process of decay. What is going on is a constant battle between susceptibility and resistance to this toxic influence. If we were able to determine the faults of our civilization, which cause this susceptibility, we could better understand the character of this conflict; for then we would comprehend that this disease, tuberculosis, is but a natural harvest from such degenerate soil.

American Medicine, April 1, 1905.

Treatment of Cerebrospinal Fever.—Charles G. Stockton emphasizes the importance of bringing about the best hygienic condition for the patient. This is accomplished by the absolute quiet in well-ventilated, darkened rooms, with the absence of all excitement and irritation. Giving the greatest attention to secure the proper performance of the various functions of the body. The trial of the hot baths after the method of Aufrecht in all cases in which they seem to do good. The practice of intraspinal puncture, with drainage when necessary to relieve severe pressure symptoms, to be repeated, if necessary, provided benefit follows the first puncture. The use of antipyrin in cases in which the temperature is raised not only for the relief of this symptom, but for the mitigation of headache and hyperesthesia. Dr. Stockton has found this drug also useful in improving the mental state, and in his hands it has not been followed by the expected depression. The use of opium or the bromids alone, or in connection with antipyrin, if necessary, for the relief of convulsions, pain, hyperesthesia and pressure symptoms generally, which are not relieved by the foregoing methods of treatment. The use of mercury when needed for its laxative effect, or when needed to assist in stimulating the organs of elimination opium and the bromids are indispensable in some cases and large doses are at times necessary.

Temperament, Diathesis, Dyscrasia, Predisposition, Cachexia, Susceptibility, Idiosyncrasy, and Heredity.—Homer Wakefield begins his article in a previous issue with a review, descriptive and critical, of temperament, diathesis, dyscrasia, predisposition, idiosyncrasy, susceptibility, cachexia, and heredity. Then follows the author's proposed division of the diathesis, which he has arranged in a definite order of succession and correlated to the stage manifestations of the retrogressive degeneration of catabolic stasis, and the latter again to the expression stages of the retrograde metamorphosis of such rudimentary forms of life as naked unicellular organisms, which he has characterized as the "biologic series." Clinical illustrations and quotations supplement his premises. Predominant clinical manifestations are duly classified in definite order of succession, and he shows that symptomatological and morphological manifestations of disease are but expressions of different stages of one homogenic retrograde metamorphosis, which he holds to be universally due to and dependent upon some type of factor of a stasis of catabolism. Of unusual interest and importance is his contention that protoplasm, both of unicellular life and of the parenchyma of the higher animals, attains density in proportion to normal cell maturity and suffers expansion and elongation in ratio to its subcatabolism. Wakefield analyzes separately the several predisposing and exciting etiological factors, commonly met clinically, and points out the homogeneity of their pathogenic actions, and how they operate and cooperate to produce a common pathogenic action, namely catabolic stasis. Susceptibility to parasitic infection is attributed to tissue atony and the morphological changes of subcatabolism, and he illustrates the dependency upon etiological factors as catabolic stasis. Heredity he defines as substantially a congenital structural expression, and he denies that diseases are specifically inherited, but instead an adaptation of metabolic equilibrium obtains as governed by the transmitted capacity for oxidation, etc.

Peritoneal Adhesions.—Carl Beck says the study of adhesions forming after repeated attacks of appendicitis has also given us clearer insight into adhesion formations in general, revealing many obscure ailments in their true light. Adhesions are found more frequently in the ileocecal region than anywhere else. As a rule there is a broad parietal adhesion especially if there is postoperative hernia. The peristalsis of the free part of the gut elongates it until it becomes a tense, unyielding band; and if an intestinal loop becomes ensnared below it, its circulation will be under pressure, and will give rise to more or less disturbance, sometimes even to complete strangulation, especially if there is procrastination. After early operation postoperative adhesions are rarely found; another point in favor of prompt early surgical interference in appendicitis. Beck's experience in cases of chronic progressive adhesion-forming peritonitis, as observed idiopathically as well as after appendicitis, is absolutely bad. The nature of this peculiar condition, characterized by a multitude of cobweb-shaped bands, is not yet sufficiently elucidated.

Journal of the American Medical Association, April 1, 1905.

Acute Meningitis.—W. T. Councilman describes the conditions of acute meningitis with more special reference to that form produced by the *Diplococcus intracellularis men-*

ingitidis, which he believes is constantly occurring in a sporadic form, aside from the not infrequent epidemic aggravations. The infecting organism, he states, is one of low vitality and incapable of a purely saprophytic existence. The statistics fail to give any adequate idea of the frequency of the infection in ordinary years. His experience, however, leads him to believe that with rare exceptions all cases of primary meningitis are due to this microorganism and that it would be impossible without sporadic infections to bridge over the intervals between the epidemics. It is possible, too, that the germ may even inhabit the normal mucous membranes of the nose, for example, as has been shown in a few cases, where it produces a rhinitis, and infection of the meninges may take place through the lymphatics or by continuity of surface. We can only explain the epidemics of the disease, he says, either by an increase of virulence of the diplococcus or by a decrease in the resistance of the tissues. The underlying causes of epidemics are unknown, and even atmospheric conditions can not be excluded. He discusses to some extent the relations of meningitis to pneumonia, as shown by the Massachusetts health statistics, and illustrates with a chart. Primary meningitis from the pneumococcus or staphylococcus is rare; secondary types are not so infrequent. The paper concludes with a description of the pathologic conditions in acute meningeal disease.

The Therapeutic Use of Fluorescence in the Human Organism.—W. J. Morton discusses the production of fluorescence in the tissues of the human organism by use of fluorescing solutions, electricity, etc. He holds that it is a sort of phototherapy dependent on the same principles for its curative effects. The method includes filling cavities with fluorescent solutions as well as using these latter medicinally. It produces effects by the fluorescent excitation of the absorbed drugs, not due to the *x*-ray or to radium, but probably to the fluorescent light. What the latter lacks in intensity is compensated for by its propinquity to the tissue. It is also possible by this method to improve skiagraphic effects and fluoroscopic examinations. It has proved of value in determining the position and size of the stomach and other cavities of the body. By this means the thoracic cavity is illuminated on the fluoroscope far more than it can be by the *x*-ray alone. Morton has found it therapeutically useful in pulmonary tuberculosis, as well as in local tuberculosis elsewhere, and especially in cancer, of which two successful cases are reported.

Typhoid Perforation.—Morris Manges reports nineteen cases of perforation in typhoid, with sixteen operations and five recoveries. He discusses the subject generally, but emphasizes particularly the diagnostic significance of pain, which under certain conditions in this disease may accompany non-perforative peritonitis. He considers that the most important facts in the diagnosis are the marked change in the patient's condition with the abdominal pain, which is very variable, and that the other abdominal conditions, distension, rigidity, tenderness, liver dullness, etc., with the anxious facies and sweating, are valuable aids in the diagnosis. Changes in the rate and character of the pulse are of more value than temperature or respiration. Manges believes in the occasional spontaneous cure of this condition, and refers to one case in his series in which this apparently occurred, and to another, in which, at the autopsy, a small perforation was found well sealed by omentum. The rule to operate, however, is not vitiated by these rare occurrences, and operation itself does not add to the dangers and may be effective in preventing a perforation where one is not found.

The Lancet, March 18, 1905.

The Nature and Treatment of Epilepsy.—A general review of the subject is given by W. A. Turner, nothing new being brought out. He does not believe that any definite statements can yet be made with reference to the toxicity of the urine in epilepsy, for different observers have obtained quite different results. As regards the reaction of the blood, the general conclusion is that, prior to a convulsive attack, there is adminished alkalinity, but whether this arises from retention of uric or carbonic acids, or from acid toxins of undetermined composition, remains undecided. Treatment is of a far wider significance than the mere subduing of convulsions by drugs. The child with epileptic tendencies must be educated along the modern lines, which have proved so successful. Bromides, while not the only remedy at our disposal, probably do more good than any other single remedy. The author has not had much success with bromipin. Bromocarpin is recommended, he says, in those seizures which seem to result from intestinal autointoxication. Borax and digitalis combined are of service in some minor cases. Belladonna will often succeed where bromides have utterly failed. Organotherapy has thus far proved a failure. Immunization is a delusion. The author advocates the "salt starvation" plan as an advisable dietetic feature.

Mental Faculty in the Child; Its Growth and Culture.—F. Warner notes that two phenomena are characteristic of the earlier workings of the brain, spontaneity and controllability. By the interaction of these, the brain cells are coordinated through the senses by suitable methods of training. As the child develops, we endeavor to produce a new impression and after frequent repetitions of the impressions some are retained. Two points are insisted upon: (1) A certain length of time is required for the production of a new impression in the brain since a definite period is required for the arrangement of the nerve centers under control and (2) physiological impressions on the brain may be of different kinds as produced by various modes of external sensory stimulation. Thus we may have impressions of sight, of hearing, from muscular action or by muscular tension. Only one kind of impression should be taught at one time. Another way of teaching is by imitation. Impressions made on the brain must be associated with intellectual purposes. Impressions of similar sensory origin more readily adhere to one another in the brain than those of different classes. The similarity in their modes of production by sight, hearing, muscular sense, etc., and their consequent similarity in constitution cause them to be easily associated when rendered reactive under the guidance of the teacher. Nerve pathways are more easily established among like sensory impressions than among those unlike in kind. In an act of comparison we need the coactivity of two or more impressions of the same kind; a mental act of comparison is appreciation of the similarity of characters and their proportions.. If the pupil had received stage by stage the early elementary training already described his brain will by this means have been prepared for mental work and he will more readily and accurately appreciate instruction such as the relative weight of coins and their value, also the significance of addition, subtraction, multiplication, and proportion.

The Lancet, March 25, 1905.

A Note on the Abdominal Incisions for the Exploration of the Appendix and Perforated Ulcer of the Stomach.—Cuthbert S. Wallace describes an incision which he believes combines some of the advantages of both that of McBurney and that through the rectus sheath. The rectus sheath is entered towards its outer side by the usual vertical incision. The muscle is then retracted inward and the posterior wall of the sheath is exposed. As a rule two nerves are seen running transversely inward about one inch apart. The mid-point between these is selected and the peritoneal cavity is entered by an incision one inch long transverse to the body axis and parallel to the nerves. This incision is easily closed, since the natural tension of the parts approximates the edges. Should difficulties be encountered in the removal of the appendix and a large incision be required, it can be obtained by the usual vertical incision in the posterior rectus sheath. In order to decide whether the pelvis has become infected or not, in perforating ulcer of the stomach, an incision must be made in the hypogastrium. If this is made after the upper incision, there is danger of infecting the pelvis if this is clean. It seems advisable, then, to make the hypogastric incision first in cases of doubt. If the pelvis is clean, the wound can be closed. If the contrary proves true, the lower wound can be used in the process of cleansing the peritoneum. The primary lower incision is also of service in determining the condition of the appendix when there is doubt as to whether the appendix region or the upper part of the intestinal tract is at fault.

Relation of the Parasitic Protozoa to Each Other and to Human Disease.—E. J. McWheeney, in speaking of the disease-producing protozoa, declares that they reveal a surprising complexity of reproductive phenomena, and an equally surprising parallelism in the developmental cycle of forms which at first sight seem far removed. The protozoa or one-cell animals are divided into four classes: the rhizopods, the sporozoa, the flagellates, and the infusorians. The rhizopods comprise mainly amœbæ. The amœbæ are the ones of particular interest: Some amobæ have a shell and some are naked. At least one of the former and two of the latter sort are known to occur in the intestine. The two naked forms are genuine parasites. One of them is harmless—the entamœba coli. The entamœba histolytica, amœba dysenteriæ, is pathogenic. Its tough ectoplasm enables it to force its way into the deeped layers of the mucous membrane where it multiplies and forms the undetermined ulcers so characteristic of tropical dysentery. The spore-containing feces of cases of dysentery must be prevented from getting access to drinking water or from being conveyed by flies and deposited on food. Among the chief orders of the sporozoa are the hæmosporida or parasites of the blood corpuscles, which are the cause of malaria. The intermediate host of blood-inhabiting parasites is an invertebrate bloodsucker. The writer finally discusses the order of the flagellates, to which belong the trypanosomes. Recently, the rôle of these parasites as disease producers among the lower animals has been greatly enlarged. In

1903 a trypanosome was discovered in the cerebrospinal fluid of natives of Uganda affected with sleeping sickness. In smears of spleen pulp from cases of splenic cachexia in India, parasites have been discovered which have been shown to be stages in the development of a trypanosome. Rogers has discovered that blood containing Leischman-Donovan bodies gives rise to trypanosomes. Kala-azar and cachexial fever will doubtless prove to be a form of human trypanosomiasis. The same will probably hold true of the bodies found in the granulation tissue of Delhi boil and tropical ulcer.

Premenstrual Pregnancy in a Girl Aged 13 Years.—Augustus W. Addinsell reports this case, the interest of which lies in the fact that impregnation took place before the outward signs of sexual maturity had manifested themselves. It is quite certain that menstruation had never occurred. In premenstrual life, maturity up to a point is constantly going on in the follicles of the ovum which come to the surface, and when that point is reached retrograde changes take place in the infantile ovary. As the age of sexual maturity is being reached and as ovulation is regularly proceeding, it is easy to see how impregnation might occur even though the outward and visible signs of sexual maturity be absent. The periodic occurrence of ovulation is independent of menstruation, and precedes its initial onset. It is easy to see how the nervous and circulatory excitement attendant upon the act of coition might bring about the rupture of a ripe follicle and the resulting escape of the ovum.

British Medical Journal, March 18, 1905.

Some Remarks on Puerperal Infection.—Arnold W. W. Lea compares the frequency of infection as it occurs in surgical practice and in midwifery. In the former it has been almost abolished, but this cannot be said in regard to the latter. All manipulations in relation to the woman in labor require those precautions which are taken before a surgical operation. The essential points are largely included in the words "surgical cleanliness." It is not possible to obtain exact figures of the morbidity rate in private practice. Puerperal fever is a wound infection. After labor, the uterus forms a vast and irregular wound surface deprived of epithelium and presenting many openings of vessels, an area peculiarly favorable to the stagnation and absorption of septic products. The uterine mucosa is not protected from infection for ten days after labor, and for nearly three weeks the mucous membrane is very thin and soft, readily becoming an absorbing surface if injured in any way. The essential feature of the disease is a microbic invasion. Although many organisms may produce it, practically a few only are of great importance. Streptococcus pyogenes is the organism most often found. Its invasion of the uterus is frequently characterized by grey membranous exudation over the cervix. The lochia are as a rule profuse, hemorrhagic, and not offensive. They may in severe cases be diminished or even suppressed. Staphylococcus pyogenes, albus, and aureus are often present in puerperal infection. They are frequently saprophytic, but they may rarely cause even fatal infection. Bacterium coli commune is a frequent cause for infection. Its virulence is increased when it is associated with streptococci. The infection is characterized by very offensive lochia. The clinical course of the disease depends upon many factors, such as the period at which infection occurs; the site of infection; the type of organism and its virulence; the local conditions present in the uterus, and the resisting power of the individual. The prompt recognition of infection is important, for at this time treatment may radically change the course of the disease. The early signs are few but definite, and include the following: Rise of temperature, increase of pulse-rate, delayed involution of the uterus, and changes in the lochia which are not uniform. The only reliable method of investigating the lochia is the bacteriological one. The prognosis must always be guarded. Although there is a general agreement as to methods of prevention, as well as to the necessity for supporting measures in cases of puerperal sepsis, there are still grave differences as to the best methods of local treatment. The writer describes his own method, which is based upon notes of 120 cases, as follows: A rise of temperature of 101°, not accounted for by other causes, renders a careful examination of the generative tract necessary. If no sufficient cause is found in the vagina or perineum, and if the uterus is bulky and tender, a specimen of lochia is removed and a uterine douche given with due precautions. The interior of the uterus is then swabbed with absorbent wool soaked in a solution of biniodide of mercury in alcohol, 1 to 2,000. This removes tissue shreds and blood clot. If this does not suffice, or if the infection is from the first severe, the uterus is explored with the fingers, preferably under chloroform. If the cavity is perfectly smooth, which is not often the case, the uterus should be thoroughly swabbed out with the biniodide in alcohol or some strong antiseptic solution, and packed with idoform gauze soaked in an antiseptic. If a piece of placenta is found, it should be taken away together with the blood clots, followed by swabbing and gauze packing. If the cavity is large and the surface irregular, due to hypertrophied and necrotic recidua, the patient's safety can be ensured only by its complete removal. This is best done by the use of a suitable curette. There has been much discussion as to the use of the curette in the pureperal uterus. Posterior vaginal section may be carried out as supplementary to curettage if symptoms of pelvic peritonitis are present. The operation of hysterectomy has been performed in 137 published cases with a mortality of 63 per cent. As to the use of antistreptococcic serum, the serum is innocuous if carefully prepared and injected with due precaution. It must be given early in the disease, and in large doses—20 c.c. twice or thrice in 24 hours in severe cases. If given in this way, definite improvement is observed in a considerable number of cases. It would seem from reported results that serum should be given in all severe infections.

An Unusual Complication of Varicella.—Carey Coombs describes a severe attack of chicken-pox in a boy of eleven years. Two days after the disease first showed itself, the physician was called to his relief. The boy had passed practically no urine for sixteen hours, and was in pain with constant but ineffectual efforts at micturition. The prepuce was swollen, and its opening obliterated by a large pock, and within the urethra, half an inch from the meatus, was a very tender and painful spot. The boy was given a hot bath and a full dose of morphine, which was almost immediately followed by a plentiful passage of urine. The case cleared up with no further complications. The writer believes that this is a rare incident.

British Medical Journal, March 25, 1905.

Transillumination of the Antrum of Highmore.—A. Brown Kelly points out that in practising transillumination, a fallacy may arise in one of three ways: (1) The light may shine with equal brilliancy on both sides, though one antrum contains pus while the other does not. In such a case the amount of pus is usually very scanty and the antral lining but little thickened. Too strong a light is apt to produce this fallacy, which is more apt to occur if the pus is of dental or extra-antral origin. (2) Transillumination may be bright on one side and darker or absent on the other, and yet on the non-illuminated side pus may be absent. The unilateral shadow may be due to either abnormal thickness of the bony walls, small size of the cavity, thickened lining from previous disease, solid tumor, or obstruction of the corresponding nasal fossa. (3) Both antra may light up badly or not at all, and yet contain no pus. This may be due to too weak a light, thick bones, high palate, or obstructed nasal cavities.

The Opening of Peritonsillar Abscesses.—According to St. Clair Thomson the point of election for the opening of a quinsy is just external to the junction of a transverse line across the soft palate just above the base of the uvula, with a vertical line drawn to meet the one just located from the lower part of the anterior pillar on the affected side. The preferable instrument for making the opening is a modified Lister's sinus forceps. The extremity is sufficiently blunt not to injure healthy surfaces but is fine enough to allow of its being pushed through edematous necrotic or membranous tissues. The point above named corresponds to the supratonsillar fossa.

Berliner klinische Wochenschrift, March 13, 1905.

A Hitherto Undescribed Phenomenon in Peroneal Palsies.—Hirschfeld in examining eleven cases of this affection observed a peculiarity affecting the power of dorsal flexion of the foot. Five of the cases were of peripheral palsy, including three instances of multiple neuritis, and of the others two were of myelitic and four of hemiplegic origin. In studying the patient's muscular control it was found that with the knee extended the ability to flex the foot dorsally was much less than when the leg was flexed on the thigh, the difference in some cases being as great as 30 to 40 per cent. The author believes that the phenomenon is the result of the anatomical conditions under which the peroneal muscles functionate. Their action is always opposed by the muscles attached to the tendo Achillis, and this resistance, owing to the attachment of the gastrocnemius and plantaris to the femur is much greater when the leg is extended than when it is flexed. The observation has practical value in estimating variations in intensity of paralysis and in gauging the effect of treatment, as the power of dorsal flexion of the foot disappears last when the knee is flexed, and reappears first under the same conditions.

The Rapid Methods for the Dilatation of the Cervix from the Standpoint of the General Practitioner.—Stoeckel says that the modern tendency is to discountenance the expectant attitude that was formerly the rule in meeting certain obstetrical complications, and to resort to *accouchement forcé* under many circumstances that would formerly have been managed in a less radical manner. Of the methods in use for accomplishing this purpose the older ones are those of dilatation of the cervix by means of the metreurynter, and Dührsen's incisions. The newer methods comprise vaginal cesarean section and dilatation with the instrument of Bossi. The cervical incisions are so apt to lead to uncontrollable hemorrhage and other complications that they would better be discarded altogether, while the operation of vaginal cesarean section, although strictly surgical and not of very great difficulty for practiced gynecologists, is still not adapted for performance by the general practitioner. The problem for the latter, therefore, resolves itself into whether he is to continue to put his trust in the dilating bag, or to adopt the new instrumental dilator. The question must still remain an open one, although the author himself inclines to the view that the sphere of utility of the Bossi instrument must remain a very restricted one. Some writers, such as Ehrlich and Heller, after considerable experience with the instrument express themselves warmly in its favor, whereas others, like v. Bardeleben, report dangerous tears and serious sequelæ from its use. The question is to form the chief subject for discussion at the approaching Congress of the Society of Gynecologists to be held at Kiel in June, and definite conclusions will probably be reached at that time.

Münchener medizinische Wochenschrift, March 14, 1905.

The Action of Mercury.—Düring reviews various theories that have been promulgated to explain the therapeutic effect of mercury in syphilis, and says that so far at least they have led to but little definite information. The older view that the metal exerts a bactericidal or antiparasitic action is probably unfounded, for the amounts absorbed are far too small to be able to unfold a diffuse power of this sort. The most recent view is that of Schade, who, starting with the work of the synthetical chemists in the production of artificial indigo, has developed the subject of the catalytic action of the heavy metals as oxidizing agents. This action of mercury is shown by the blueing it produces in tincture of guaiac in the presence of resinified oil of turpentine, or of peroxide of hydrogen. That this action is due to electrical changes is illustrated by the change of form manifested by a globule of the metal when placed in turpentine or in tincture of guaiac. In the first fluid it becomes a flattened mass which resembles melted lead and retains any shape that may be given it, while on transfer to the tincture it at once resumes its normal characteristics. The phenomenon is ascribed to a positive electrical charge in the one fluid and a negative one in the other. Schade believes that through its catalytic stimulating effect on the tissues the mercury enables the latter to repair the damage caused by the syphilitic poison. The process is not one of antitoxin stimulation, as some authors have averred, but one of simple antagonism to the toxins.

The Effect of Fever, Infection, and Renal Injury on Suprarenin Glycosuria.—Ellinger and Seelig describe a series of experiments undertaken to throw light on the still very obscure conditions controlling the excretion of glucose by diabetics, in fever, during the course of intercurrent infections, etc. Rabbits were used as experiment animals, and the glycosuria produced by suprarenin injections was studied after the temperature had been artificially raised by injury to the corpus striatum, after cantharadin or streptococcus bouillon injections, and temporary ligation of the renal arteries. The results showed that the effect of the artificially produced fever on the sugar excretion is variable and does not as yet permit of satisfactory conclusions. Bacterial infections cause diminution of the glycosuria only when the suprarenin is injected shortly before death, perhaps owing to accompanying renal lesions. The sugar excretion is regularly reduced or caused to disappear if the renal functions are interfered with, as for example by the temporary ligation of the renal arteries. Neither these results nor those obtained on dogs having experimental pancreatic diabetes can be directly transferred to human pathology, but they indicate the importance of observations on sugar retention in diabetics with diseased kidneys, and it is to be hoped that clinicians will interest themselves in this field.

Subcutaneous Rupture of the Spleen and Its Surgical Treatment.—Neck describes a case of this injury which was successfully treated by extirpation of the spleen forty-eight hours after the accident. The patient was a boy of 16, who fell from his bicycle, striking with his left side against the edge of the curbing. He was able to get up, remount the wheel and ride to his work, but a short time afterward was obliged to seek medical aid on account of increasing pain at the site of the injury. On coming under observation he was pale, complained of pain in the left side, and the pulse was 116 to the minute, but there was no nausea or vomiting. There was evidence of free fluid in the abdomen, but it was decided to postpone operation until it should seem certain that the condition was changing for the worse. On the morning of the second day laparotomy became necessary owing to increasing pallor and cardiac weakness. The abdomen was found full of fresh and old blood clots which partially plugged a large rent in the spleen. This was quickly extirpated and the large right angled incision completely closed after careful cleansing of the peritoneum. The patient made a good recovery and has since shown no symptoms referable to deprivation of the spleen, except a low red blood count and hemoglobin value, and a relative lymphocytosis. The author calls attention to the fact that alarming symptoms did not appear until some time after the injury, an observation frequently made in such cases, and which may give rise to misleading conclusions in regard to the traumatism.

Deutsche medizinische Wochenschrift, March 2, 1905.

Mesenteric Thrombophlebitis Complicating Appendicitis.—Polya reports five cases of this fatal complication, and in discussing these, as well as others described in the literature, says that in the course of an appendicular inflammation involvement of the superior mesenteric veins may lead to thrombophlebitis. The condition is apt to be most marked in the upper jejunal veins. The obstruction and inflammation of the mesenteric veins attending appendicitis in some cases runs its course without giving rise to noteworthy anatomical or functional disturbances of the intestines, and forms part of a portal pyemia, in the other cases infarction and gangrene of the corresponding portion of the gut results, and appendicular ileus is produced. In consequence of the fairly constant localization of the lesion in the upper part of the jejunum a characteristic clinical sign of the condition is formed by muscular resistance, dulness and tenderness below the left free costal margin and in the neighborhood of the umbilicus, following subsidence of the appendicular symptoms and accompanied by evidence of pyemia. Owing to the impossibility of reaching the purulent foci in the vessels the condition is unassailable from a surgical standpoint, and the treatment must resolve itself into prophylaxis, *i.e.* early removal of the appendix when diseased.

A New Form of Blaud's Pill.—Meissner says that the intentions of Blaud in devising his famous iron pill were to have formed in the patient's stomach by a simple chemical transposition ferrous carbonate and potassium sulphate. In practice, however, in the course of the manufacture of the pills both ferrous and ferric hydrate are formed in large amounts owing to the change of a portion of the ferrous carbonate to these substances in the presence of water. The author in attempting to improve on this formula has devised the following. Exsiccated sulphate of iron 9.00; exsiccated carbonate of sodium 7.50; anhydrous cod liver oil 12.00. The mixture is filled into capsules under the precaution of excluding all bubbles of air so as to prevent any possible oxidation. The reaction taking place in the stomach forms ferrous carbonate and Glauber's salt, which is useful in relieving the constipation usually present. The cod-liver oil serves to protect the stomach from the caustic action of the ferrous sulphate before it is changed to carbonate.

The American Journal of the Medical Sciences, March, 1905.

A Review of One Thousand Operations for Gallstone Disease.—William J. Mayo and Charles H. Mayo believe that it can be fairly stated that the average mortality of operations confined to the gall-bladder is not greater than of those for appendicitis in patients of the same age and condition of health. Gallstone disease is most common in people of advanced years, often obese, and not infrequently the victim of some degenerative lesion of vital organs. In these cases of the writer's there were fifty deaths in the hospital, or an average death rate of 5%. In the benign series there were 960 cases, with 4.27%. For malignant diseases, 9 deaths in 40 operations gives a mortality of slightly in excess of 22%. In cases in which the disease was limited to the gall-bladder, including all non-perforating infections, the mortality was 2.44%; 573 cholecystostomies, mortality 2.46%; 186 cholecystectomies, mortality 4.3%. This does not include 101 cholecystostomies and 44 cholecystectomies performed as part of a common-duct operation. Of the common-duct operations, there were 137 benign, with 16 deaths, 11.7%. This, however, is really a death rate of operation and disease, and means that 7% failed to recover from the direct results of the operation, while 4% recovered from the operation, but did not gain sufficient strength to leave the hospital. Many patients were in a desperate condition to begin with. Next to malignancy and acute perforative infections of the gall-bladder and pancreas, the most serious thing that can happen in gallstone disease is involvement of the common duct of the liver. The mortality of cholecystostomy in simple gallstone disease in otherwise normal individuals was less than 1%. In 186 cholecystectomies (exclusive of 36 common-duct cases) the mortality was 4.30%, or nearly twice that of cholecystostomies. In patients who have gallstones and who have had attacks of jaundice and other symptoms of infection of the common and liver ducts, but with no stones in the ducts, cholecystostomy is the operation of choice, as it furnishes bile drainage. The most common cause of death when the gall-bladder alone was involved was a descending infection of the common and hepatic ducts.

The Effect of Alternating Currents of Moderate Frequency on Dogs.—G. W. Crile and T. R. J. Macleod have recently made certain observations on the effect of alternating currents of high frequency on anesthetized dogs. As to the question of variability in the strength of current necessary to cause death, they are convinced that this depends upon the path through the body traversed by the current. If the heart lies in this path, fibrillary contractions will result; if not so, only vagal inhibition. Currents passing between electrodes in the mouth and rectum necessarily traverse the heart and are always fatal. With the electrodes on the head and hind limb, on the other hand, most of the current will pass along the tissue about the spinal column and will often pass by the heart. The writers call attention to a possible prophylactic measure for workers exposed to the danger of strong currents, namely, that they should wear a corset made of some conducting material, for example, copper. To be of any value, it would require to be closely applied to the skin about the shoulders and base of the neck above, and to the lower part of the trunk below, and opposite the cardiac region it would require to be separated from the skin by some non-conducting material, for example, India-rubber. It would be of no use merely to wear such a corset separated from the skin along all its length by woolens, as it is said has been practised.

The Physiological Relationship of the Proteids of the Blood Plasma.—Thomas Stotesbury Githens has performed a series of experiments on dogs. One set of animals he bled freely at intervals of several days and the blood thus drawn was used for examination. Another set of dogs he kept for two days without food and then placed them on half the quantity of meat necessary to retain nitrogen equilibrium. After several weeks of such hunger they were given unlimited quantities of meat or bread. One of the most striking facts observed is the wide variation in composition of the plasma in apparently normal dogs. The writer states that this may be due to diet or to diseases which are not sufficiently severe to show themselves; that is, mild intoxications or infections. It seems, however, that there is an attempt to retain the percentage of total nitrogen at about the same figure and this shows far less variation than do the various proteid bodies. The fact that after loss of blood the percentage of fibrinogen falls seems to show that this body is replaced with greater difficulty than any of the others, while the increase in albumin points to this as the first stage in metabolic formation of proteid. The globulins seem more irregular in behavior. The relation is also upheld by the relative decrease in albumin during hunger, as this body would not be replaced from the food as rapidly as under normal conditions. This increase in globulin, the writer continues, as well as the appearance of nucleo-albumin after loss of blood, may, however, be due to the decrease in total proteid in the plasma and the necessity of keeping it at about the same point, causing the withdrawal from the solid tissues of the body, of these proteids, in which they are especially rich. It seems certain at least that albumin and fibrinogen do not arise in the same way and under the same circumstances, and the probability of the globulins being formed from serum albumin, either in the blood or elsewhere, perhaps by ferment action, is heightened by these results.

Report of a Case of Chronic Pyelitis, Due to Bacillus Coli Communis Infection, Simulating Renal Tuberculosis.—Lewis Whitaker Allen reports this case, which came under his care. The patient was a woman of forty years. The clinical picture was as follows: A disordered stomach, accompanied by vomiting, painful and difficult micturition, a painful and enlarged right kidney, urine from the pelvis of the kidney containing large amounts of pus, and especially, and most important of all, a thin and emaciated individual, showing systemic inroads upon the vitality of the patient through a chronic period of two to three years. This picture made the diagnosis seem positively that of tuberculous infection of the kidney. At operation an enlarged and congested kidney was exposed, and was split from top to bottom into the pelvis. There were no abscesses or other evidence of tuberculous infection. A drain was passed from the pelvis through the wound and the kidney was drawn together with several sutures. Another drain was placed below the kidney, and the wound was closed. A culture from the pelvis of the kidney showed a pure culture of the colon bacillus. The urine gave the same result. After the third day irrigation was practised right through into the bladder with formalin, 1 to 2,000, and peroxide of hydrogen diluted one-third, for three and one-half weeks. Recovery was uneventful.

Scabies in the United States of America and Canada.—James Nevins Hyde says that scabies is a disease that has been known since the earliest times. The unfailing source of scabies in North America is Europe, and particularly the crowded capitals there. The conditions favoring an increased colonization of the acarus on this side of the Atlantic are well known. They are twofold and often related. The first requires an unusual increase to this country of passengers for the most part arriving in the steerage of transatlantic vessels; the second acquires an unusual increase of the crowding together of the native-born population of this country. The crowding together that comes in times of war favors the spread of scabies. The prevalence of scabies in the War of the Revolution is well known. And now scabies is developing in private practice. The symptoms are not those looked for by many physicians, but are those modified by the habits of the patients of the better classes with their more cleanly bodies and clothing. The physical welfare of the people of this country demands not only practical measures for their safeguarding, but also a national education which shall demonstrate the necessity of cleanliness.

X-Ray Treatment of Cutaneous Epithelioma.—Charles Mallory Williams declares that among the factors to be considered in estimating the value of the *x*-ray treatment of cutaneous epithelioma, the most important is the liability to recurrence. He reports a number of cases in point, emphasizing two minor factors in technique: (1) The distance between the tube and the lesion should be made as short as is consistent with the avoidance of sparking from the apparatus to the patient. In treating a large area this rule does not hold. In a small lesion, it reduces the time of exposure very materially. (2) The screen used to protect the normal parts need not be entirely opaque to the *x*-rays. The rays which affect the skin seem to have very little power of penetration. The advantages of ordinary rubber sheeting which may be folded into three layers are the ease of manipulation and the avoidance of the disagreeable tingling so often noticed when lead is used. In a series of cases which the writer reports, only one recurred. X-ray treatment is also invaluable for those patients in whom any radical operation is impossible, or inadvisable; or for those by whom it is refused. The safety, convenience, and painlessness of the method are its great advantages. Besides, if the lesions are superficial, there is a reasonable hope of permanent cure.

Suctorial and Other Insects as Plague Carriers.—Maximilian Herzog refers to many interesting observations in relation to various insects as plague carriers. He reports a case of bubonic plague which occurred in a Filipino girl. The cervical glands were the seat of the primary bubo. The writer declares that in the absence of all wounds on the head, the neck, the mucosa of the nose, the buccal cavity, and so on, and in view of the fact that plague bacilli were demonstrated in pediculi taken from the head after death, it does not seem unreasonable to assume that in this case the infection was conveyed through the bite of pediculi coming from another individual infected with plague.

Annals of Surgery, March, 1905.

A Case of Cervical Rib with Symptoms Resembling Subclavian Aneurysm.—A case is reported by J. B. Murphy, who notes that the development of a cervical rib is either from the ossific center of the transverse process of the sixth or seventh cervical vertebræ or from a separate center of ossification articulating with the body and transverse process of the cervical vertebræ in the same manner as the thoracic ribs. Cervical ribs do not develop until the patient is well into adult life. According to Gruber's classification, the rib may vary in size from a mere protuberance scarcely extending beyond the transverse process to a complete rib with a sternocostal cartilage, either individual or combined with the first rib. In about two-thirds of the cases of this anomaly the rib occurs on both sides. Symptoms are referable to pressure and displacement. Pressure may be exerted on the brachial plexus trunks, causing paresthesia and paralysis, on the subclavian artery, causing brachial ischemia, aneurysm, thrombosis, and gangrene, or there may be a tumor formation in the supraclavicular triangle. Diagnosis is made and verified by palpation and a skiagram. Immediate removal should be undertaken. The operation is not dangerous or difficult. The periosteum should be removed with the rib, in order to prevent reformation. The special case narrated is that of a man of thirty-eight years and a farmer by occupation. Symptoms commenced with disturbances of circulation in the left hand and arm and on examination a pulsating tumor was found in the left supraclavicular space. Operation was without incident, and in a few weeks the symptoms had practically disappeared.

Interstitial Hernia.—C. G. Cumston reports one case operated on with success, the patient, a girl of nine years, leaving the hospital cured in three weeks. The hernia in this case was of the inguino-interstitial variety. Generally speaking, the diagnosis of interstitial hernia is difficult. As to differential diagnosis, we need think only of fibroma for these growths are sometimes observed in this general region, making their exit from the aponeurosis of the external oblique muscle. The literature of the subject is gone over thoroughly by the author, who discusses the mechanical factors entering into this clinical condition. Symptomatically, interstitial hernia forms an abdominal swelling when it makes its exit through the abdominal ring, or when the interparietal sac is greatly developed and has a voluminous content. But it should be recalled to mind that there are instances of interstitial hernia where no tumefaction is present, as an example of which the inguino-properitoneal variety may be cited. The prognosis of interstitial hernia not operated on is more unfavorable than that of inguinal hernia in general, because the anatomical make up of the former renders it more liable to strangulation. The only proper procedure is a radical intervention. The longer they are allowed to go without surgery, especially if a truss is worn, the more unfavorable is the prognosis. Owing to the great variation in local conditions, no absolute rule as to method can be given and an operation may prove to be a very complicated one.

The Relation of Mechanical Distention to the Etiology of Appendicitis.—C. Van Zwalenburg notes that in a study of appendicitis four conditions point the way to etiology: (1) the constriction, (2) the concretion, (3) the bacteria always present, and (4) the distention observed in early cases. He believes that another necessary condition exists in the hydrostatic pressure in the distended appendix. Pressure upon the blood-vessels in the interior of the appendix lowers the resistance, and the germs do their work. If continued, it obliterates blood-vessels and produces necrosis and gangrene. Many attempts have been made to explain the vascular changes by trauma or pressure from concretions, foreign bodies, or kinking or torsion; but the fact that the fluid can produce pressure upon blood-vessels as well as solid bodies has been overlooked. If a constriction exists in any part of the lumen of the appendix with a concretion behind it, fluid will gradually accumulate and inflammation ensue. The fluid may at first be merely glandular secretion, and the gradual increase of pressure within the appendix cavity occludes the efferent vessels within its resisting walls. The capillaries responding to the obstruction beyond dilate and allow the escape of serum; lymphatic drainage is blocked and effusion results. This whole fluid accumulation in a cavity never sterile becomes infected, and following this infection come successively infiltration, strangulation, necrosis, and gangrene. Anything increasing tension in the colon will increase pressure in the appendix, and hence such varying causes as diarrhea, constipation, flatulency, injury, and athletic strain have been looked upon as the exciting cause of an acute attack. The author believes that closure of the appendix with consequent distention is often purely accidental. It may come on during sleep. The position of the patient may favor it. The constriction and concretion alone may exist for years without symptoms.

French and Italian Journals.

Treatment of Phlyctenular Ophthalmia by the Yeast of Beer.—Ginestous has been making investigations in the treatment of phlyctenular ophthalmia. Such happy results have been obtained in the treatment by yeast of various affections due to the staphylococci, that he conceived the idea of applying this method to phlyctenular ophthalmia. The laboratory researches have shown that the staphylococcus aureus or albus is the microorganism by far the most frequent in phlyctenulæ of the cornea. Ginestous being impressed by the uncertain results of the local application of the yeast, determined to administer it internally. It was given dry in a daily dose of four grammes, to an adult, in the form of wafers at the beginning of the two principal meals. Two grammes were given to a child. Since October, 1904, he has treated twenty-five patients by this method. In each case in which the yeast was given internally a very striking improvement took place in a short time. In certain cases the affection, which seemed rebellious to the ordinary local treatment, was cured by the addition of the yeast to the treatment. Ginestous believes that this method is of the utmost value in phlyctenular ophthalmia.—*Revue Française de Médecine et de Chirurgie, March* 20, 1905.

Uterine Fibromyoma with Vesical Troubles; Hysterectomy; Recovery.—Le Filliatre reports this case. The patient was a woman of 43 years, unmarried. For twenty years she had had painful menstruation followed by lucorrheal discharges for about ten days. Since the age of 42 the menses had been more abundant and had lasted for eight or nine days instead of for four or five. For two years the patient had felt a sensation of weight in the region of the bladder, more marked at the time of menstruation, and for eighteen months urination had been difficult. The urine often was voided drop by drop, micturition causing pain. On account of the vesical troubles, Filliatre was consulted. The general condition was satisfactory, although the patient was fat. The cervix was found to be behind the symphysis. By abdominal and vaginal palpation, a large uterine body was felt through the thick abdominal wall and was the size of a child's head. It was very irregular and the lower extremity seemed to bulge into the cul-de-sac of Douglas. On the anterior surface of the body, above the cervix, there was a tumor the size of an egg which seemed to compress the region of the vesical neck. The uterus was mobile and the adnexa seemed to be in good condition. Operation was advised. Sub-umbilical median laparotomy was performed. When the peritoneum was incised, the uterus was seen to be large, fibromatous, very irregular, and mobile. There were no adhesions to the bladder and the adnexa were normal. Supravaginal hysterectomy was performed. Drainage of the small pelvis was instituted. The drain was removed on the fifth day. Recovery was uneventful, and the previous symptoms entirely disappeared.—*Bulletins et Mémoires de la Société Anatomique de Paris,* January, 1905.

Vegetative Endocarditis in the Course of Typhoid Fever.—Roque and Corneloup had this interesting case under observation. The patient, a woman of 26 years, had never before been ill. She was in her third week of typhoid fever before she entered the hospital and before the diagnosis was made. The pulse was 150, but the heart was not large. The apex was in the fifth space; the first sound was not clear and there was a slight souffle. The tachycardia persisted. Arhythmia was constant. A variable systolic murmur was present, loudest at the apex. Towards the end, thoracis edema developed. The patient had entered the hospital on November 10, and she died on December 21. Autopsy revealed extensive vegetations on the edge of the mitral valve, forming a crown over the whole border. Otherwise the valves were supple and not thickened. It was a vegetative endocarditis exclusively marginal. Although the cardiac muscle, examined macroscopically, did not appear abnormal, fragmentation was seen microscopically and a hyaline condition with increase of volume resembling the degeneration of Zenker. There were, besides, round cells in increased numbers in the interstitial spaces. From the results of bacteriological examination, these investigators are unable to affirm absolutely either the presence or absence of the bacilli of Eberth in the vegetations.—*Lyon Médical,* March 18, 1905.

Treatment of Hemorrhages of the Intestines.—Mathieu and Passier have had excellent results in the treatment of intestinal hemorrhages of typhoid fever by hot water and calcium chloride administered by irrigation. The amount of calcium chloride in twenty-four hours which is given to a patient is one gramme by mouth and three grammes by irrigation. These workers have found that the calcium chloride is habitually well tolerated. The duration of treatment varies according to the dose. Four days is considered long enough by certain authorities. Others continue it for a longer time when the doses are very small. The elimination of the salt is sufficiently rapid so that it does not accumulate in the organism. It is well always to find out first if the patient has normal kidneys before giving it. It is considered beneficial to clear the intestine of extravasated blood. Putrefaction can then not take place, and one cause of intoxication is removed. The irrigations should be given carefully and slowly. About a liter of water is used; the patient should be in dorsal decubitus, and the operation should take about fifteen minutes.—*Revue Française de Médecine et de Chirurgie,* March 20, 1905.

Ozonotherapy and Hematolysis in Pertussis.—A. Muggia and M. Bertolotti have used ozone in thirty-five cases of convulsive cough, with encouraging results. Ozone acts in pertussis as a powerful antispasmodic, with almost specific effect, especially in the more severe cases. After ten to twenty sittings, one each day, the most rebellious attacks are cut short. This action is antispasmodic rather than antitoxic or antimicrobic, as is shown by the examination of the blood formula, which was made in every case. There is a hyperleucocytosis in pertussis, but there is a predominance of the large mononucleated elements, with oval nucleus and not staining well. Hence there is no lymphocytosis. There is a true inversion of the leucocyte formula in the blood, in the sense that the polynucleated elements and lymphocytes are diminished, and the large mononucleated elements are increased. This inversion corresponds to a reaction of the system against the toxic virus. Pertussis is an infective disease that leaves the patient with a more or less permanent immunity, and this immunity depends on the increase of the mononucleated leucocytes. Ozone in no way modifies the blood formula; therefore it has an antispasmodic, not an antimicrobic action. It is also a good stimulant of the hematopoietic organs, and there is an increase of red blood corpuscles and of hemoglobin. The ozone used was generated by electricity.—*Rivista di Clinica Pediatrica,* February, 1905.

Book Reviews.

Die Wirkungen von Arzneimitteln und Giften auf das Auge. Handbuch für die gesammte ärztliche Praxis. Von Dr. L. Lewin, Professor in Berlin, und Dr. H. Guillery, Oberstabsarzt in Cöln. II. Band. Mit 14 Textfiguren. Berlin: Verlag von August Hirschwald, 1905.

The second volume of the work by Lewin and Guillery is one of 1,046 pages. The sixth division of the work (five divisions are included in Volume I) is devoted to a consideration of the influence of fungi on the eye. The various fungi are considered under three groups: (1) Those which produce local lesions; (2) those which produce local lesions and are also capable of producing general systemic disease; (3) those which affect the eye and its appendages secondarily to a general systemic infection. This part occupies 750 pages. It treats exhaustively of all the varieties of fungi known to be pathogenic to the eye, gives abstracts of recorded cases, and includes a large bibliography. This part of the work is really a complete treatise of the bacteriology of the eye, and is very valuable.

Part 7, which completes the text of the volume, takes up the subject of the toxic effect of various substances on the eye, as well as the escharotic effect of various drugs and chemicals. A comprehensive description of each substance, its effect on the eye, and the appropriate treatment are given. This division is subdivided to classify properly the different varieties of substances that are included in this category. A list of the names of writers whose articles were consulted follows, and the volume is completed by a comprehensive index.

The work is by far the most complete of its kind. It should be available to all ophthalmologists.

Massage des Membres. Par le Dr. Dagron, ancien interne des hôpitaux, ancien aide d'anatomie à la Faculle, avec 101 figures dans le texte. Paris: G. Steinheil, 1905.

This book commences with a brief historical sketch of massage, which is succeeded by a somewhat lengthy chapter on the general technique of massotherapy. This chapter is important, and gives much necessary information; it emphasizes the necessity for simplicity in the various movements required, and also shows that the human hand is not only the best, but also the only instrument needed. The different regions of the body (limbs and joints only) are then successively dealt with, and an outline of the necessary anatomy and physiology of the part is given; this is followed by a clear description of the methods of massage as indicated in various injuries and diseases. The ground is well covered, and the book will, we doubt not, do much to place massage in its rightful position as a therapeutic agent.

The Differential Diagnosis of Syphilitic and Non-Syphilitic Affections of the Skin, Including Tropical Diseases. By George Pernet, Assistant to the Skin Department, University College Hospital, London; late Pathologist to the Hospital for Diseases of the Skin, Blackfriars. London: Adlord & Son, 1904.

This little volume commends itself at once by the great importance of a subject too much neglected by students and practitioners; by the easy style of what the author calls a "survey" of the subject; by the information included relating to tropical and rare affections, and by the light weight which enables one to hold it with one hand.

Strangely enough, the term "chancroid" does not appear, though chancrelle and German synonyms are given for the soft sore. Like most British authors, he speaks of epithelioma and rodent ulcer as though they were distinct affections.

While in no sense exhaustive, its reading through will repay even the well informed, and the student who has seen enough patients to get an idea of appearances will benefit by its study. There are no illustrations.

International Clinics. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia. Vol. IV. Fourteenth Series. Philadelphia and London: J. B. Lippincott Company, 1905.

This quarterly of illustrated clinical lectures and specially edited departments, having the cooperation of Osler, Musser, Rotch, Walsh, Harold, and other home and foreign talent, maintains its place in the sphere of periodical literature and review.

Some of the articles treat of medicinal intoxication (Hayem), dechloridation treatment (Javal), radium (Metzenbaum), the desperately ill (Lejars), polycythemia (Weber and Watson), the importance of pathological diagnosis (Solis-Cohen), the incidence of gout (Duckworth), albumosuria (Senator), general enlargement of the liver (Crombie), functional heart murmurs (Rudolf), Glenard's disease (Gallant), etc.

The general scope and tone of the work are high and the articles in the main interesting and instructive, with a fair amount of new matter.

Röntgenologisches Hilfsbuch. Gesammelte Auflsatze von Ingenieur Friedrich Dessauer. Band I. Würzburg: A. Stuber's Verlag, 1905.

This is a collection of writings upon the principles and most important curative methods of Röntgen procedure. In several chapters various technical questions are considered and interrupters, spark length, apparatus, orthodiagraphy, and radioactivity form separate chapters.

There are thirty-three illustrations. If this is to be regarded as a sample of other volumes, the whole will be a decided addition to the literature of radiology.

Electro-Static Modes of Application, Therapeutics, and the Uses of the Röntgen Ray. By William Benham Snow, M.D., Professor of Electro-Therapeutics and Radiotherapy in the New York School of Physical Therapeutics, Editor of the *Journal of Advanced Therapeutics,* and late Instructor in Electro-Therapeutics in the New York Post-Graduate School, etc. Third edition, revised and enlarged. With over one hundred illustrations, including ten full-page half-tones. New York: A. L. Chatterton & Co., 1905.

There have been scarcely any changes made in this edition and no new chapters added. In this respect the work does not come up to the requirements of the day since views upon the possibilities of the *x*-ray and its limitations may be said to have undergone some change, and new observations are of almost daily occurrence. The dangers to the operator from effect upon important organs apply equally to the patient of either sex and these questions are claiming much attention just now. Some illustrations have given way to new ones, but in a future edition this might be carried still further.

The author is to be congratulated on the necessity for a new edition so soon after the second.

Les Indications des Interventions Chirurgicales dans les Maladies Internes, à l'usage des Médecins Praticiens, par le Professeur Hermann Schlesinger (de Vienne) traduction française de MM. les Docteurs Lichtwitz et Sabrazès, Professeur agrégé, Médecin des Hôpitaux de Bordeaux. Première partie: Maladies du système nerveux, des os et des articulations, de la plèvre, du médiastin, du système circulatoire et du tube digestif. Paris: Vigot Frères, 1905.

This is a French translation of the first part of a book already well and favorably known to German physicians (two of the three volumes having already appeared in Vienna), but of which we know of no counterpart in English literature. The work is of a thoroughly practical character, and may be described as a work on surgery for physicians or internists. It not only fulfils the promise of its title, as setting forth the indications for operation in internal disease, but also discusses the queston of diagnosis based upon the essential symptoms in the special cases. Guided by a book of this nature, the medical man will be in position to recognize the limits of his more gentle art and to summon to his aid betimes the man of action, the miner and the sapper of therapeutic warfare.

The Life of Florence Nightingale. By Sarah A. Tooley, author of "Personal Life of Queen Victoria," "Life of Queen Alexandria," "Royal Palaces and Their Memories," etc., etc. With twenty-two illustrations. New York: The Macmillan Company; London: S. H. Bousfield & Co., Ltd., 1905.

On October 21, 1854, the heroine of this true tale, more interesting than many a work of fiction, left London with a band of thirty-eight nurses for service in the Crimean War, and the author tells us that the writing of the Life was undertaken with the object of marking the semicentenary of this epoch-making journey. It is a matter of congratulation that this mother of nurses was still alive to celebrate her jubilee last autumn. A pleasing fact, which bears witness to the veneration with which the rising generation in England regards this prototype of the Red Cross angel, is related by the author in her preface to the Life. A short time ago the editor of *The Girl's Realm* took the votes of his readers as to the most popular heroine of modern history. There were fourteen names submitted for the suffrages of the young readers of this magazine, and of upwards of 300,000 votes cast, 120,776 were for Florence Nightingale.

The biography is most interesting in all its parts—the childhood and early life, in which the first signs of a bent toward nursing were manifested; the young womanhood in which the nursing sisterhoods in Germany and France were visited and the future work of devotion to the sick and wounded in the Crimea, though as yet undreamed of, was being prepared for; the mature years in which the great work was achieved; the later years of semi-invalidism, in which the training schools at St. Thomas's Hospital and elsewhere were established and the work of district nursing was advanced; and the closing years of bodily inactivity upon the bed, but of mind still alert and busied with thoughts of helping the poor and the sick.

Society Reports.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, March 13, 1905.

The President, Dr. Thomas E. Satterthwaite, in the Chair.

The Constitutional Treatment of Bright's Disease.—Dr. William H. Porter said that scientific therapeutics in renal diseases called for a method of treatment that had for its aim not alone the removal of symptoms, but the elimination of all the etiological factors entering into the production of the pathological lesions. It should also aim to remove the pathological lesions, and bring about as nearly as possible a normal state in the organs implicated. The etiological factors were comparatively simple in connection with the parenchymatous group, but were much more complex in dealing with the diffuse form of renal lesions. For the parenchymatous group they might briefly be stated as eating and drinking too much, putrefactive fermentative changes in the alimentary tract and the indirect or direct action of microorganisms, acting either in the intestinal tract or within the system. For the diffuse group we had all the above factors, to which were added a more or less rapid disintegration of the epithelial cells, the passage of toxic matter through the kidney, either paralyzing the nerve endings in the kidney or acting reflexly from this point, and thus interfering with the circulation through the kidney.

The treatment of renal lesions was best considered under two common headings; first, that of prevention, and, second, that which was applicable after positive development of the renal lesion. Knowing that the parenchymatous lesions, or those involving the epithelial structures alone, were largely due to overeating and drinking, but especially the former, great care should be exercised in the regulation of the diet. Knowing also that putrefactive changes in the proteids in their passage through the alimentary canal were frequently responsible for this class of kidney lesions, this tendency to putrefactive fermentation should be carefully corrected. The damaging effects of the bacteria, acting either directly or indirectly, should not be neglected in the preventive treatment. In health, as well as in disease, the quantity as well as the quality of the food taken should always be kept well within the oxygenating capacity of the animal economy, if overwork and a faulty nutrition of the renal glands was to be avoided.

What had been said in regard to the prevention of the epithelial and interstitial changes singly in the kidney, applied with equal force to the prevention of the combination of the two when developed together, as occurred in that set of lesions known by the name of a diffuse lesion of the renal structures. The predominance of the one or the other type of lesion, or the combination of the two in the same kidney, was governed by the kind and amount of the toxic products that were brought to bear upon the renal cells or upon the nervous mechanism that controlled the circulatory and nutritive functions of the renal glands. Therefore, it became clearly apparent that all forms of renal lesions were dependent primarily, and in a very large measure, upon what the individual ate and drank. Aside from this, lack of exercise in the open air, sedentary habits, unhygienic surroundings, overwork, both mental and physical, especially the former, should never be lost sight of as factors that entered into the possibilities of a perfect or imperfect digestion, circulation, and utilization of the food products taken into the system.

When it came to the treatment of the actually existing renal lesions, as evidenced by the profound changes in the oxidation products found in the excreta, particularly in the urine, and which reached their height in the form of albumin, sugar, casts, etc., a still more arduous undertaking confronted the therapeutist. All that had been said in reference to the prevention of these lesions applied with even greater force to the more difficult task of removing the damage already done to the renal structures, and bringing them to such a nutritive condition that they could again perform their function normally. In treating the fully acquired lesions, out-of-door exercise must be insisted upon with as much precision as the use of medicines. Exercise should not be taken to the extent of producing exhaustion, but in sufficient amounts to increase the oxygenating capacity of the system, so that it would be enabled more perfectly to oxidize the proteid constituents. The clothing should be such that it would prevent undue chilling of the surface of the body from the sudden changes in the atmospheric temperature. In fact, the best results were obtained where the surface of the body was kept in a gentle perspiration at all times. The chief and all-important treatment, however, consisted in the perfect management of the diet in accord with our advanced knowledge as to its composition and utilization by the system. Here, as in all other diseased conditions, as well as in health, the well-regulated mixed diet was the ideal one. The milk diet, which had been so long extolled in the dietetic management of all renal affections, was largely deficient in that complex substance in which the iron and phosphorus atom was combined with a proteid, known as nucleo-albumin, and out of which the hemaglobin for the blood and the lecithin for the nerve tissue was formed by oxidation reduction. Hence, milk could not be considered an ideal diet in any class of lesions in which a progressive anemia was one of the essential features, as was the case in connection with all renal lesions.

A well-regulated mixed diet was one that was composed of both the vegetable and animal class, but in which the latter largely predominated. When nature, unaided, could not digest such a diet, she often could be assisted by the judicious administration of medicinal agents. Careful experimentation upon the human subject had conclusively demonstrated that the proteid of beefsteak or red meat was the most easily digested, assimilated and oxidized of all the proteids, the loss being only two per cent. Eggs ranked next, and milk came third on the list, and so on down through the list of food products until oatmeal was reached, which was the most indigestible of all known substances, for with oatmeal there was a loss of eighty per cent., as compared with the amount ingested.

Medication in renal diseases, as formerly used, and as it was still employed in many instances at the present time, simply added fuel to the fire, and absolutely prevented nature from accomplishing what she might otherwise do, and thus prevented recovery. On the other hand, when the exact chemical laws were fully comprehended and so-called medication applied in full accord with those phenomena and principles, nature was greatly aided in her efforts, not only to prevent the development, but in bringing about a physiological cure of these diseases. The treatment should be directed not so much to the kidneys as toward removing the etiological factors that entered into the production of those lesions. Operative interference did not remove any of the etiological factors, unless it was the loss of contractility and expansibility of the renal gland, taken as a whole.

Dr. Reynold Webb Wilcox said he agreed with Dr. Porter that the difference between an animal and vegetable diet was rather a difference of terms than of kind: as the speaker had pointed out, the vegetable proteids were more difficult of oxidation than the animal. He also gave his hearty assent to the statement that what was properly known as chronic interstitial nephritis was the result of a condition that was not limited to the kidneys, and was, more correctly speaking, a disease of the arteries, the arterial changes being present in every organ and tissue of the body; therefore neither decortication nor pelvic irrigation had any influence upon the course of the disease.

The drug treatment of renal disease, Dr. Wilcox said, had probably, at one time or another, embraced every known drug in the Pharmacopœia. Among the more recent advances in the treatment of chronic parenchymatous nephritis, the speaker mentioned dechloridation; also the limitation of the quantity of fluid ingested, and the more careful regulation of the food. The daily output of sodium chloride in the urine should be kept track of, and the daily weight of the patient would furnish the therapeutic indication as to what amount of sodium chloride it would be necessary to eliminate from the food, and would also give a pretty accurate idea of when to expect the occurrence of dropsy. The diminution of the amount of fluids ingested would oftentimes be followed by an increased flow of urine. By a "water-free" diet was meant one that did not allow over a liter and a half of water, exclusive of that taken in the food. But occasional days of free water drinking should be allowed.

The so-called diuretics, Dr. Wilcox said, should be avoided in the treatment of chronic renal disease. In the chronic interstitial form of nephritis, the sphygmograph was of great value as an aid in the early recognition of the disease. The only drug he mentioned was erythrol tetranitrate, which in doses of one-half to one grain was efficacious as a vasodilator: in its action it resembled nitroglycerin and amyl nitrite, but it differed from them in being less powerful, but more prolonged. For the persistent headaches of chronic interstitial nephritis, and for the purpose of relieving coma and convulsions, tapping of the spinal canal had been practiced with much success. The effects of this procedure were purely mechanical, relieving pressure. High intestinal irrigations, as carried out by many, and as studied experimentally and physiologically by Kemp, were very beneficial in the treatment of this class of cases. By this method, toxic substances were eliminated, the flow of urine increased, and the heart strengthened. The speaker said he had seen patients who were apparently in a comatose condition restored to a state of comparative usefulness by this method of treatment. Under proper dietetic, hygienic, and medicinal treatment the majority of patients suffering from renal disease were curable; of those not curable, more were capable of enjoying fairly good health for many years.

The Treatment of Bright's Disease by Lavage of the Renal Pelves.—Dr. Winfield Ayres presented this paper, and offered the following conclusions: 1. Not enough importance had been given to the probability that a large percentage of cases of chronic nephritis in which no discoverable cause for the inflammation could be found were really due to an extension of the inflammation from the renal pelvis. 2. Lavage of the renal pelves was only applicable in selected cases of nephritis. 3. Lavage of the renal pelves would certainly cure a beginning nephritis that was due to extension of inflammation from the renal pelves. 4. Lavage of the renal pelves in sub-acute and chronic parenchymatous nephritis would check the disease and markedly improve the general condition of the patient in those cases that had not reached the stage known as cirrhotic kidney. 5. Lavage of the renal pelves for nephritis by one who was not properly trained in the technique could not possibly improve the condition of the kidneys, and would do harm.

The Treatment of Pyelitis.—Dr. Howard A. Kelly of Baltimore, Md., read this paper. (See page 521.)

Dr. F. M. Johnson of Boston, Mass., said the papers of the evening, embracing as they did the treatment of renal disease from different standpoints, opened a wide field for discussion. In the great majority of the cases of Bright's disease that he had treated by lavage of the renal pelves during the past year, various methods of diet had been tried and had failed, but the patients seemed to improve when, in addition to the restricted diet, lavage of the pelves was done. In experienced hands, the speaker said he did not regard lavage of the kidney pelvis any more serious a procedure than he did lavage of the bladder.

Dr. George M. Edebohls said the work done by Dr. Kelly in this particular field was of such an ultra-progressive kind that it stood in a class by itself, and he knew of no one who was competent to discuss it excepting Dr. Kelly himself. He had been much interested in Dr. Ayres' very radical contribution to the treatment of Bright's disease by lavage of the renal pelves, and while the statements made by the author in his conclusions were unassailable, they were not borne out by the report of the cases upon which they were apparently based. From the data contained in Dr. Ayres' paper, exception might be taken to the diagnosis of even the so-called incipient cases of Bright's disease. It was a matter of every-day observation that a trace of albumin, and a few hyalin and granular casts were present in probably nine out of ten cases of movable kidney, but the speaker said he had never regarded these findings as an indication of chronic nephritis or of incipient chronic nephritis. When the kidneys were anchored these abnormal constituents of the urine disappeared, but this did not indicate that the patients were cured of incipient chronic nephritis, but simply that the congestion of the kidney had been relieved. It would take many years of careful observation, the speaker said, before even an approximate idea could be formed of the value of lavage of the renal pelves in the treatment of Bright's disease.

Dr. Edebohls said he could recall cases in which a pain like that described by Dr. Kelly was entirely relieved by fixing a movable kidney, after extirpation of the tubes and the appendix and even sometimes the uterus itself had failed to affect it. It might be that in those cases the abnormal position of the kidney had given rise to a slight hydronephrosis or pyelonephrosis, which was relieved by fixing the organ in its proper place. It was not advisable, the speaker thought, to immediately resort to ureteral catheterization in dealing with these cases. While the introduction of a catheter into the ureter was a comparatively harmless procedure in the hands of Drs. Kelly and Ayres, there were probably fewer men to-day who could be safely trusted to do it than there were men who were competent to do a major operation on the kidneys.

Dr. Willy Meyer said that Dr. Kelly had shown in his instructive paper that in the majority of cases of pyelitis the cause was a mechanical one, namely, a stone in the pelvis or ureter, or a stricture of the ureter. Other causes that might be mentioned were stricture of the urethra in the male, cases of ascending infection without the presence of stone or stricture, and those due to infection through the blood or lymphatic current. Cases that were the result obstruction of the ureter by stone, or by pressure from without—and these were especially frequent during pregnancy—were amenable to treatment as soon as the cause of the trouble was made out. The same was true of those following prostatic enlargement. In those cases, no matter what operation was done for the removal of the enlarged prostate, the pyelitis would disappear if proper drainage was established. It was not always an easy matter to recognize a pyelitis, as the method of ureteral catheterization practiced by Dr. Kelly in females was a much more difficult matter in males.

Dr. Meyer said that an ordinary, uncomplicated pyelitis following typhoid fever or other infectious disease would often be cured by itself. In adopting the therapeutic procedure described by Dr. Ayres, it was important to differentiate between pyelitis and Bright's disease. If the former condition was recognized at an early stage, and treated by lavage of the pelvis of the kidney, we might be able to effect a cure and prevent the development of pyelonephrosis. How it was possible, however, to benefit a patient with chronic parenchymatous inflammation of the kidneys by washing out the renal pelves was a conundrum which the future might explain. While the bloodless procedure of ureteral catheterization had its place in dealing with septic conditions of the kidney, it should not be used to the exclusion of more radical surgical measures in properly selected cases.

Dr. Frederic Bierhoff said all would agree that attempts to catheterize the ureters or wash out the renal pelves in the course of acute Bright's disease would be unjustifiable, and in order to be entitled to serious consideration in the treatment of chronic renal disease, the procedure must either be based upon a correct appreciation of the histological and pathological condition it aimed to correct, or else it must show indisputable results. According to the statements set forth in Dr. Ayres' paper, neither of these conditions were fulfilled. Lavage of the renal pelvis was simply a further development of ureteral catheterization: both were serious operations and should be resorted to only in cases of imperative necessity, and then only by men who were dexterous in these manipulations, and under the most stringent antiseptic precautions. The fluid injected through the ureteral catheter could penetrate no further than the calices, and whether plain or medicated, its action must of necessity be confined to the mucous membrane with which it came in contact. Admitting this, Dr. Bierhoff said he was unable to see how such applications could have any effect whatever upon a process which all authorities conceded had its origin in the remoter tissues of the kidney. In chronic Bright's disease the tissues of the kidney were affected from the beginning, the exciting cause being carried by the blood current, and the speaker said he failed to see how any fluid applied to the pelvis or calices of the organ could have the slightest effect upon the tissues of the Malpighian tufts. The mere reduction in the quantity of albumin in the urine was of no great importance. That could be effected by rest in bed, by various forms of diet, and by methods of treatment outlined by Dr. Porter. The same thing applied to dropsy and the presence of casts in the urine. Their disappearance did not signify that the kidney lesion had been cured. From the facts thus far set forth, Dr. Ayres was not justified in making any claims whatever in regard to the method of treatment proposed.

Dr. Boleslaw Lapowski said he thought the method of treatment described by Dr. Ayres was based on an erroneous idea, as he acted on the theory that by washing out the renal pelves he prevented infection of the kidneys from the pelves. This conception as to the method of kidney infection was not based on facts. Taking, for example, a gonorrheal infection of the kidney, Dr. Lapowski said there was not a single case on record in medical literature in which the gonoccocci entered the kidney through the pelvis, while there were many cases which proved that the gonococci passed from the circulation through the kidney into the pelvis. When the gonococci had once found a lodgment in the mucous membrane of the pelvis, no amount of lavage—in fact, nothing short of the use of the curette—could remove them. For that reason, the treatment of a pyelitis of gonorrheal origin by lavage was useless.

Dr. Albert A. Berg said that the term chronic Bright's disease was not synonymous with chronic nephritis. We had reached that stage in our knowledge of the pathology and histology of kidney diseases where we should relegate to the past the former term, and study the various lesions under the name of chronic nephritis. They were due to many causes, among them the tubercle bacilli, floating kidney, stone in the kidney, various toxins resulting from the acute infectious diseases, chronic suppuration, and so on. In a case of chronic nephritis due, for example, to prolonged suppuration, the speaker thought it would take a good deal of lavage of the renal pelves to restore such a kidney. The same was true of other forms of chronic nephritis, but under certain conditions the procedure might be of value. In dealing with an ascending infection from the bladder, associated with obstruction to the free drainage of the pelvis of the kidney, such an organ might be greatly benefited by ureteral catheterization and lavage, but to advance the procedure as a panacea for all forms of chronic nephritis was not justifiable without more convincing proof.

Dr. Ayres, in closing, said the method of treatment he had described was applicable only in selected cases of nephritis. He thought it would cure a beginning nephritis that was due to extension of the inflammation from the renal pelves, but he had not claimed that it would cure advanced cases. The speaker said he had used the ordinary straight-tube cystoscope in the male ureter, and with the waxed tip had located ureteral stones. It had not been his purpose to draw any absolute conclusions regarding this method of treatment, as further experience was essential before that could be done. In reply to Dr. Lapowski, the speaker said he had never found any gonoccocci in the urine from the kidney pelvis.

Dr. Kelly, in closing, emphasized the importance of more frequent autopsies, so that the objective conditions to be met with in these cases could be better studied.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated meeting, Held March 3, 1905.

The President, Samuel Lloyd, M.D., in the Chair.

Undeveloped Wisdom Tooth Simulating Sarcoma.—Dr. Alfred S. Taylor presented a young man who, seven years before, had been injured while boxing. A sinus developed over the ramus of the superior maxilla. It was probed and treated in every possible manner without success. At length Dr. Taylor operated and removed a granular, pulpy mass, which appeared to be a sarcoma of the jaw. It proved, however, to be a metamorphosed unerupted wisdom tooth. The speaker had been able to find but twenty cases recorded in the literature of the subject.

Suppurative Tuberculosis of the Elbow; Resection and Iodoform Wax Filling.—Dr. Charles A. Elsberg presented this case. The patient was a girl about 14 years of age, whose elbow joint had been resected and scraped, and indeed subjected to almost every form of surgical intervention for the treatment of chronic osteomyelitis. The last time that operation was undertaken a thorough curettage had been done; the parts had been dried and an iodoform wax filling had been carefully packed into the cavity. A portion of this wax was extruded within two weeks, but the pain and the discharge ceased. The patient wore a light brace capable of flexion and extension only. The object of the brace was to wear upon the surface of the bone, which was being laid down as the wax was absorbed, facets which should simulate those of the normal joint. As in the many other cases which he had operated upon, the speaker had noted here the tremendous stimulation of the bone tissue afforded by the iodoform wax filling. Whereas for the past five years the arm had been entirely helpless, the child was now able to flex and extend the forearm to a very encouraging degree.

Perforating Bullet Wound of the Chest and Abdomen.—Dr. Elsberg also presented a woman, 33 years of age, who was struck by a 32-calibre lead bullet, which came from an unknown source. It had entered just above the right nipple and had passed downward, inward and to the left. She experienced some shock at the time, and four days later became profoundly septic. Dr. Elsberg immediately explored the region of the wound, made an incision near the xiphoid over the course of the bullet, and then performed laparotomy, discovering a perforating wound of the liver, of both walls of the stomach, and of the left kidney. This latter organ was removed because it was very badly injured. The woman improved, but as time went on developed a septic temperature and gradually passed into a most frightful condition. Incisions and aspirations were made all over her entire abdomen and trunk as suggested by various consultants in the hope of finding the pus, but all to no purpose. Finally in despair of saving her life and at a time when she was almost moribund, Dr. Elsberg did a transpleural hepatotomy and succeeded in evacuating a large abscess cavity. From that time on, her progress toward recovery was uneventful.

Acute Intussusception in an Infant.—Dr. Edward W. Peterson presented a child four months and ten days old, who had never previously been sick. Suddenly, without warning, what the attending physician called bloody dysentery developed. The infant at this time had all the characteristic signs of intestinal obstruction and shock.

On operation, it was found impossible to reduce the invagination successfully. Four inches of the ileum, the cecum, and an inch of the ascending colon were resected. On the fourth day the child suffered great pain. This was found to be due to the fact that the button was lodged in the rectum. The patient was discharged on the fifteenth day.

Exstrophy of the Bladder.—Dr. Ramon Guiteras presented this patient, a strong and healthy man with an exstrophy about four inches in diameter. The pubic bones separated at the symphysis from three to four inches with the result that the only part of the penis to be seen was simply a glans attached to the prostatic portion without any apparent penile portion. The ejaculatory as well as the prostatic ducts could be seen. There were twenty-four or twenty-five openings of prostatic ducts, which extended up into the prostatic follicles beside the ejaculatory ducts. The patient has suffered since childhood and had tried a great variety of urinals without relief. At all times there was a leakage of urine causing chafing. At last he gave up trying to use a urinal and was continually wet. His bladder was much inflamed and mucus and ulcers could be seen on the walls. His occupation, that of blacksmith, kept his body flexed so that the clothes were kept away from the raw surfaces. When the question of an operation was discussed the choice was either of a plastic operation, taking a flap from around the bladder, or a transplantation into the rectum. It was thought that the plastic operation would give better results. The transplantation of the ureters into the rectum caused at times an irritable condition of the rectum. The urine escaping from the rectum would produce an irritation about the anus and the cleft between the nates and perineum. Again the rectum might become inflamed. This inflammation might extend to the ureters and even to the kidneys producing a pyelitis, and a pyelonephritis was usually fatal. Dr. Guiteras used a modification of Wood's operation, making a skin flap, measured so as to cover the walls of the bladder. In this patient the skin of the abdomen seemed to be devoid of hair, but if hair had been present, electrolysis would have had to be done first. The flap was brought down over the bladder, freeing the edges of the skin about its circumference and the bladder, beveling both edges. He sewed the skin flap to the base of the bladder; then he took two inguinal flaps and brought them over the raw surfaces. These flaps came in contact with the raw surfaces of the abdominal flap. Catheters were introduced into the ureters and brought out through the canal made by the plastic operation. A soft rubber catheter was introduced into the bladder through the urethra. The patient made an uneventful recovery. In many of these cases a number of plastic operations are required, but in this case there were but two sinuses; one healed about three days after operation and the other in less than three weeks. The denuded area was covered by skin grafts taken from the thighs. He attributed the fact that the artificial bladder was able to hold water to the catheters that had been introduced into the ureters in this way, carrying the urine directly to the outside. After two days the ureteral catheters would not drain and the soft rubber catheter was left in the bladder. He believed this was the secret of the rapid healing of the wounds in this case. The patient was up and about and could hold two ounces of urine while standing and more when reclining. If the patient lived a catheter life the result would be almost as good as though he had but slight control of the bladder. His prostate was about one-half an inch up from the anus. Before the operation one could palpate the prostate because of the absence of the pubes. Six weeks after the operation the patient experienced his first erection, which showed a beginning activity of the genital apparatus. If the pelvis had been strapped and pressure applied when the patient was born the pubic bones might have become approximated.

Dr. Howard Lilienthal considered this to be the best result he had ever seen and ascribed the remarkable success of the operation to the retention of the ureteral catheters.

Deformity Following Dislocation of the Hip.—Dr. Ramon Guiteras exhibited a radiogram which showed extensive destructive processes to have acted upon the acetabulum and the head of the femur on both sides. The case was that of a child of Russian Hebrew parentage about five years of age. The lesion was undoubtedly of tuberculous origin, but the two peculiar things about it were, first, that the child showed no evidence of pain, although flexion was very marked and, second, that it was bilateral.

Exophthalmic Goitre Treated with Antithyroidin.—Dr. Willy Meyer said that Möbius had been the first to endeavor to treat this affection with antibodies. Lanz had prepared a serum from dethyroidized goats, and had obtained some remarkable success with the method. Dr. Meyer exhibited a man about forty years of age in whom he had made use of a glycerinated preparation. It had been given both internally and hypodermically. In six months the patient had lost his tremor and had a pulse of 96 and was able to return to work. No relief of the exophthalmos had been obtained.

Dr. John Rogers said that he was sorry to pour any cold water on so promising a report, but he felt constrained to say that for two years he had been watching Möbius' work very closely and had made a particular study of these cases during the past five years. The conclusion which had been forced upon him was that they improved, but that such improvement was only temporary.

Dr. John Erdmann also reported a case which he had treated by this method and which had failed to improve.

Gastroenterostomy by Means of the Elastic Ligature.—Dr. Willy Meyer showed this patient and also exhibited a new type of ligature which he had found extremely satisfactory.

Posterior Gastroenterostomy by Maury's Twine Triangular Stitch.—Dr. John A. Bodine presented a middle-aged German woman who showed a healthy scar following laparotomy. She was well nourished and described herself as being in perfect health.

The Twine Triangular Stitch for Gastroenterostomy and Enterostomy.—Dr. J. W. Draper Maury read this paper. The speaker stated that the work represented the collaboration of a number of studies made by undergraduate students of the medical department of Columbia University in the Surgical Research Laboratory. He said that the object of the paper was to present in full detail the method of application of the twine triangular ligature and to report the experimental and clinical status of the method. A series of drawings representing the different steps of the technique were then thrown upon the screen, and the method of its execution was analysed. The speaker said that the assertion that the technique was easy of execution must be grounded upon fact, because the students had had no difficulty whatsoever in learning to insert the triangular stitch. He said that the stitch consisted simply of two isosceles or equilateral triangles superimposed. The apex of one lay in the stomach and its base in the gut, while the apex of the other lay in the intestine and its base in the stomach. The object of the stitch was to combine the advantages of the McGraw technique and of the Murphy button and to do away with the well-known objections to each of these classical methods. The objections to the button were its well-known faculty of being retained in the gut, of falling into the stomach, or of perforating the alimentary canal almost anywhere in its course and causing death from peritonitis. Its chief advantage lay in the fact that it punched out an opening. The disadvantage of the McGraw method consisted in its failure to punch out the juxtaposed walls of the viscera, a simple slit only being made. Its advantage consisted in the speed of its application and particularly in the fact that there was very little danger of contamination at the time of its introduction. In this respect, it was universally conceded to be superior to the Murphy button and, of course, to the open method of anastomosis. The twine triangular stitch had been demonstrated to punch out with a certainty equal to that of the Murphy button and it had been shown to be just as advantageous as the McGraw ligature in avoiding peritonitis from a soiling of the peritoneal cavity. The technique given was as follows: A posterior row of Lembert stitches should first be inserted. A piece of twine strong enough to be unbreakable by the hands and threaded on a round needle about 8 centimeters in length should be inserted at the apex of one or other of the triangles described. It should then be passed to either angle and into the opposite viscus, thus determining the base. Emerging at the point of beginning, the process should be repeated in an inverse manner from the opposite apex. The twine should then be tied. This was a most important part of the technique. Necrosis would not take place unless the pressure brought to bear upon the twine was of sufficient force to cause it to appreciably sink into the tissues. At least two centimeters should be taken up in this way. Having completed the tying of the stitch the Lembert should be closed anteriorly and the parts replaced in their normal position. The speaker illustrated his remarks by a lantern slide exhibition of drawings showing the technique and of specimens made at the Surgical Research Laboratory.

Dr. Lilienthal said that he had operated by this method for the first time six weeks ago. No vomiting had occurred and, although it had been persistent before operation, there had been none since the twine was introduced. The second case operated on involved a resection of the stomach and the union of the jejunum with a closed cardia. This case was unsuccessful. The third patient was operated on one week ago and had passed on to uneventful recovery. Dr. Lilienthal considered this to be a distinct improvement upon the technique of McGraw and believed that it would have a very low mortality rate if used in cases where the pylorus is not too extensively obstructed.

Dr. Joseph A. Blake congratulated Dr. Maury upon the success of his work at the research laboratory, and said that in the somewhat limited number of cases in which immediate opening was not necessary, he would infinitely rather trust to the twine than to an elastic.

Dr. Robert Abbe said it was refreshing to hear this report of successful experimental work. It seemed to him that it was only common sense to prefer twine to elastic ligature, and this was particularly so if the twine could be so placed as to cut out. This it could not fail to do if inserted by the ingenious method described. These open operations, he said, were always dirty and must have a higher mortality than a method by which absolutely no fecal material could possibly escape. He said that the time required to insert the triangular stitch was less than that needed to suture properly a Murphy button in position. A patient whom he had operated upon two days before had shown no signs of shock or other disturbance.

Dr. Willy Meyer said that if we could get rid of the elastic ligature and use twine, it would be a progress in the right direction.

Dr. Elsberg said that the McGraw should not be considered in any way a competitor of the Maury stitch, because the latter was such a radical improvement over the older technique. It punched out and this was the desideratum.

Dr. Lund of Boston stated that he had not used the method of the triangular suture or the McGraw ligature, because he was so well satisfied with the method of suture with clamps, introduced into this country by Moynihan, which he had employed in almost all his cases except those in which time was important, when the Murphy button had been used. He considered it a great point in favor of these methods that an immediate opening was made in the stomach and it was not necessary to wait for a slough to separate before feeding the patient. As compared with the McGraw ligature, the twine offered several points of superiority, the first being that a piece of the stomach wall was cut out instead of a longitudinal slit. The twine could be more easily applied than the ligature on account of its non-elasticity, and there could be no question of its varying in quality as was the case with the rubber ligature. Inasmuch as the triangle was the geometrical figure by which a space was inclosed in the smallest number of lines, it seemed to him that Dr. Maury had hit upon absolutely the quickest method of inclosing and cutting out a piece of tissue with ligatures. For it was evident on consideration that this could not be accomplished with a smaller number of sutures than those employed to make the three sides of a triangle. He believed that Dr. Maury's stitch was absolutely the most perfect which had yet been devised, of the methods which depended upon the cutting out of a suture to make an opening, and it was worth a trial in cases where it was not important for the opening to be established immediately. The absence of shock in the cases where the ligature had been employed, was certainly noteworthy, but it seemed to him hardly more noteworthy than the cases of gastroenterostomy in which the clamp and suture had been used according to Moynihan's method. The question of the field of gastroenterostomy as compared with that of Finney's operation, had interested him greatly. Finney's operation was a most excellent procedure. It certainly avoided all possibility of the vicious circle, as no loop was made, and, therefore, no circle formed. Technically, it was, however, somewhat difficult in many cases, especially those in which the pylorus could not easily be brought outside the abdomen. It was more difficult than gastroenterostomy, and the methods of placing the opening at the bottom of the stomach and other improvements of technique had practically put an end to the danger of the vicious circle. Gastroenterostomy was so easily and quickly performed, with absolutely no danger of soiling, everything being done outside the abdomen, and with no danger of wounding large blood vessels, that it was a little safer as a technical procedure than Finney's operation of gastroduodenostomy. The fact that in strictures of the pylorus there was no danger of bile getting into the stomach rendered it necessary to substitute Finney's operation for gastroenterostomy in these cases. Here the pylorus being closed, there was a steady stream of food going into the stomach from the gastroenterostomy opening, and the patients almost uniformly did well. Here also it was unnecessary to supplement gastroenterostomy by enteroenterostomy or closure of the ascending loop. In the other class of cases, viz., open ulcers of the stomach and duodenum, of which about 70 per cent. were located either in the pyloric region or the duodenum, it was desirable to divert the stream of food from passing over the open ulcerated surface. This was not done by the Finney operation. It might be done only by a gastroenterostomy, with, perhaps, enteroenterostomy and the other supplementary procedures mentioned. If this reasoning was good, the field for the Finney operation was greatly limited. In a gastroenterostomy, however, in cases where the pylorus was open, namely, those cases in which the operation was performed for the relief of chronic ulcer without stricture, the patients were sometimes troubled by the presence of a certain amount of bile in the stomach which entered from the gastroenterostomy opening Cannon and Blake had shown that in a gastroenterostomy with an open pylorus, the food passed out o fthe pylorus and up into the stomach through the stoma, forming a circle, a little passing down into the intestine each time until the stomach was empty. In gastroenterostomy for organic strictures of the pylorus, all operators had found that their cases did almost uniformly well. It was in case where the operation was performed for the purpose of curing a chronic ulcer with bile in the stomach, that failure t cure, possibly a recurrence of the ulcer might occur. Th had been the experience of the Mayo brothers, who had been the leaders in the performance of these operations in this country. Moynihan seemed not to have had this trouble, or in fact trouble of any sort, with his operation, but nevertheless it was being recognized by operators almost everywhere as a real difficulty. To obviate the danger of bile in the stomach, enteroenterostomy was usually performed now in cases where the pylorus was likely to remain open. If enteroenterostomy and one of the various methods of closing or dividing the ascending loop, or even division of the pylorus, were performed, the time of the operation was somewhat prolonged, though not unduly in the hands of a skilled operator. In cases where these procedures were adopted, any time saving method like the one suggested by Dr. Maury, would be of the greatest benefit. An objection, however, to its performance where gastroenterostomy, enteroenterostomy, or closure of the ascending loop was required, was that the stomach was made a closed sac with no outlet at all until the stitches cut through, which would have been an undesirable state of things. In case Dr. Maury's method could be modified in some way, so that an immediate opening was produced, it would be a valuable procedure both as a time-saver and as a simplifier of technique. As it stood it was certainly an extremely clever device and one which would have a very definite value in cases where an immediate opening was not regarded as important.

Dr. Frank B. Gray said that in gastroenterostomy three things were essential: First, safety; second, simplicity; third, permanency. He believed that Dr. Maury had solved the first and third requirements, but he was not yet convinced that the method was as simple as others. Personally he had had good results with the elastic ligature, but he considered the employment of the twine as ingenious and deserving of commendation.

Dr. Warren S. Bickham said that he had not performed gastroenterostomy on the human being by Dr. Maury's method, but he had seen him introduce the twine on a dog at the Research Laboratory. He felt free to state that its introduction afforded no technical difficulties whatsoever, and that furthermore it was much more rapid than the technique of introducing a Murphy button.

Chicago Medical Society.

At a meeting held March 8, 1905, Dr. Daniel N. Eisendrath exhibited a case of "General Blastomycetic Dermatitis." Beautiful examples of the organisms of the disease were obtained from an ulcer on the patient's leg. The patient was a Bohemian, 40 years of age, and first noticed a small, circumscribed abscess which appeared upon the left side of the chest. Following this abscess, which healed after the use of medicine, patient noticed an ulcer forming upon the place where the largest ulcer existed at the present time, namely, the posterior surface of the right leg. The author pointed out the essential characteristics of the disease, and discussed at length the differential diagnosis of it from tuberculosis verrucosa cutis, from carcinoma, and syphilis. Dr. Eisendrath reported three cases of "Diffuse Septic Peritonitis following Appendicitis," and exhibited the patients. The patients were operated upon at a period ranging from twenty-four to seventy-two hours after the onset of the disease. In one of the cases perforation occurred into the free peritoneal cavity. He said the profession was indebted to one man for helping us to improve the percentage of recoveries in these heretofore very unfavorable cases—Fowler of Brooklyn. In his cases he resorted to the Fowler position, together with flushing freely with salt solution and drainage. Dr. Eisendrath also showed a well-marked case of "Hodgkin's Disease," and one in which he resorted to the Wolf method of skin grafting. He reported two other cases, one of encapsulated tuberculous peritonitis, and another of non-development of the testes in a man 30 years of age. Dr. Rosalie M. Ladova reported an interesting case of "Aortic Insufficiency" in a female. Of fifty-three cases collected by Babcock, there were only seven in females. Dr. Jacob Frank read a paper entitled "Complete Perineal Prostatectomy by Young's Technique," and reported two cases. The result in both was eminently satisfactory.

St. Louis Surgical Club.

At the stated meeting held March 8, 1905, Dr. Willard Bartlett read a paper on "A Simple Heat Method of Sterilizing and Storing Catgut." He said one year's work with catgut sterilized in the manner to be described, had been eminently satisfactory and bacteriological tests had proven the reliability of the process. The treatment of the raw catgut he described as follows. (1) The strands are cut into convenient lengths, say thirty inches, and made into little coils about as large as a silver quarter. These coils, in any desired number, are then strung like beads on to a thread so that the whole quantity can be conveniently handled by simply grasping the thread. (2) The string of catgut coils is dried for one hour at a temperature of 108° F., and then for a second hour at 220° F., the change in temperature being gradually accomplished. (3) The catgut is placed in liquid albolene where it is allowed to remain until perfectly "clear," in the sense that the term is used in the preparation of histological specimens. This is usually accomplished in a few hours, though it had been his custom to allow the gut to remain in the oil over night. (4) The vessel containing the oil is placed upon a sand bath and the temperature raised during one hour to 320° F., which temperature is maintained for a second hour. (5) By seizing the thread with a sterile forceps the catgut is lifted out of the oil and placed in a mixture of iodine crystals, one part in Columbian spirits (deodorized methyl alcohol), one hundred parts. In this fluid it is stored permanently and is ready for use in twenty-four hours; the thread is then cut and withdrawn. He found that this method caused the iodine to rapidly permeate the strands of gut so that the surgeon was assured of introducing an antiseptic as well as a sterile suture material. He had made a number of breaking tests and found that no other heat method produced a stronger strand.

College of Physicians of Philadelphia.

At a stated meeting of the Section on General Medicine, held March 13, Dr. Alfred Stengel reported "A Case of Tuberculous Meningitis following Trauma in a Patient Ill with Tuberculosis of the Kidney, and Giving a Positive Widal (Typhoid) Reaction." The patient was a brakeman, who had been struck in the back and again on the head, and was thought to be suffering from typhoid fever. He presented, however, marked incoordination in the movement of the eyeballs, due to paralysis of the oculomotor nerves, together with vomiting. In the fluid obtained by lumbar puncture a single tubercle bacillus was found, together with an increase in the polmorphonuclear leucocytes. There was a urethral discharge, in which gonococci were found. The number of white blood corpuscles was increased to between 13,000 and 19,000. Cultures of typhoid bacilli were agglutinated and rendered immobile by the blood serum. Cultures from the blood were practically sterile. Tuberculous meningitis being suspected, the skull was opened and the subdural space was flushed. Nothing coming away, the lateral ventricle was punctured, but no fluid escaped. Death resulted, and post-mortem examination disclosed the presence of tubercles at the base of the brain, together with meningitis, and also tuberculosis of one kidney extending into the ureter. Dr. A. A. Eshner exhibited the "Case of Congenital Universal Atrichia" that had been reported at the previous meeting. Dr. John M. Cruice read for Dr. A. P. Francine the report of a

"Case of Carbon Disulphide Poisoning." The patient was a man employed in an artificial silk works, where he was exposed to the vapors of carbon disulphide. He exhibited flushing of the face, with cyanosis of the lips, marked slowing of the respiration, and symptoms of peripheral neuritis simulating locomotor ataxia.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 1, 1905:

	Cases.	Deaths.
Measles	470	21
Diphtheria and Croup	317	31
Scarlet Fever	224	20
Smallpox	1	
Chickenpox	149	
Tuberculosis	413	172
Typhoid Fever	45	6
Cerebrospinal Meningitis	189	131
Typhus Fever		
Yellow Fever		
Cholera		
Totals	1,808	381

Spontaneous Gastric Fistula of Ulcerous Origin.—A patient of thirty-six years, operated upon by Jaboulay, had the following history: At the age of twenty, she first had trouble with her stomach. In the last five or six years, the pain had assumed all of the clinical characteristics of that of hyperchlorhydria and of ulcer. In May, 1904, the crises became more frequent, and at the same time there appeared a painful point in the ninth intercostal space, about 10 cm. from the median line. The skin at this point became thinner and ulcerated. From this time the pain disappeared, and through the fistula there flowed regularly gastric liquids, more or less abundant in quantity, according to the position of the patient. A posterior gastroenterostomy was performed with the hope of facilitating the cicatrization of the ulcer, and of indirectly drying up the fistula. For twelve days nothing passed out through the fistula, and then all became as before. At this time the patient entered Jaboulay's service. On July 20, he performed a median subumbilical laparotomy, connecting the fistula by a transverse incision. The wall, as is always the case in ulcer, was very vascular. The fistula was dissected throughout its course down to its gastric implantation, which represented the borders of an ulcer. Convalescence was comfortable. The fistula did not reappear, and on August 1, the patient left the hospital in excellent condition. Several points about the case are of special interest: A large gastric ulcer corresponded to a small cutaneous fistula; a radical operation is necessary when intervention is made in the case of an ulcer; gastrostomy performed through the intercostal spaces does not insure continency of the orifice.—*Lyon Médical,*

Nasal Obstruction and Mouth Breathing.—In an article on this subject J. S. Wallace states that the cure of mouth breathing should be carried out by the rhinologist *pari passu* with the treatment of the teeth and palate at the hands of the dental surgeon. In the treatment of the irregularities of the teeth dental surgeons recognize the important help to be derived from the laryngologist in the restoration of the functions of the nose, but all rhinologists do not recognize that some benefit might accrue from the expansion of the palate by the dental surgeon and by the restoration of the means of efficient mastication. Again, a most vigorous protest should be entered against the iniquitous and ubiquitous system of feeding children almost entirely on soft milk-soaked foods. Not because milk is occasionally the bearer of tubercle, scarlet fever, diphtheria, etc., nor because it leads to constipation, fermentation, and summer diarrhea, but because this pap system is the insidious cause of lifelong suffering from the numerous derangements of the alimentary canal which it brings on. It begins by producing the wholesale ruin of the teeth, together with many consequent troubles. It leads to adenoids and all the unfortunate sequelæ with which all are so familiar. Finally, it almost necessarily begets gastric insufficiency, malassimilation, and malnutrition, together with the general wreck of physical well-being which these derangements ultimately produce.—*Medical Press.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended April 1, 1905:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
Florida, Jacksonville	Mar. 18–25	22	..
West Tampa	Mar. 18–25	5	..
Illinois, Chicago	Mar. 18–25	18	2
Danville	Mar. 11–25	7	4
Louisiana, New Orleans	Mar. 18–25	16, 4 imp't'd.	
Michigan, Detroit	Mar. 18–25	1	..
Missouri, St. Louis	Mar. 18–25	35	4
Nebraska, Omaha	Mar. 18–25	1	..
South Omaha	Mar. 18–25	1	..
Pennsylvania, Philadelphia	Mar. 18–25	1	..
Steelton	Mar. 18–25	1	..
South Carolina, Charleston	Mar. 11–25	6	1
Greenville	Mar. 11–25	4	3
Tennessee, Memphis	Mar. 18–25	11	..
Nashville	Mar. 18–25	2	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Jan. 28–Feb. 11	2	..

SMALLPOX—FOREIGN.

Africa, Cape Town	Feb. 11–18	1	..
Brazil, Pernambuco	Feb. 1–15	..	105
Rio de Janeiro	Feb. 12–26	49	19
Victoria	Feb. 7–18	19	1
Chile, Valparaiso	Mar. 4	(Epidemic.)	
China, Shanghai	Feb. 4–11	1	14
Denmark, Copenhagen	Feb. 25–Mar. 11	2	..
France, Nantes	Mar. 3–17	38	8
Paris	Mar. 4–11	10	1
Great Britain, Birmingham	Mar. 11–18	2	..
Glasgow	Mar. 10–17	1	..
Leeds	Mar. 4–18	17	..
Leith	Mar. 4–11	1	..
Newcastle-on-Tyne	Mar. 6–13	3	..
Nottingham	Mar. 4–11	1	..
South Shields	Mar. 6–13	6	..
India, Bombay	Feb. 21–28	148	..
Calcutta	Feb. 18–25	7	..
Karachi	Feb. 19–26	21	3
Madras	Feb. 18–24	..	1
Italy, Catania	Feb. 23–Mar. 16	..	8
Lecce Province	Feb. 23–Mar. 9	9	..
Palermo	Feb. 11–25	24	10
Japan, Kobe	Feb. 22	1	..
Matsuyama	Feb. 15	1	..
Nishiwagun	Feb. 11	16	..
Russia, Moscow	Feb. 25–Mar. 4	8	2
Odessa	Feb. 18–Mar. 11	13	4
Spain, Barcelona	Mar. 1–10	..	9
Straits Stetlements, Singapore	Feb. 4–11	..	2
Turkey, Constantinople	Feb. 26–Mar. 12	..	5
West Indies, Grenada	Feb. 23–Mar. 9	8	..

YELLOW FEVER.

Brazil, Rio de Janeiro	Feb. 12–26	23	6
Panama, Panama	Jan. Mar. 13	40	17

CHOLERA.

India, Calcutta	Feb. 18–25	..	15
Russia, Baku	Jan. 31–Feb. 10	1	..
Erivan	Jan. 23–30	1	..
Ural Territory	Jan. 31–Feb. 10	1	..
Turkey in Asia, general	Jan. 21–Feb. 4	7	4
Van	Jan. 21–28	2	1

PLAGUE—INSULAR.

Philippine Islands. Manila	Jan. 28–Feb. 11	5	5

PLAGUE—FOREIGN.

Africa, Cape Colony	Feb. 4–11	1	..
Arabia, Aden	Feb. 18–25	269	242
Australia, Brisbane and vicinity	Jan. 2–Feb. 11	9	3
Bundaberg	Feb. 3	..	1
Clarence River district	Jan. 10–28	3	1
Brazil, Rio de Janeiro	Feb. 12–26	4	6
Taubete	Feb. 18	..	1
Chile, Arica	Mar. 4	(Present.)	
Iquique	Mar. 4	(Present.)	
Pisaqua	To Feb. 27	104	..
Egypt, Suez	Feb. 8–23	7	5
Tukh	Feb. 16–23	1	..
India, general	Feb. 18–25	31053	27837
Bombay	Feb. 21–28	..	569
Calcutta	Feb. 18–25	..	130
Karachi	Feb. 5–12	65	63
Madras	Feb. 18–24	..	3
Rangoon	Feb. 9	13	..

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Original Articles.

CEREBROSPINAL MENINGITIS—EPIDEMIC AND SPORADIC.

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CEREBROSPINAL MENINGITIS was first described by Vieussieu, at Geneva, Switzerland, in 1805, and it was first introduced into the United States at Medford, Mass., in 1806.[1] At first, both in Europe and America, it was purely epidemic in character; but since 1860, after having passed through a locality, especially a city, an epidemic has been followed by a varying number of sporadic cases, in a sense becoming endemic. The epidemics have been more or less localized, and when widespread the disease has not appeared exactly contemporaneously in the several localities affected, nor in an orderly sequence as to time, such as could be accounted for in the length of time required to travel along lines of commerce. So, in writing of different epidemics, individual writers are inclined to speak of them as they appeared in their localities, or, in a broader sense, as they appeared in a large city well reported, and no little confusion has arisen, and must necessarily arise in fixing the dates of the epidemics of a disease so erratic in its course through the body politic. It is best described by Dr. Osler[2] as outbreaks occurring in waves, the crest of the fourth for the century breaking over the United States in 1898-9, appearing in twenty-seven States, abating in 1900.

It was this wave that swept over Michigan, but that the soil was fully in readiness for the disease germs was evidenced by the increase of sporadic cases that appeared throughout the summer of 1898. The papers had chronicled here and there a death, and text-books described the disease; but sporadic cases had been so infrequent, the time was so remote from the last epidemic, the profession had come to look upon it as a rare disease, and the impressions of its character and terrible ravages were lost, when, like a foe from ambush, it struck community after community, all too unprepared to meet its terrible onslaught. While the result of any widespread epidemic is heartrending and the losses irreparable, there was much gained in this epidemic in the investigation and fresh literature of this disease, preparing us for the increase of sporadic cases and smaller epidemics that have necessarily followed.

Why this disease appeared at this particular time, from whence it came, its predisposing causes, its fundamental principle, how this enters the system, and the degree of its infection have been questions open to investigation and argument. The first of these has not been satisfactorily answered. Appearing in this country the year following its recognition in Switzerland, a country from which we have no great amount of direct commerce or immigration, its method of introduction is not made clear. Appearing as a pure epidemic in both Europe and America until 1860, since which time it has been endemic in the more congested centers, the relationship between one epidemic and the one following, between the endemic sporadic cases to the next epidemic, or between epidemics existing contemporaneously in two places, has not so far been clearly shown. For the second, air, earth, water, relation to other diseases, sex, age, social relations, and personal contact have all been more or less considered with but little better result. In only exceptional and obscure cases have the circumstances pointed to the disease having been carried by travel. All classes of people, and even animals, both domestic and wild, have been affected. While the greatest number are children, persons of all ages have been attacked, from the babe in utero[3] to individuals above threescore years.[4] There appears to be but little discrimination in sex, the males perhaps leading, through greater hardship and exposure. There was an epidemic of influenza early in the winter of 1898, but it must be remembered that this was preceded by sporadic cases of cerebrospinal meningitis, the forerunners of the epidemic. So widely was this disease disseminated that it was reported from New Orleans to Minneapolis, and from Boston to Salt Lake, and covered a great variety of climate, elevation, soil, and water supply. The winter was long and tedious, the temperature of its later months reaching a point lower than had been recorded in years, and the spring, into which the epidemic extended, was cold and backward; people were confined closely in ill-ventilated and superheated houses, and when forced abroad, the discomforts of exposure were accentuated by contrast of indoor and outdoor temperature. With a superabundance of food and heat, and a minimum of sun and exercise, and with a resulting sluggish circulation, the physical resistance to disease was reduced to a very low point. Similar atmospheric conditions, yet more severe, prevailed in 1903-4, and again there was an epidemic severe enough to cause unusual comment. A late authority[5] states that this disease usually occurs under those conditions that produce pneumonia. A broader statement of this principle, while recognizing the close relationship in the character of these two diseases, is that it occurs under those hygienic conditions that reduce the physical condition to the point that makes it most receptive to infection in general. Besides meteorological conditions, predisposing causes include physical fatigue, mental worry or excitement, crowding, poor food, and other unsanitary conditions. While it may be brought forward that many of the victims were stalwart men, apparently in fine health, it can usually be found that some untoward condition or circumstance had a depressing effect upon the general vitality. This disease may occur in summer, but, like many other epidemic diseases, it is more prevalent and fatal in winter. The effect of air currents has received but little attention, and in searching for the medium of transmission of this disease, it must not be overlooked that in cultures the bacterium now looked upon as its cause is short lived, but that "Germano found that it resists the destructive action of dessication and preserves its vitality even as long as ninety days." "Neisser has shown that the organism is transportable by atmospheric currents, even the most feeble, and that it is very susceptible to aërial convection." By this last clause we understand that there may be a transportation of these germs through the air, independent of its currents.

The fundamental principle of this disease was long suspected to be a bacteriological one, and its investigation has been earnest and thorough. To give even the present day aspect of this research would unduly lengthen this paper. Various organisms at different times have been selected as the exciting cause, and even now mixed infections are credited. The whole investigation is covered by the history of the group of encapsulated bacteria, early represented by the bacillus of Friedlander, of which the *Diplococcus intracellularis meningitidis* has been generally accepted in the two last epidemics—1898-9 and 1903-5, as the cause of the epidemic form; but that of the sporadic appears to be still under advisement. The distinction between an epidemic and a sporadic cerebrospinal meningitis cannot be accepted as conclusive, as it is based upon negative rather than positive testimony, the case being termed epidemic when the specific germ is found, and sporadic when it is absent. Osler states that early in the disease *Diplococcus intracellularis* is alone present in the cerebrospinal fluid, while later the fluid may be sterile or mixed with pneumococcus, pus organisms, and bacillus coli communis. Both he and Soerensen[6] found tubercle bacilli in instances of an acute disease grafted upon a chronic one. The weight of evidence, negative and positive, confirms the belief that sporadic cases are simply isolated manifestations of the condition that obtains in cases occurring epidemically, the cause of both being identical, though perhaps varying in attenuation and virulence; but as the sporadic cases appear in no great numbers, and the opportunity for investigation is less, even this exception is not well taken.

The mode of entrance of the germs into the system is still under investigation. Some argue for an entrance through the bowels, because of the accompanying dysentery,[7] and others contend for an entrance through the Schneiderian membrane,[8] because of a coryza. The latter view is well sustained by the proximity of the nasal cavities and the base of the brain, similarity in delicacy of this membrane and the meninges of the brain, the easy mode of entrance at this point through the blood supply, lymphatics, and nerve sheaths, and the great activity of the disease at the base of the brain, near the supposed point of entrance; but in the cases I have seen, the secretions (early or late) in the disease were not much disturbed; there was no coryza, and the bowels were inclined to be constipated.

That such an organism as *Diplococcus intracellularis* is infectious cannot be doubted; but there are various degrees of infection, and many diseases we know to be infectious we term non-contagious, because the chance of a person taking them by coming in contact with the patient is so slight it can be well left out of consideration. Of such diseases are true lobar pneumonia and cerebrospinal meningitis. Of the two, the latter is doubtless the less infectious through the active manifestations of the disease being isolated within the bony structure of the skull and spine, and the minimum amount of secretions from the seat of disease. The most casual observer has noted the large number coming in contact with the disease under all conditions, and none contracting it, and nearly all authorities, while noting exceptional cases of two or more in the same fami or where the disease has been apparently carri between two localities, are quite agreed that, in t true sense, it is not contagious. All exciteme regarding the spread of this disease should carefully and firmly allayed to remove fear as a p disposing cause and prevent any hysterical simu tion.

I have nowhere seen mentioned cerebrospinal me ingitis complicating surgical and puerperal cas Three such, of a sporadic form, have come un my observation, all of which terminated in dea The first of these, a robust and otherwise healt girl, was operated upon for appendicitis by a w competent surgeon. She was progressing fine when the brain and spinal symptoms suddenly veloped, and by the time her physician could rea her she was in a dying condition. A short time la the same gentleman had a case of confinement term, and in about three days the woman develop a typical case of cerebrospinal meningitis and di after several days of illness. The third case peared in the writer's own practice, removed fr the other two by several months, from Decemb 1901, to September, 1902. A short plethoric you German woman had had one child, and later an ab tion at six weeks. She expected to be confi again about November 11, 1902. She had no kid trouble, but suffered much from headache and feeling during gestation. She took to bed Septe ber 13, and the next day gave birth to an immat female babe that died. The placenta was adher and removed by force. On September 15 she dev oped fever, which, after a curettage and douchin was absent two days later. The right breast th became swollen, giving trouble for a few days. Vi were discontinued on September 23. The wom got up about the usual time and at least once visi my office. While there seemed nothing radica wrong with her, she did not recover her buoya and suffered from headache. I was called to house again October 10, when she had a sev headache, and in forty-eight hours she develope typical case of cerebrospinal meningitis, with mod ate opisthotonos, gradually sank into deep co and died October 21.

The seat of this disease, the meninges of the br is supplied with arteries and veins, and the cere fluid has a circulation similar to the lymph in ot structures.[9] As might be inferred, therefore, diplococcus and attendant bacteria behave very m as in an infection of the areolar tissue of o regions, making due allowance for greater deli of tissue involved and character of adjacent org This disease, then, may be divided into five stag incubation, invasion, congestion, effusion, and formation—any one of which may be aborted, m ified, merged into or become contemporary with others through gradual extension of the dise The period of incubation, from the reception of germ into the secretions or tissues of the b until the beginning of proliferation, has not b determined, as it is attended by no physical m festations. The stage of invasion, from the proliferation of the pathogenic bacteria or t spores in the tissue of the body until by their num or toxins they produce a disturbance of the circ tion, is somewhat better marked than the other; doubtless it is variable, being very short in the minating cases, and extending over days and we in the insidious.

The stage of congestion is characterized by p sical changes noted post mortem. In cases t survive but a few days after the onset of the dise there is hyperemia of the arachnoid, which may shared by the other meninges, or even the blood-vessels of the brain itself showing as punctata vasculosa[10] on section. The records appear silent on this point, but it may be accepted that the stark, swollen tissues of this stage are characterized by a lessening of their natural secretions, as in other septic conditions, and that the gross amount of cerebrospinal fluid is diminished. But as the fight between the forces of the body and the bacteria goes on, the exudate which is a characteristic of this disease appears. The distended blood-vessels overflow, the lymphatics become engorged, and in response to the irritation engendered, the serous element throws out a superabundance of fluid, and the tissues become swollen and sodden. As may be supposed, the greatest amount of effusion is at the seat of the beginning of the disease, and often of its greatest activity, the base of the brain and ventricles, where it works further mischief by mechanical pressure. The irregularity of the cavity of the ventricles favors the retention of any fluid it may contain. It contains, besides a diaphanous epitheliated lining, a process of the pia mater, the velum interpositum, a highly organized cellular tissue, along the border of which is a fringe-like vascular process, the choroid plexus.[11] This enters the ventricles through the transverse fissures, and by its connection with the lining of the ventricles excludes them from the outer brain. In health, besides giving nourishment to the ventricles and adjacent parts, this process no doubt removes their fluid and débris, but under inflammatory action its powers of absorption are paralyzed, and the swollen edematous membrane impedes the little drainage required by the ventricles under natural conditions. This effusion may soon take on a purulent form, varying from a few white blood cells mixed with fibrin pervading the serum, to a thick, smeary coat of pus lining the ventricles, or a mass as thick as butter, with little or no fluid.

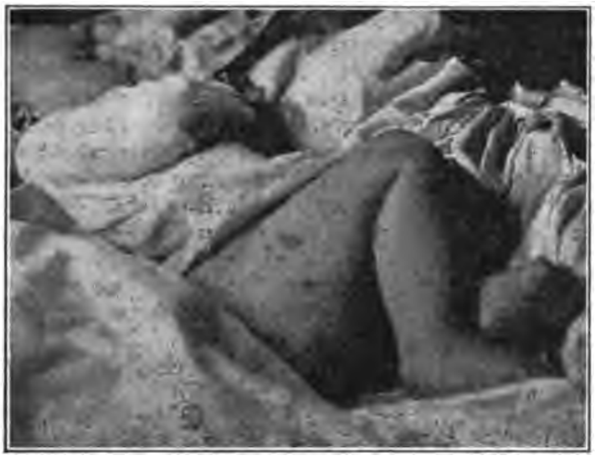
During the changes described, adhesions are formed between adjacent portions of the brain, the meninges are thickened, the convolutions flattened, and the sulci deepened. The substance of the brain is softened, and, with the cord, primary and secondary changes occur. Adjacent organs may suffer; thus there is a degeneration of the auditory nerve, and deafness is commonly reported as a sequel to this disease. And, while there is doubt as to pus following the course of the optic nerve, it has been found within the eye to such an extent as to fill the globe, pushing out the vitreous and perforating the cornea. It must not be taken for granted that all parts of the brain, cord, and adjacent parts are attacked simultaneously; on the contrary, clinical indications point to a more or less gradual extension of the disease process from one part to another until it is checked by self-limitation, when absorption of the pathological fluids is well instituted and resolution gradually takes place.

Important changes occur during the course of the disease outside of the central nervous system. Among the most noteworthy of these is that which takes place in the blood. This arises partly from the inflammatory processes and partly from the inherent character of the disease. The greater the blood changes, the greater the liability to fatal results. The most common appearance of the blood at post mortem is its dark color with unusual fluidity, and the presence of soft blood clots. Gas bubbles and a rapid decomposition of the blood when drawn from the body have been noted. Erythema or ecchymotic spots form upon the skin and mucous membranes, and may break down to form sores. This appears to have occurred more often formerly than in the later epidemics, and gave the name of spotted fever to the disease. These indicate the most profound alterations of the blood and the most malignant type of this malady. Toxins are formed, probably with the beginning of the hyperemia of the meninges, and sent adrift into the system, and later may be augmented by those of a mixed infection. *Diplococcus intracellularis* may be found in the meningeal fluid, but the organisms are mostly confined to the cells of the meninges, while the *Micrococcus lanceolatus*,[12] when present, is quite generally distributed throughout the body, and pus and other organisms may be distributed by metastasis. Various organs of the body undergo degenerations, but these are not uniform in character, and are rather an effect of inflammatory action and blood changes than a part of the disease.

For convenience we may recognize two forms of the disease—the insidious and the fulminating. This division is wholly arbitrary, there being no difference, except that in the first the pathological conditions follow each other in such orderly sequence as to allow an analysis of their effects and attendant symptoms, and in the second, like the pictures in a kinetoscope, they follow each other with such rapidity that they seem to form a composite whole. While the diagnosis at a certain period of the disease may not be easy, because of the mild, unobtrusive nature of the insidious variety, or the furious character of the fulminating, the symptoms from the beginning to the end, whether covering several weeks or occurring in a few hours, form a fairly classical whole. Many writers speak of the beginning of the invasion as characterized by a coryza, diarrhea, chill, projectile vomiting, convulsions, or a sudden onset of a storm of symptoms. All of these are present in a representative number of cases; but no one of them occurs in a majority, nor is any of these necessary to mark the onset of this disease. The initiatory symptoms most common are malaise, uneasiness, general discomfort, and a sense of impending harm, with shifting pains in legs and back. These are followed by headache, which is marked in this stage, and usually remains through the others until lost in delirium and coma. In fact, headache seems to be one of the most constant symptoms, and in the presence of an epidemic all headaches should be regarded with suspicion and be carefully watched. The headache usually occurs at the apex and base of the brain, and is accompanied by photophobia. The pain quickly passes down the back, the neck stiffens and sometimes exhibits a spasmodic contraction of its extensors. The headache is increased. There is a tendency to somnolence, but as long as the patient is conscious he is kept awake by the pain. Through semiconsciousness and delirium, and even when the patient is oblivious to his surroundings, indications of pain continue until convalescence is established or the patient is too weak or profoundly unconscious to give expression even to the reflexes. The pain may be constant or intermittent, and is liable to be excruciating in character, and the patient expresses his torture by a restless movement of the member in distress, or a throwing about of the body and the uttering of sharp animal cries with each exacerbation of the muscular contraction. Even convulsions supervene. The patient is extremely hyperesthetic, and is sensitive to touch, jars, light, or noise, and when at all conscious is fretful and exacting. As weakness progresses sordes gather upon the teeth, the lips become sore from herpes, and eruptions of a nervous origin, similar to herpes zoster, may appear upon the limbs and body.

The stiffening of the neck is the beginning of the opisthotonos, and unless the pain and muscular contracture are relieved, the head is gradually drawn back until the occiput rests upon the cervical vertebræ, and gradually the whole spine and lower extremities become involved, so that, in extreme cases, a line from the occiput to the heel will form a true arc; but, unlike hysteroepilepsy, the patient has no power to rest on head and heels, but reclines on the side, with a tendency to turn the face into the pillows.

The stiffening of the neck no doubt also marks the beginning of the effusion in the brain and the extension of the disease down the cord, as in the slowly developing cases it may not appear until several days after the onset of the disease. It is about this time that other signs of pressure occur which at first are not fixed in character or constancy, except two. These are the sign of Kernig, which has always been found when looked for, and another, not named, which, I believe is closely related to the other, is quite as often found, and appears among the early symptoms of pressure. This is a turning in of one or both feet until, if not disturbed, one lies across the other. The legs at first are extended, and may continue so, taking part in the opisthotonos; but usually sooner or later they become flexed and join with the feet in the tendency to cross each other. The pupils usually become widely dilated, but may be contracted, or one contracted, the other dilated. Groups of muscles become useless; it may be the part of one arm, or one leg, or the upper and lower extremity on opposite sides, the muscles of the throat, bladder, or rectum.[18] There may be incontinence or retention of urine, or one condition may follow the other. Constipation is the rule, but diarrhea may occur. It will be seen that any set of muscles is liable to become affected without regard to any others. This paralysis may wholly pass away, be transferred to other sets of muscles, the first recovering, or, as shown below, it may become permanent, causing atrophy and impairment of the part. Paralysis of the throat or those parts of other vital functions may hasten death.



Case seen in consultation with Dr. W. A. Sickles. Male about two and one-half years, youngest of three children, all attacked, this and a brother simultaneously following older sister. The boys fully recovered. Observe the retracted head, bowed back, flexed legs, and crossed feet. Ecchymotic spots were numerous over all of body and some broke down producing ulcers.

From the first of the invasion there is a mild febrile movement, which is variable, according to the disposition of the patient and the character of the onset. At the most acute stage about 103° F. marks the height of the attack, but it may be as low as 101° F., and may rise to 106° F. The pulse rate is increased, but does not follow the fever curve. This high temperature is likely to subside gradually, remaining higher in the evening than in the morning. But with the drop in temperature there is not a corresponding drop in pulse rate, which, though increased in the fever of the acute stage, is still higher in the subacute or chronic, when the temperature may be normal or subacute. The respiration is usually regular, but may be quick and jerky, and is often accompanied by a groan at each expiration. As the weakness progresses the respiration becomes very shallow, and if pneumonia, either static or acute, occurs, the respiration will take on the character of the complication.

It has been specifically pointed out that there is an intermittent type of this disease, but in nearly every case, whether of an intermittent type or not, after it has progressed and signs of pressure have occurred, there is an intermission, in which there is an improvement in all symptoms, and it would appear that convalescence was about to take place. This is soon followed by a relapse, in which the opisthotonos reappears, and symptoms of pressure and paralysis of muscles have a tendency to become permanent. We have a pretty fiction that this remission is caused by an escape of fluid from the third to the fourth ventricle, but more probably is caused by changes in fluid and surrounding ti sues similar to that in a phlegmon in changing from an edematous condition to a purulent one, a pointing so called.

From this stage the disease takes on a subacute o chronic form. The temperature falls to normal o subnormal, with occasional rises marking the a pearance of acute symptoms. The respiration more slow and feeble, and the pulse continues o is increased in rapidity. The restlessness or deliriu sinks into deep unconsciousness; the pupillary re flexes are abolished, the eyes set, and opisthoton and paralytic conditions increase. Death occu through exhaustion, inability to take food, toxi poisoning, or convulsions.

If, instead of a fatal ending, convalescence take place, there is a gradual lessening of pain and res lessness and of the opisthotonos. The child present a weakened, miserable condition, with now and agai acute symptoms of relapse, and perhaps after day and weeks it appears free from the disease, but too feeble to make an effort to arise, and even afte being about the house for months, it shows a weak ness of the back, has a shambling gait, and fall down easily. Previous epidemics have left in thei trail many deaf, blind, halt, and imbecile, but of thos cases coming under my observation in the acut stage, I have seen no mental impairment, and but one of paralysis that was persistent. This resulted in a clubfoot, which I later relieved by a radical operation.

All have agreed that this is one of the most fatal of the acute febrile diseases, but the rate of mortality has been variously estimated. Dr. J. Lewis Smith states that up to 1872, of the 52 recorded cases, one-half died. Since 1872, of 38 cases, 18 died, or 47 per cent. Osler gives a mortality of 25 to 75 per cent., and of the 23 admitted to his wards in Baltimore in 1898-9, 9 died, or more than 39 per cent. He also quotes Hirsch, in his statistics of 15,000 cases at 37 per cent. Jos. W. Irwin gives a death rate as follows: In the winter of 1873-4, 60 per cent., followed in the living by many crippled and mentally impaired; in 1877 the rate is not given, but he remarks, "Nothing different from the first was observed." In 1898-9 he gives his mortality at 30 per cent. at Louisville, Ky., while reports from the southern part of the State showed a mortality of 80 per cent.

The conditions in the State of Michigan were probably well represented by the local conditions at Manistee, where I was located during this epidemic. Thirty-four cases were reported to the Health Officer, to which 2 more should be added that were not recognized until after death, making a total of 36. Sixteen died, a mortality of 44 4-9 per cent. In Eastlake, a suburb with its own health officer, there were 11 cases, surrounded by unsanitary conditions; 3 died, or 27 3-11 per cent. Ten of the eleven were treated by Dr. W. A. Sickles, now of Milwaukee; of these, two died, or 20 per cent. I saw some of these cases in consultation, and they were of the most malignant type I have encountered. Some idea of how malignant they were may be conveyed by the illustration, taken from a photograph of one of these cases that recovered. Dr. H. D. Robinson gave a mortality of 16 2-3 per cent., and my own was the same for the city and suburbs during the epidemic. I have since had three sporadic cases, one of which ended in death.

The general death rate for the epidemic of 1898-9 was placed at 50 per cent., and in the increased epidemic conditions of 1903-4 the reported mortality is again placed at 50 per cent.

The greatest mortality is among children. "The aged are rarely affected, but a few cases occurred in persons over sixty, and they all died." The fulminating cases are more fatal than the insidious, and it has been found true in both forms that the greatest number of deaths occur in the early period of the disease, *i.e.* if the patient can be carried along until the symptoms of permanent pressure appear, the disease is more liable to take a subacute or chronic course, with greater hope of recovery. However, in any case the prognosis must be guarded, as many cases ushered in as fulminating soon take on a chronic form and recover, while others have a mild onset and rapidly grow worse, in spite of all efforts to establish a convalescence; or still others with a good prospect of recovery, after a tedious illness, die of exhaustion.

The treatment of acute cerebrospinal meningitis is both surgical and medical. And if a further trial confirms the results obtained by Dr. Wolff of Hartford, and later by Dr. Waitzfelder[14] of Gouverneur Hospital, New York, in the use of diphtheria antitoxin in this disease, we are perhaps not only at the beginning of a new method of treatment, but also a change of view regarding the exact bacteriological cause. The surgical treatment, which is usually accompanied by internal remedies, as in other septic conditions, consists of the abstraction of a portion of the cerebrospinal fluid from the spinal canal through a puncture or an incision, after which local irrigation or medication of the spinal canal and its contents may be instituted. This procedure, made possible by aseptic surgery, and familiarized by experimentation in spinal anesthesia, and suggested by its employment in other meningeal troubles, is best performed after the method of the lumbar puncture of Quincke. As a remedial measure much has been expected of it which has not been realized, though there are those who are enthusiastic in its use. The status of lumbar puncture has not materially changed since it was written upon in a general way by Browning[15] in 1894, which is summed up as follows: Without danger, one to one and one-half fluid ounces may be abstracted; in internal hydrocephalus the relief is but temporary; in tuberculous meningitis it is not worth the trouble, and there is no positive indication for it except as an aid to diagnosis.

The reason for this disappointment lies in the fact that it is not applicable to all cases, nor to those conditions in which the changes are most rapid and dangerous, and is only partly effective in those cases to which it is applicable. In spina bifida and other malformations or injuries of the spine it is considered a serious accident to drain the meninges of any great amount of fluid, hence we should extract fluid with care during the period of invasion, or that of congestion, in which the secretions are already diminished. We are then limited to the periods of serous and purulent effusion, when the secretions are superabundant; these occur when the disease is well under way and the zenith of danger has been reached or passed. Choosing the period of serous effusion for our puncture, we have no means of knowing that the disease extends so low in the spinal canal, and we may have the phenomenon of diseased fluid being drawn through healthy tissue. If no harm be done by extension of the septic condition, the serous fluid is quickly replaced, and the relief from pressure is but temporary; while on the other hand, if the drainage can be made complete and continuous, the tendency to more and firmer adhesions between the diseased parts is increased, as is shown in widespread areolar swellings that cannot be excised and are unwisely incised.

In purulent conditions, according to the old dictum, "when there is pus evacuate," it is theoretically indicated. Koplik,[16] who has had extensive experience with lumbar puncture, points out that it relieves the symptoms of pressure, and, judged by rational symptoms, it is indicated when irritability is great and headache severe, but it does not cut short the disease, does not prevent relapse, and is inefficient in extreme retraction of the occiput, rigidity, and even opisthotonos, and that in these cases it has been shown there is danger of sudden ventricular dilatation, a condition where lumbar puncture is most called for and fails. He thinks it has not produced the death rate, and quotes Seager on mortality and treatment, as follows: Simple lumbar puncture, 20 cases, 9 died, 45 per cent.; in the treatment by baths 60 per cent. died; lumbar puncture, followed by injection of 1 per cent. lysol, 31 cases, 13 died, 42 per cent.; injection of oxycyanide of mercury, 7 cases, 4 died, 57 per cent. In Oporto, where the epidemic showed a mortality of 62 per cent., 26 cases were treated by simple lumbar puncture and 8 died, 30 per cent. This failure to treat the purulent stage successfully by surgical means appears to me to rest upon the intricate anatomical relations of the parts of the brain affected and the site of the puncture, together with the inefficient drainage provided by a small aspirating needle. In some future time, when surgery of the central nervous system has been placed upon the same safe plane as abdominal surgery, we may insist upon more thorough drainage of the base of the brain, or at least, as Dr. Jacobi[17] suggests, but does not recommend in internal hydrocephalous, a direct drainage of the ventricles by a trocar introduced at the location of the anterior fontanel.

Incision of the spinal canal has been less extensively practised than puncture, and has not given as good results.

While nothing but praise should be given investigators for their work along this line, and every assistance given them for future endeavors, we are obliged to conclude that under present conditions of our knowledge of surgery of the central nervous system, lumbar puncture for the treatment of cerebrospinal meningitis has not been of such unqualified success as to recommend it to the busy practitioner or surgeon as a means of reliable routine treatment, but rather he must be warned that it is still in the experimental stage, with many points to be perfected.

The medicinal treatment, apparently, has been hardly more satisfactory than the surgical. Dr. Henry Hartshorne[18] in 1881 begins by saying, "We must lament the unsatisfactory condition of the evidence of this subject," and ends with, "but more positively successful evidence is needed to give the profession much confidence in the treatment of this affection." Dr. J. C. Wilson, May, 1896, says that "it cannot be a matter of surprise that the treatment of this disease has been almost as various as its form. To this unsatisfactory state of affairs the personal views of practitioners and the phases of fashion in therapeutics have each contributed an important share." An editorial writer in the *Journal of the American Medical Association,* June 4, 1904, says that "the treatment of this disease so far has not been satisfactory." What can be more discouraging and depressing? With such direct evidence sustained by statistics of mortality that, while there has been splendid progress in the investigation that has cleared up much of the mystery of this disease, very little has been made in its treatment, it is little wonder the average physician looks upon it as suitable only for expectant treatment, and the more timid or less experienced are inclined to abandon the case upon the appearance of grave symptoms, thus unnecessarily raising the death rate.

It is always the attitude of the profession to class as presumptuous the basing of a plan of treatment upon a small number of cases, and many men who have had unusual success in treatment have ascribed it to coincidence or a milder form of the disease, and have modestly refrained from pushing their claims, no doubt feeling that the ground had already been well covered by those of larger experience. This disease has the peculiarity, even in widespread epidemics, of attacking but a small percentage of any one community; the patients are thus divided among the various practitioners, each one treating but a few cases. It is upon an assembling of these we base our statistics of mortality, and it is upon this we must found a common mode of treatment if at all.

With something of a knowledge of the treatment of meningeal troubles in general, and the unwritten history of methods successfully employed in the early 70's, again successfully put in practice in the year 1898-9, I wrote the following: "In the treatment of cerebrospinal meningitis four principles may be arbitrarily laid down, viz., relieve the pain, clean out and keep clean the alimentary tract, draw away the blood from the nerve centers, especially those which are included in the base of the brain and medulla, and cause the absorption of the inflammatory products as soon as they are found to be exerting pressure upon the nerve centers. The nearer these rules are observed, by whatever means, the greater success shall we have in combating this disease."

After a somewhat more extended experience, a further consideration of the pathology and symptoms of this disease, and a comparison of the treatment then advocated with that of those showing a low death rate, there appears to be no reason for one to recede from this position. As this disease is most acute in its inception, profound in its effects, and subject to sudden changes in character, no brilliant results may be expected unless the treatment be most energetic and thorough, uniformly faithful, and marked by the exercise of good, but not dilatory judgment. By this it must not be inferred that one must try every one of the drugs indicated until a suitable one be found, but after a selection is made for the case in hand, the remedies must be pushed until the result desired is obtained, and continued until they are positively no longer indicated.

The relief of pain is of the first and vital importance. The fallacy of the saying that pain never kills is shown in the disturbance of a plexus or ganglion, or the prolonged irritation of the periphery, causing shock, exhaustion, mental prostration, and death, whether it be interpreted by the brain as pain or not. Besides causing the effects directly, such disturbances, pain (conscious or unconscious) may cause them indirectly by causing distortions and otherwise disturbing the natural relations of the parts of the body and their functions, *e.g.* opisthotonos disturbs the circulation of the base of the brain by changing the relative courses of the different blood vessels of the neck, and when severe it causes direct pressure of the skeleton upon the medulla and the beginning of the spinal cord, increasing the tendency to paralysis or coma, and hastening death; it interferes with respiration and the action of the heart, and with the general nutri tion by placing the nerves and muscles upon th stretch, thus seriously interfering with their fun tion. Then by all means place the patient beyond th point of suffering. The amount of sedatives a p tient in the agony of this disease will tolerate marvelous. Opium was by far the favorite of th early American physicians, who did not hesitate r garding the size of the dose used. Dr. J. C. Wils says, "It is to be employed at the earliest moment full doses," and proceeds to quote Strong, who ga forty drops of laudanum every hour; other ph sicians gave gr. xxx to ʒi of the crude drug; Cha ford, gr. iij to gr. xv; Bouden, gr. viiss at the ginning, and gr. i to gr. xi every half hour. " the symptoms abated and the patient became dro the dose was diminished." These large doses w frequently followed by recovery. Coma was considered as a contraindication. In the epidemic 1898-9 Dr. Jos. W. Irwin, in his remarkably l rate of mortality, apparently relied upon morph to relieve pain and vomiting, prevent mental co plications, and perhaps arrest serous effusions, g ing it hypodermically in doses of gr. 1-3 to gr. repeated at intervals of a few hours. As the exu appears opium loses its utility and must be gi more guardedly. Potassium bromide, alone or w large doses of ergot, has been recommended, gether with chloral hydrate as an emergency reme Objections to these remedies will at once sugg themselves; in the opium of deranging the se tions, and in the bromide, alone or with chl hydrate, of not being rapid or profound enough in effects. On reaching the bedside, the most cer and convenient method for relieving the suffer will be a full hypodermic injection of morph combined with atropine. But because of its cere stimulation in some, its uncertain action in child and its tendency to produce constipation, it canno universally nor continuously employed. A seda that overcomes these objections, and from which harm has arisen, even in large doses, is as follow

℞	Potassii brom.............	gr. cxx
	Chloralis hyd..............	gr. cxx
	Cannabis ind..............	gr. j
	Hyoscyaminæ	gr. j
	Elix. simplicis. q. s. ad......	℥j

M

This is sold ready prepared by various manuf turing chemists and may be compounded by physician himself. Of this, a child of three is gi ten to fifteen drops every twenty minutes until p foundly under its influence, and it must be repea as soon as there is either moaning or restless mo ment of the limbs. The dose for an adult is o half of one teaspoonful administered in the sa manner. The attendants should be frequently monished not to let the patient suffer, else throu fear of "drugging," much suffering and danger life will follow.

The treatment of the bowels seems to have received but little consideration. But an initial cleansing of the alimentary tract in all acute diseases and especially in eruptive and zymotic fevers has become classical and holds equally good in this. The logical remedies are full doses of castor oil and calomel. Anything like a prolonged or severe catharsis is to be avoided, but a dose of calomel, occasionally repeated, is often followed by improvement of the symptoms. When calomel is no longer indicated constipation may be overcome by any mild remedy suitable to the case which will readily suggest itself.

To divert the blood from the nerve centers the nature of the onset of the disease indicates active purgation and blood letting, but in practice both are to be condemned because of the asthenic condition of the later stages and the prolonged convalesence in which the recuperative powers are not able to meet the changes wrought by the disease, nor to supply the parts abstracted by catharsis or lancet. Venesection is further to be avoided in children because of the marked untoward effect often following the abstraction of even a small amount of blood. We have then for the equalization of the circulation the application of cold, heat and counterirritation, all of which are useless unless applied systematically, vigorously, and thoroughly throughout the course of the disease. The hot pack, warm and hot baths, hot sponging of the back, direct heat, hot mustard foot baths, leeches behind the ears or on the temples, dry and wet cups, and blisters to the back of the neck and occiput, the general application of mustard, of salt and hot whisky, of red pepper and brandy, or mildly stimulating lotion along the spine, as camphor oil and turpentine and the ironing of turpentined woolens over the spine with hot irons are some of the means recommended. These are all good according to the amount of surface affected and the amount of blood forced into the general circulation, especially of the periphery. In the use of blisters and counterirritants there is nothing gained by deep effects, but rather whatever procedure is instituted, it should be one that can be continuously applied with least disturbance of the patient. My method has been to apply half strength mustard plasters from the nape of the neck to the heels and bottoms of the feet; a ventral application also would no doubt add efficiency. These are left on until the skin is well reddened, which is healed as fast as possible with vaseline or cold cream, and the mustard reapplied, thus ensuring an active sinapism without blistering. Ice applications and cold sponging to the spine have been tried in a small number of cases, but have not received extended favor. Ice to the head in this and other acute cerebral affections is one of the tried and true therapeutic measures used by many practitioners. The ordinary ice bag applied in the usual way is worse than useless, a means of annoyance with no relief. To be efficient, the pounded ice must envelop the head above a line drawn from the brow to the hair line at the nape of the neck; and the application must be continuous. The most effective method is by means of the ice helmet to be tied under the chin; but this may be improvised by wrapping the crushed ice in a layer or two of cotton cloth and one of flannel, laying this in a shallow receptacle of rubber sheeting. As a matter of convenience the crushed ice may be mixed with coarse bran. A few patients cannot stand the application of ice on account of the liability to chill, or congestion of the bronchi and lungs; but to most it is very grateful after the first clammy sensation has passed away.

As soon as the first intermission has occurred or signs of pressure are established, means to absorb the morbid products are to be instituted. The agencies already enumerated, directly or indirectly, have this as a part of their functions and should be continued; but at this point they need the reinforcement of something more specific. As may be suspected the mercurials have been largely employed but have received no great amount of favor, except calomel, which is probably due to its action on the portal circulation and antiseptic action in the bowels. Dr. H. D. Robinson had good results from the protoiodide through its combined effects upon lymphatics and bowels; further than this I do not know of its use. The only remedy found to meet the indications of acting upon the glands has been straight saturated solution of potassium iodide in the relatively heavy dose of three to five minims every three hours to a child of three years.

This covers the cardinal points of treatment, but the minor details are none the less essential to the recovery of the patient. The nursing is that for the long debilitating fevers; the room shall be large and well ventilated, the bed must be moved from the wall so that attention may be given with the least disturbance to the patient, the bed clothing at all times clean, smooth and well aired, the light subdued but not darkened, and all noise and confusion avoided. The skin, mouth, nose and eyes should receive frequent attention by cleansing with water or mild antiseptics. The kidneys and bowels are to have the most careful attention to correct any incontinence or retention. Diarrhea may be checked by any of the usual aromatics, astringents or preferably the opiates; suppression of urine relieved by heat, potassium acetate, sweet spirit of niter, and of course the exhibition of physiological salt solution per rectum. Water is to be given freely. The diet for the acute stage should be light, even scanty, but as the fever abates, or if it is prolonged, though still liquid, the diet should be more nutritous and frequently administered.

For the fever quinine has met with little favor even in the intermittent forms, and, indeed, I have seen an exacerbation of symptoms following its use. The coal tar products alone or with opium have appealed to some, probably on account of their analgesic and antifebrile effects; but in their administration the blood changes, the weakened organs, especially the heart, and the prolonged course of the disease must be considered. Aconite has been unwarrantably condemned. Given after the homeopathic method, small doses frequently repeated, and later alternated with belladonna, it reduces the fever and allays restlessness with no untoward after effects. Tincture of belladonna itself has been favorably considered in this disease, probably because of its sedative effect upon the peripheral nerves, and possibly of its control of the secretions.

Some advocate stimulation from the beginning. However, it is better practice to withhold this until it is demanded by the circulation or the onset of a chill. In this disease, as in pneumonia, strichnine is preferable to alcohol, and there are times when nitroglycerin, ammonia, camphor, or musk is preferable to either. I have no authority of writers or experience, but indications favor the frequent administration of hot decinormal salt solution as a means of stimulation, and of effecting improvement in the amount and quality of the circulating fluids as well as for washing out the morbid products through the kidneys.

The use of ether and choloroform has met disapproval, but in case of prolonged convulsions, I should not hesitate to employ them freely.

If through paralysis or extreme opisthotonos the muscles of the throat become useless so that food and medicine cannot be swallowed, the end is not necessarily fatal. The uses and limits of rectal feeding are well known. Another method that may be of value is the forced feeding frequently employed with the insane. A soft rubber catheter of suitable size, attached to a fountain syringe, is introduced into the stomach through the mouth or one nostril by means of which liquid food is passed. I recently kept a child of fifteen months old alive over two weeks by this method, it finally recovering.

On account of the extreme hyperesthesia, little can be done with paralytic conditions until the disease has abated. Convalesence may then be hastened and the persistent paralysis overcome by electricity and massage, in which camphorated oil will be of assistance to relieve soreness. The nourishment should be gradually increased in solidity and quantity. Olive or codliver oil by innuction, tonics and digestants, with or without the mineral acids, may be given as in the prolonged convalesence of other diseases.

One thing more to be impressed forcibly upon those in attendance upon patients with cerebrospinal meninigitis is that no matter how unfavorable the symptoms, or how near to death the patient, the case must not be abandoned until death has actually occurred, as a greater number of apparently hopeless cases have made a perfect recovery in this than perhaps in any other acute disease.

Summary.—Cerebrospinal meningitis when first recognized was purely epidemic in character, and is now endemic in large cities. Its method of transmission from place to place and person to person is unknown.

According to the latest and best investigators, the exciting cause of the epidemic form is the diplococcus intracellularis meningitidis. And no evidence has been produced to prove that the cause of epidemic and sporadic cases is not the same.

The probable entrance of the pathogenic germ into the system is through the respiratory tract, especially that portion covered by the Schneiderian membrane. And its point of attack and usual seat of greatest activity is the base of the brain, from which it involves other portions of the meninges of the brain and spinal cord.

Its action is that of a septic invasion, and its symptoms a combination of toxine poisoning, nerve irritation and pressure.

The rate of mortality in late epidemics has been about 50 per cent., which may be lowered by a better agreement among the profession regarding methods of care and treatment.

Spinal puncture is a requisite of exact diagnosis, but as a method of treatment it is still in the experimental stage and leaves much to be desired.

Old methods of treatment may be made effective and reliable if used with decision and pushed to the limit of therapeutic effect.

Cerebrospinal meningitis in its worst form is amenable to treatment.

Frost Building.

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RECENT STUDIES IN THE DIAGNOSIS OF RABIES.*

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It is obvious to those who have to deal with peo bitten by animals supposedly rabid, that a qu method for the diagnosis of this disease in the a mal is most desirable. The length of time consu by the inoculation test, with its consequent suspe and worry to the patient, together with the resul delay in starting treatment, and further the oc sional failure of the test through premature death the animals from septicemia, are all reasons for st ulating work on the histological methods of di nosis.

Since the time of Pasteur, much work has b done along this line, and it may be of some inte to summarize very briefly the results without go extensively into the technicalities of the subject. is obvious that a satisfactory method of diagn must fulfil, as nearly as possible, the following c ditions. First, the lesions should be characteristic the disease; second, they should appear early in disease as well as late; third, the technique sho not be so difficult and exacting as to render its complishment frequently impossible under the c ditions which we have to meet practically, and ther, the lesions should be sufficiently definite form the basis of a positive opinion. Lastly, it desirable that the microscopical picture be as little possible affected by the changes produced by p mortem decomposition and freezing.

Some years ago Babes described lesions which considered characteristic of rabies, the essen points of which were, a collection of embryonal c surrounding the central canal of the cord, and ganglion cells, particularly in the medulla. T ganglion cells degenerate—chromatolysis being pecially characteristic—and their spaces are occ pied by the embryonal cells which constitute the called "rabic tubercle." From what can be learn this method has not been in general use extensive owing to the fact that these lesions are not co stantly present in rabies, and that they may also found in other conditions.

Later, Van Gehuchten and Nelis descri changes in the sympathetic ganglia, the interve bral ganglia, and in the plexiform ganglia of th pneumogastric nerve. In these locations the ner cells lie in capsules lined with endothelial cells. Th changes said to be characteristic of rabies are th atrophy and destruction of the nerve cells broug about by the new formed cells from the capsu which finally occupy the entire capsule.

Ravanel, who has used this method of diagnosi considered that the changes in the intervertebr ganglia are more constant than those in the medulla. He has reported a series of twenty-eight cases, including eleven dogs, one cow, and one horse, all having street rabies, and fifteen rabbits inoculated from these animals. In all except the horse positive changes were found, although in one of the cases they were very slight. In twenty-one cases examined for the lesions described by Babes, seventeen showed characteristic lesions. In two only chromatolysis of the cells was found, and in two no lesions were seen. Similar lesions to those of Van Gehuchten have been found in the ganglia by Crocq in one case, and by Van Gehuchten in three cases of diphtheria. Four cases in man have been reported as having lesions identical with those of rabies, including epithelioma of the Gasserian ganglion, acute ascending paralysis of the cord, and carcinoma of the rectum. It is also stated that the lesions of Van Gehuchten and Nelis are not well marked in the early stages of the disease. It seems, then, that the rabic tubercles of Babes, while frequently found, are not constant. The various phases of cell degeneration, such as chromatolysis, granular degeneration, loss of nerve processes, and the various stages of cell destruction are interesting to observe in connection with the pathology of the disease, but they can scarcely be made the basis of diagnosis, since they may be caused by other poisons. Further, owing to the great susceptibility of the nervous system to rapidly undergo post-mortem change, together with the frequent production in it of artefacts from rough handling and improper fixatives, we have still further reasons for considering these minute changes as unreliable for diagnosis under the conditions which we have to meet practically.

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Assuming that the lesions of Van Gehuchten are more constantly found in rabies, the great difficulty of the dissection of the intervertebral and plexiform ganglia makes this method undesirable, to my mind, as a routine method of diagnosis.

More recently, in 1903, Negri of the University of Pavia, has made important observations on the pathology of rabies, describing minute bodies, since called Negri bodies, or corpuscles, which are found chiefly as cell inclusions in the Purkinje cells of the cerebellum and in the large ganglion cells in the region of ammons horn. Negri and some others believe these bodies to be the causative factor in the disease, and classify them among the protozoa. While not attracting much attention at first, these capsules have been studied and reported on latterly by a large number of observers, and they have become the basis for a method of diagnosis in a number of laboratories. Briefly described, these bodies may be said to be minute structures, varying in size from one to twenty-three microns in diameter. The shape is round or oval, but may be quite irregular. The staining reaction is eosinophile. In structure they may be homogeneous, ring formed, or vacuolated. They may contain irregularly grouped granules, or they may present a certain definite structure, namely, that of a mass of protoplasm containing one or more nuclear-like bodies surrounded by circular unstained areas. This structure has also been demonstrated by Dr. Williams of the Research Laboratory in stained smear preparations. They have been seen in the hanging drop as well as the stained preparation. They are said to preserve their form in spite of putrefaction of the brain, after prolonged immersion in glycerin, and after several days' drying. From personal experience, I can state that they may be found after such marked post-mortem change has occurred as to render the nerve cells themselves unfit for the histological study of their own structure. Further, I have found them easily in a brain packed in ice for forty-eight hours and which had become completely frozen. These bodies are not found in the salivary glands.

As to the nature of these cell inclusions, suffice it to say that, while some believe them to be protozoa, others hold that they represent the degeneration of red blood cells, or of some of the cellular elements of the central nervous system. The following series will give an idea as to the frequency with which these bodies have been found. Taking the combined statistics of six European laboratories, we have a total of 550 observations. In 344 cases the lesions described by Negri were found. In every one of these cases the animal was proved to have rabies by the biological test. In 206 cases the lesions were not found. Out of this number, eleven cases were proved by inoculation to have had rabies. From these figures one may conclude that the finding of these lesions is practically conclusive evidence of the existence of rabies, and that in the failure to find them we have a possibility of error of about 5 per cent.

In investigating this subject at the Health Department laboratory, we have made use of material from the following sources, viz., 21 dogs, 24 guinea pigs, 10 rabbits, 3 horses, and 4 human cases. These figures represent the total number of cases of proved rabies as well as control cases. Of this number, there were 17 cases of rabies occurring naturally, *i.e.* from the bites of animals proved rabid. In 16 cases the disease was produced artificially in dogs, guinea pigs, and rabbits, and 22 cases were used as controls. Of the 16 cases occurring naturally, 13 were dogs, 3 horses, and one a human case. All these cases showed the Negri bodies, the diagnosis being easily made by the microscopical method. By that I mean that after a search of about ten minutes at most of a single section of a small piece of either the cerebellum or ammons horn, or both, the diagnosis was made. In most of the cases a much shorter length of time was sufficient. In one of the experimental dogs the disease was produced by the inoculation of street virus in the region of a peripheral nerve, so that the condition would simulate that occurring naturally. This animal was allowed to go nearly to the time of death before being killed. The Negri bodies were found to be very numerous in the brain. Another dog similarly inoculated was killed on the day he showed the first symptoms of nervousness. A careful examination of a section of both cerebellum and cerebrum failed to show the lesions, though it is possible that an examination of a number of sections might have revealed them. That the case was examined very early in the disease is shown by the fact that the submaxillary glands had not yet become infectious. By mistake, a portion of the brain tissue was not saved for inoculation. It may be said here that the majority of the dogs sent to the laboratory were killed during the course of the disease, some of them after only a day's sickness, yet the lesions were sufficiently pronounced to make the diagnosis easy.

In the rabbits and the guinea pigs the disease was produced by the subdural inoculation of the virus. All of these cases showed the lesions, but it is hardly fair to consider these cases as having equal importance with the others in estimating the diagnostic value of the method, inasmuch as it appears that there is a relation between the number of these bodies present in the brain and the proximity of the site of inoculation to the brain.

The control material was taken from the following sources: Five normal animals, three dogs suffering from unknown conditions, which were killed on suspicion of having rabies, but proven by animal inoculation not to have had the disease. In addition there were five cases of experimental diphtheria in guinea pigs, a case of staphylococcus infection including involvement of the brain in a rabbit, a case of general pneumococcus infection in man, one of traumatic cerebral hemorrhage in the human subject, and also one case of human tetanus and six cases of experimental tetanus in guinea pigs. In none of these cases was anything resembling Negri's corpuscles found, except in one of the cases of experimental tetanus. In this case there were a few minute eosinophile bodies occurring as inclusions in the Purkinje cells of the cerebellum. They showed no internal structure, and did not look exactly like even the structureless bodies found in rabies, and it is my feeling that one familiar with the appearance of these inclusions would not mistake them in making a diagnosis. However, it must be admitted that the similarity is sufficiently marked to be suggestive as to the nature of these cell inclusions. These diseases resemble each other in that in both the virus travels by the central nervous system. We may suppose that all these inclusions—those showing the regular definite structure seen in rabies, together with the structureless forms seen both in rabies and occasionally in tetanus, are one and the same thing. In this case, of course, it must be assumed that they are all degeneration forms. Or it may be supposed that the structured forms found in rabies alone are the causative factor in this disease, while the other forms are the result of a person acting especially on the nervous tissue and causing degeneration of its elements. So far as I know, the study of the morphology of these bodies has not progressed sufficiently far to throw light on this subject. However, as we are considering the diagnostic value of these lesions, it is to be noted, first, that even assuming their appearance identical in the two diseases, they are very commonly found in rabies, and are probably but rarely present in tetanus. Further, the dog, which is the animal most commonly afflicted with rabies, but rarely contracts tetanus. It would seem that much more extensive observation should be made on the histology of tetanus to clear up these points.

Even assuming that these lesions be definitely proven to be degenerations of the central nervous system, it seems quite possible that, when occurring in the numbers in which they do in rabies, they may still prove to be of great diagnostic value, since we must admit that, owing to the peculiar manner of transmission of the virus and the very long period of incubation and other peculiar features, this disease occupies a very unique position, and its pathology may be correspondingly unique.

With regard to the technique of the examination, one will find it necessary to take a small portion of the brain from both the cortex of the cerebellum and from the Ammon's horn, as the bodies are sometimes numerous in one region and not in the other. The tissue may be fixed in Zenker's fluid and stained with an eosin-methylene blue combination, in which case the inclusions stand out very clearly as red structures in the blue background of the cell body. Or absolute alcohol may be used as a fixative and hematoxylin and eosin as the stains. In this way a diagnosis may be made within twenty-four hours. The paraffin method of imbedding is to be preferred.

In conclusion, then, it would seem that in this method we have the means of making a rapid diagnosis, which is of about the same grade of accuracy as that laboratory diagnosis of tuberculosis or diphtheria. That, further, the lesions are, as a rule, found early in the disease, and are not affected by changes in the brain tissue incident to the delay of shipping the material to the laboratory from a distance.

Further, the material for examination is easily obtained, and may be collected by any competent veterinarian and sent in the fixing reagent to the laboratory, thus saving time.

While further work on control diseases should be done to establish fully the standing of the method of Negri, it seems fair to conclude, from what has thus far been done, that we have in it a means of accomplishing what has long been sought, namely, a rapid diagnosis of rabies.

MODERN METHODS OF TREATMENT IN OBSTETRICS AND GYNECOLOGY.*

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NEW YORK.

PHYSICIANS and medical congresses which make obstetrics and gynecology their special study have of late devoted much time and labor to the treatment of diseases which are also of great interest to the general practitioner. He is first called upon to test the value of measures recommended, and is frequently placed in a position to submit practical suggestions. Puerperal fever, for example, belongs to this category. It has been banished from the hospitals to the home of the parturient woman, where the physician has to lend his first aid. Though puerperal fever has the lowest mortality of all the infectious diseases, still better results could be obtained by a more thorough education and stricter control of the midwives, to whom most confinements are entrusted. They can carry the infection from patient to patient without being in any way held responsible. It is, however, not the prophylaxis, but the modern treatment of puerperal fever to which I desire to call your attention. Let us suppose tha on the third day after parturition the patient i attacked by chills and fever. As is frequently th case, we are unable to find any localized inflammatory lesion.

Nevertheless, it is advisable that the treatmen should be guided by the idea that only two path logical processes can underlie this morbid conditio Retention of decomposed secundines, or strept cococcus infection of the placental site. Against bo we direct our therapeutic measures. Curettage h found favor with many physicians. It is employ for the removal of placental residues, blood clo and for scraping away infected areas of the end metrium. For the former indication, the use o dull curette may be excusable, although the dig removal of retained secundines is by far to be ferred. The latter indication is based on the f premises that we can effectually master the infect by scraping away the diseased area. This, howe is not the case; we merely create new injuries open new channels of absorption, thus assisting spreading the local infection. We cannot even ch the septic inflammatory process in an exte wound by scraping away the diseased tissues, un we follow this procedure by the efficient and c tinuous application of antiseptic dressings. A matter of course, intrauterine irrigations are to recommended; but we must not expect more tha simple cleansing of the uterine cavity. Digital moval of the abnormal uterine contents, combi with uterine irrigations, are not the only mean our command. The more serious streptococcus fection calls for the immediate injection of stre coccus antitoxin. While the older reports conc ing injections of streptococcus antitoxin in puerperal septicemia were conflicting and frequently unfavorable, the results lately obtained are far more promising. It was to be expected at the outset that streptococcus antitoxin would not neutralize the toxins in puerperal fever, caused by other varieties of germs, as staphylococcus, bacillus coli, and gonococcus, but even in pure streptococcus infection the results derived from injections of streptococcus antitoxin were at first far behind expectations. This has completely changed since we have begun to employ larger doses (up to 100 c.c. for an injection) of a modified antitoxin obtained by inoculating the horse directly from puerperal parturients. The favorable results reported from hospitals in which such a modified antitoxin in large doses had been used are surprising. Desperate and seemingly hopeless cases in which the blood revealed pure cultures of streptococcus recovered completely. As the serum which was heretofore employed was exclusively derived from the blood of small animals and administered in small doses, the therapeutic failures could readily be explained. It is therefore necessary, in order to obtain both favorable and uniform results, to insist upon the employment of an antitoxin which has been prepared in the way indicated above. Furthermore, it should be delivered in vials containing at least 50 c.c. It is advisable to inject 50 c.c. of the antitoxin as early as possible, even if the bacteriological examination of the blood and the lochia has not been concluded. The injection has to be repeated within twelve to twenty-four hours, the treatment to be guided by the observation of the pulse and temperature. Even prophylactic injections have been recommended in cases of protracted parturition. We have still other means at our disposal which are intended to remove the toxins from the blood, or at least to dilute them. I refer to the injection of physiological salt solutions with or without previous venesection. These are undertaken with the view to wash out, as it were, the circulatory system, and at the same time to incite the different organs, and especially the glands and kidneys, to renewed activity. Their use is not limited to the treatment of puerperal fever, but is indicated in all forms of sepsis in which we assume the presence of bacteria or toxins in the blood. The salt solutions can be introduced intravenously, subcutaneously, or per rectum. The first method is the most efficient, and the last the least reliable. By combining the one or the other of these methods with the above-described treatment, we fulfill all requirements which the modern treatment of puerperal septicemia calls for. In desperate cases the removal of the uterus and appendages has been advised; but the infection of the system has generally so far advanced, and the vitality of the patient has been so much lowered, as to minimize the success of surgical interference.

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* Inaugural address of the president of the Ger Medical Society of the City of New York.

The treatment of eclampsia has of late received considerable attention from obstetricians. The knowledge of the causative factors of a disease naturally renders therapeutic interference easier. It may therefore be profitble to premise the more essential points of the etiology of eclampsia. Eclampsia is caused by poisonous material circulating in the blood. The poison is not uniform, and in most cases its production is attributable to a nephritis which causes retention of urinary constituents. Compression of the ureter may also lead to pathological changes in the kidneys and subsequent retention of urinary elements. Instances in which we cannot demonstrate pathological processes in the kidneys lead us to suspect other organs, as the intestines or the liver, the placenta or the fetus as a source of the poisonous material. Lately the view that the placenta and fetus originate the deleterious substances while the changes in the kidneys, liver, etc., are only secondary has been advanced by some and denied by many others. The poisons produced in these organs need not necessarily be the same as those due to retention of urine. Their action, however, gives rise to the same clinical symptoms. These poisons possess the power of decomposing the blood and producing capillary thrombosis and hemorrhage, necrotic foci in the liver, areas of softening in the brain and heart, degenerative changes in the convoluted tubules of the kidneys, etc. While these poisons do not produce convulsions under ordinary conditions, they easily lead to convulsions in the pregnant woman, because the organism of the latter shows a predisposition to convulsions, just as does that of the child, on account of a greater irritability of the nervous system. In the treatment of eclampsia we find many therapeutic measures which, having been found useful, are still warmly recommended. Amongst these I may mention the hypodermic injection of morphine, chloral enemata, chloroform narcosis, sweating by the hot pack, and venesection, to which is to be added saline transfusion. Lately thyroid extract has also been highly spoken of, on the theory that the thyroid secretion and the production of antitoxic substances furnished by the gland are deficient. Obstetricians are almost unanimous in recommending the immediate evacuation of the uterus, in order to check the convulsions. If labor has begun and the cervix is soft and yielding, then rapid dilatation is easily accomplished.

If, on the other hand, labor pains are absent, the cervix hard and unyielding, then the ordinary methods do not accomplish dilatation in a sufficiently short time. Besides, they may give rise to lacerations and contusions of the cervical tissue, that render the subsequent healing process more unfavorable than a clean incision. The incision into the lower segment of the uterus, also called vaginal cesarean section, is made as follows: The bladder is separated up to the peritoneal fold as in vaginal hysterectomy, and the womb opened by a vertical incision through the anterior wall, as far as it has been uncovered. The fetus is then extracted, and the uterine wound closed by sutures. Although in skilled hands a sufficient dilatation of the cervix can be effected by other means, the uterine incision must be accepted as a valuable addition to obstetric operations. It makes speedy delivery possible in a short time, and is indeed the modern accouchement force which fulfills three indications at the same time, viz., narcosis, venesection, and a rapid evacuation of the uterus.

There are cases, however, in which even after the uterus has been emptied the convulsions continue, and at the same time the albuminuria, with diminished secretions of urine approaching anuria persists. It had been observed, in cases of suppression of the urine in scarlet fever and multiple abscesses of the kidney, that an incision or splitting of the kidney had re-established the urinary flow, and saved the patient's life. In whatever way we may explain the favorable influence of the renal incision or decapsulation on the function of the kidney—the majority lean towards the view that as a result of the surgical procedure, excessive intrarenal pressure from congestion is diminished—the re-establishment of renal function, and therefore the propriety of the operation in puerperal eclampsia cannot be denied. But we should not forget that this operation is undertaken for the relief of anuria and its possible fatal consequences, and not for the cure of Bright's disease. Those of you who are interested in symphyseotomy, and have performed it in private practice, are not surprised at the sober judgment that has replaced the original enthusiasm over the brilliant idea of the artificial widening of the pelvis. Even in hospitals, with a sufficient number of assistants and with asepsis carried out with the minutest details, disagreeable complications, as excessive hemorrhage, injury to the bladder and urethra, and, above all, infection by the lochia, cannot be prevented. The practitioner at the house of the patient needs a simpler and less dangerous operation. These requirements seem to be fulfilled by Gigli's operation, which can be performed very rapidly and with very simple instruments.

An incision about two centimeters in length is made external to the spine of the pubes, direct to the bone. The soft parts are now separated with the finger from the posterior surface of the pubes, down to about where the descending and ascending rami meet. A uterine sound—some prefer a specially curved Dechamp's needle—is now passed through this channel, under the lower border of the ramus of the pubes through the tissues of the labium majus, until it reaches the skin, which is then incised. To the head of the sound Gigli's chain saw is fastened by a thread and drawn up through the wound. The bone can now be sawn through, subcutaneously. It is advisable that the lower opening should be more external than the upper, so that the section of the bone slants from above downwards and outwards, thus placing more tissue, as a protecting pad, between the ramus and the vaginal wall. The danger of lacerating the vagina and creating a communication of the wound with the lochial discharge is thus avoided. By the separation of the bone, the conjugate vera is increased about three centimeters, so that the lowest limit at which Gigli's operation is justifiable is a conjugate of seven centimeters, and, in a generally contracted pelvis, about eight centimeters.

It is hardly necessary to call your attention to the important changes in the treatment of contracted pelvis that have been brought about by this artificial widening of the pelvis. Now the obstetrician has an easy and not dangerous operation at his command, so that in cases of contracted pelvis he can wait until full term and deliver the woman of a living child, while formerly, even with the induction of premature labor, frequently enough all his efforts were frustrated by the delivery of a non-viable child. Moreover, it relieves us of the gruesome work of perforating the skull of a living child, an operation unworthy of an advanced stage of science.

In gynecology the operative treatment of uterine cancer has of late undergone a great change. Following upon the favorable results obtained by the complete extirpation of the glands, muscles and connective tissue in carcinoma of the breast, a similar method has been devised for the treatment of uterine cancer by the radical removal of the surrounding tissues within the pelvic cavity, through an abdominal incision. The vaginal route offers but a limited space and makes it impossible to remove the diseased tissues at a great distance from the uterus. The indications for operation could therefore not be much extended. The abdominal method, on the other hand, gives us a better view of the field of operation, and permits us to remove diseased tissues which could not be reached by the vaginal route. The operation as practiced at present is, in short, as follows: After opening the abdominal cavity in Trendelenburg's position, the ureter is laid bare, the infundibulo-pelvic and round ligaments are ligated and cut through, the bladder is separated, and the uterine artery tied; next the recto-uterine ligaments are separated from the rectum and the pelvic wall, the parametric tissue is dissected out to the pelvic wall, and the upper part of the vaginal canal laid bare in its entire circumference. This part of the vagina is now ligated below the vaginal portion with strong silk thread; to prevent the escape of cancerous material while the vagina is severed and the uterus taken out of the abdominal cavity. The iliac vessels are now uncovered in order to remove enlarged glands which are principally situated on the inner and outer sides of the vessels, and also in the triangle between the internal and external iliac vessels. The abdominal cavity is then closed by suturing the peritoneum of the bladder to that of the posterior pelvic wall. That this operation cannot compare in thoroughness with amputation of the breast is obvious. The numerous lymph vessels and glands and their widespread ramifications render complete removal impossible.

We must therefore be content with the removal of the visibly enlarged glands; but even this is an advantage which is still further enhanced by the possibility of the removal of the parametric tissue, the recto-uterine ligaments, which often contain carcinomatous material, and a large part of the vaginal wall. The advantages thus gained place us in a position to operate in cases which formerly were considered inoperable; furthermore, the chances of relapse are thus considerably decreased. We must not, however, lose sight of the shortcomings of the abdominal method. It is a serious and protracted operation, which has a large primary mortality. It does not give complete satisfaction, because we can remove only the microscopically changed glands, and it easily leads to necrosis of the ureter and fistula caused by the denudation and long exposure of the ureter. This last drawback is probably the most serious and the most liable to discredit the operation. Still I believe that the danger of necrosis and fistula of the ureter can be avoided if in isolating the ureter we preserve a protecting sheath of connective tissue. But even with this improved operation for uterine cancer there remain a considerable number of inoperable cases. The question therefore arises whether it may not be possible in some way or other to bring the early stages of uterine cancer to the cognizance of the patient. In Germany an attempt has been made to teach women the first signs of uterine cancer, by printed circulars. This well-meant plan will, I am afraid, fail, since the initial symptoms are so little characteristic that the majority of women will hardly consider them worthy of notice, still less worthy of treatment. We have no pathognomonic symptoms for beginning uterine carcinoma. Suspicion is generally aroused in older women who, having passed the menopause, after a time begin to bleed anew. In younger women, with irregular menstruation and discharge, the initial signs are passed over in a large number of cases even by the physician, especially in incipient cancer of the endometrium. Those patients are less unfortunate in whom the carcinoma takes its origin in the vaginal portion; we can see and feel it there. I expect far better results from an appeal to the practitioner, who should consider all cases of menorrhagia, metrorrhagia, and of blood-stained discharge, as suspicious of cancer, and should differentiate this disease from those diseases that produce the same symptoms. Digital exploration of the uterine cavity, and microscopic examination of scrapings of the mucous membrane are the only reliable diagnostic aids.

132 East Seventy-third Street.

SOME POINTS OF VIEW IN REGARD TO THE TIME WHEN TO PERFORM MYRINGOTOMY AND THE MASTOID OPERATION.*

By EMIL AMBERG, M.D.,
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It is reported that De Gravers was the first who incised the drum membrane in the living subject. Astley Cooper, according to Schwartze, was not acquainted with this fact and he perforated, with happy result, in the years 1800 and 1801, the drum membranes of three people who were hard of hearing, and of a very deaf person. This method was later abandoned. Myringotomy was reintroduced by Schwartze on the basis of exact indications. Of practical importance is the opposition recently raised against the incision of the drum membrane in acute suppuration of the middle ear.

Zaufal and Piffl claimed that in most cases of acute middle ear inflammation myringotomy was not necessary. Buerkner[1], intended to test these claims, and chose fifty cases for trial, but he had not the heart to continue after he had watched forty-four cases. After a careful observation he came to the conclusion that patients on whom myringotomy was done early got well sooner than those on whom it was not done. On the fifth day 49.5 per cent. of the incised cases were well; of those which perforated spontaneously only 5.4 per cent.; within the first twenty days the relation was 90.5 per cent. to 43.4 per cent. Functional disturbances in incised cases occurred in 3 per cent.; in spontaneously perforated cases in 12 per cent. Recurrences occurred in 8.5 per cent. of incised cases and in 20.7 per cent. of spontaneously perforated cases. Complications on the part of the mastoid process resulted in incised cases in 1 per cent.; in spontaneously perforated cases in 7.4 per cent. In all incised cases the opening closed; in 14 of the non-incised cases the opening remained even after the discharge stopped. Buerkner comes to the conclusion: "I therefore cannot find any reason to abandon the practice followed since more than twenty-five years, to create as soon as possible a passage for the exudate by incision of the drum membrane in all cases of otitis media in which there are present violent pain, considerable fever, and partial or complete bulging of the reddened drum membrane."

Jansen[2] of Berlin, says that we never do any damage by myringotomy, but frequently do a great deal of good, provided it is performed with all precautions.

Koerner of Rostock[3], says that there does not exist any excuse for not performing the paracentesis when the drum membrane is bulging and when fever and pain are present.

Heiman, Jr.,[4] speaking of the palliative treatment of acute middle ear inflammation, says: "In none of the cases in which the drum membrane was incised were there any complications, whereas of the cases with acute suppuration, in which the drum membrane was not incised, two took an unfavorable course and had to be operated upon for mastoiditis, and six others became chronic."

Kretschmann[5] of Magdeburg, cites a case in which death resulted from meningitis. Against his advice, the patient had caused a retention of pus by blowing a large quantity of boric acid powder into the external auditory canal. We can consider a retention caused by a thickened drum membrane in a similar light.

The question when to interfere surgically in mastoiditis agitates the otologists at the present time as much as does the general surgeon the similar question in cases of appendicitis. It appears to the writer that a fixed rule cannot be established for all cases, because so many factors must be considered which cannot be estimated correctly. The power of resistance of the tissues, the character of the microbes, their virulence and ability to produce toxins cannot be measured by the aid of the thermometer nor by that of the watch. Also the variations in the anatomical configuration of the mastoid process cannot be determined with certainty from the outside. A few views may be mentioned.

Dench[6] reported that a pneumococcus mastoiditis gives a relative favorable prognosis. Schulze of Halle does not agree with Dench, and he also does not believe in the necessity for interference already after forty-eight hours, as proposed by Dench. He admits for a streptococcus infection an early coaffection of the bone, but he does not agree with those who will not wait longer than forty-eight hours before opening the mastoid.

At the Seventh International Otological Congress at Bordeaux, Heiman[7] of Warsaw, speaking of the indications for opening the mastoid process in cases of acute middle-ear suppuration, recommended the immediate opening of the mastoid process when there exist signs of meningeal irritation which are not caused by retention of pus and after broad opening of the tympanic cavity. This statement, of course, invites the question whether it is not safer to prevent the possibility of symptoms of meningeal irritation by an early opening.

Schulze[8] of Halle says: "The presence of pus in the mastoid process is always an indication for surgical interference."

Fiske[9] of Chicago speaks of a case of a 58 year old man suffering for three days from suppuration in the ear. The pain decreased the third day after spontaneous rupture of the drum membrane. A physician insufflated boric acid powder, and the patient became worse on the fourth day and died on the fifth day of meningitis, which diagnosis was confirmed by autopsy.

I had recently under my observation a case, to which I was called on the second day after the manifestation of an infection. I performed a myringotomy, and two days later I opened the mastoid, finding practically the whole bone gray and also free pus in the bone. The symptoms were very severe. The patient recovered. To the patient's knowledge, the whole active process up to the time of operation had lasted four nights and three and a half days.

I have suggested for cases of this nature the name mastoiditis acutissima, dividing the types of acute mastoiditis into three groups: (1) Those which take a rapid course, clearly showing alarming local and general symptoms, especially of a toxemic character, and which do not respond to palliative measures. (2) Those which take a somewhat more protracted course, extending over a period of one or several weeks, exhibiting plain local symptoms, but which are not accompanied by intense pain nor by a grave affection of the whole system, and which, at least temporarily, respond to palliative measures. (3) Those which take a mild course.

The first type should be called mastoiditis acutissima; the second, mastoiditis acuta; the third, mastoiditis subacuta.

Grunert[10] recommends that in cases of mastoiditis the antrum should always be opened, because we are not yet so far advanced as to be able to exclude an antrum suppuration with certainty with our present means of diagnosis.

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*Read before the Section on Surgery, Wayne County Medical Society, Detroit, January 23, 1905.

Schencke, in an article on "Endocranial Complications of Acute and Chronic Middle-Ear Suppuration,"[11] mentions that without a suppuration in the mastoid process, an inflammatory process can extend to the adjacent sinus wall, that it can penetrate the same and cause a thrombosis.

As important factors in determining the advisability of a mastoid operation, the condition of the patient must be taken into consideration, as mentioned before. In regard to the existence of diabetes, the following has been advanced:

Koerner[12] reports concerning the influence of operations on diabetes. He comes to the following conclusions: (1) In the light form of diabetes the operation can temporarily increase the excretion of sugar, without further detriment to the patient. (2) There seems not to exist a danger that the operation produces a grave form out of the light form. (3) Coma caused by the operation need be feared only when the diabetes showed before the operation the clinical appearance of the grave form, especially if the Gehardt test for acetoacetic acid in the urine is positive. (4) The light form of diabetes is not a contraindication against an otherwise indicated operation. (5) Operations which are vitally indicated may also be performed in the medium grave and in the grave form of diabetes."

Mueller,[13] in an article on "Neuroses and Mastoid Operations," speaks of the good influence of surgical interference on neuroses complicating ear affections, *e.g.* epilepsy, chorea minor, hystero epilepsy. Of his ten cases, nine patients are reported improved, one cured. In a boy with a middle-ear suppuration and chorea minor (operated upon in January, 1898), Mueller could report a complete cure also of his chorea (in 1902). He thinks the following points should be mentioned as essentially producing the good results: "(1) The narcosis and the surgical shock. (2) The loss of blood. (3) The influence of the after treatment, by which we mean the permanent drainage through the dressing."

In general, when deciding whether to operate or not to operate in a case of mastoiditis in which we have symptoms which even only point toward the necessity of surgical interference, we had better err to the safe side and open the mastoid. We can never come too early under any consideration, but we may in some cases miss the right time and be too late if we hesitate. An antrotomy in acute mastoiditis can be compared to a mryingotomy in acute suppurative otitis media.

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6. Ibid., Vol. 58, p. 282.
7. Ibid., Vol. 64, p. 54.
8. Ibid., Vol. 56, p. 58.
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870 WOODWARD AVENUE.

DECAPSULATION OF THE APPENDIX.

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IN the technique of appendectomy, difficulty is occasionally encountered, by reason of extensive adhesions of the appendix, due generally to the results of repeated previous attacks of local inflammation. These adhesions may be so dense that, to tear them would involve danger of tearing the adherent gut or of starting a hemorrhage difficult to control. Of course, with time and patience, these difficulties can generally be overcome, but both the length of time under anesthesia, and the amount of manipulation of the viscera bear so important a relation to the severity of post-operative shock and to the prognosis of the case, that anything that can limit one or both must be of the utmost importance in the technique of the operation.

These extensive and old adhesions are very troublesome when they involve a long appendix running down deep into the pelvis, or especially when it is turned upwards and towards the median line, under the ileum and its mesentery. To free such an appendix from its adhesions in the usual way, to locate and ligate its mesentery, and to control hemorrhage from torn adhesions at the bottom of a deep cavity, is hard work, and sometimes impossible within the length of time the patient's condition might permit.

Observing how easily the peritoneal coat could be peeled from the proximal portion of the appendix in the method, that I used for a time, of covering in the stripped and ligated stump with the peritoneal cuff, it occurred to me that the same princip could be utilized in dealing with the whole appendi when adherent, for the adhesions involve only the peritoneal capsule which there could be no harm i leaving in situ if the inner layers, the only offendi part, were removed. Having tried this method in number of instances where conditions called for i and have found it of decided advantage, it h become an established procedure with me. It sav considerable time and trouble to the surgeon, shortens the operation and spares considerable handli and manipulation of the viscera. The method especially useful in those cases of extensive adhesions where but a portion of the appendix can located, be it either proximal or distal portion, a where the rest loses itself in the adhesions and cann easily be traced. In such a case if the capsule of th available portion be split, and the pearly-white wormlike core raised from its bed, it can be followed i either direction without trouble and without fear o adhesions or bleeding and so removed in toto.

My method is as follows: having located som portion of the appendix, preferably the proximal the capsule is incised longitudinally opposite th mesenteric attachment if possible, so as to avoid th larger blood-vessels. In this situation the hemorrhage is insignificant and hardly ever needs attention. The white, glistening surface of the middl layer is the guide to the depth of the incision. Th incised serous coat peels off very easily, and with th blunt end of the scalpel handle or with a periosteum elevator, the core can be easily separated and raise from its bed without fear of hemorrhage. Thi white core now serves as a guide to the capsule, inside of which it can be loosened up a short distanc then the capsule split for that distance, and the procedure repeated till the whole length is delivere When the appendix is perforated the inner layers ar gangrenous and the core is, therefore, likely to tea within its capsule on the least traction. In such case, while it makes conditions somewhat more difficult, it is comparatively easy to follow up the capsule, find the other end of the torn core and procee with the decapsulation. There will frequently b found a point of maximum adhesions, centralize usually at the point of pressure-necrosis from a feca concretion or due to some other cause, and when thi is reached and freed by decapsulation, the remainde of the appendix, be it either the proximal or th distal portion, may be found comparatively free, an can be dealt with in the usual manner, taking it off together with its capsule after ligation of the mesenteric attachment which, at this stage, can be easily recognized.

In a series of about one hundred appendectomies, statistics of which I will shortly publish, I had occasion to use the method in ten cases, but as I had not begun its use systematically till the series was about half over with, these ten cases can be considered roughly as the proportion of fifty where the method was useful. My recent experience tends to indicate that 20 per cent. is a moderate estimate of the general run of cases where the procedure may be of service.

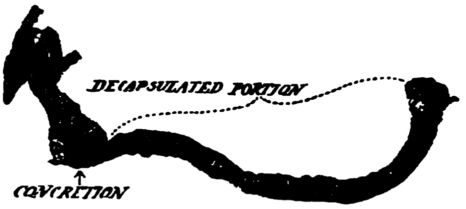

Fig. 1.

The resected appendix in Case I. It shows very well the decapsulation from its proximal end to the point of perforation, where the concretion has been placed in situ on the specimen. Beyond the concretion is the gangrenous distal portion, thrown off by natural means, and its peritoneal capsule that was easy to separate as it was beyond the area of adhesions.

As an illustration of the utility of the method under conditions frequently encountered, I will cite, with sufficient detail to bring out the main points, two recent cases where it has proven of great value:

CASE I.—I. W., male, age 14, first seen by me November 13, 1904. Had been sick one week with abdominal pains, chills, fever, vomiting, etc., which symptoms were at first severe, but had become milder during the past two days. No history of previous attack. Temperature now 101½°, pulse 84, small and wiry, pain limited to left side of umbilicus, some dullness on percussion low down in pelvis and in left flank. Peritonitic facies and general poor appearance. Sent to hospital and operated on at once. Right oblique incision, general peritoneal cavity protected by gauze pads. Adhesions separated, very large abscess cavity encountered mostly to left of median line, and running down into the pelvis. With the pus was discharged a fecal concretion and the gangrenous inner coats of the end of the appendix. Cecum isolated and origin of the appendix located. Here it could be seen to turn up under the ileocecal junction where it lost itself in an apparently hopeless mass of adhesions, the various constituent parts of which it was impossible to recognize by reason of their inflamed, infiltrated and very adherent condition, and, therefore, not safe to try to separate. The serous coat of the available portion of the appendix, near the cecum, was incised, peeled from the core, and with a blunt instrument the latter was followed up and separated within its sheath, clipping the latter as the core was loosened. In this way the appendix was traced running between the ileum and its mesentery in front, and the posterior parieties behind, upwards and inwards to a point about opposite the umbilicus, from where the traction on the core suddenly pulled it out. This was seen not to be the end of the appendix, but was evidently the point of perforation through which the concretion escaped. The missing part beyond would be accounted for by the gangrenous end of the appendix mentioned above as having with the concretion been discharged with the pus. This was verified by following up the serous tube, which, beyond the perforation was comparatively free, and which was removed after the placing of a ligature, though it might have remained without any harm. The stump of the appendix was inverted and secured with a purse-string suture and the incision sewed up by layers except sufficient for drainage.

In this case I am confident that the boy's prompt and uneventful recovery, minus a diseased appendix to threaten him anew, was due to this procedure, for I can think of no other way in which that appendix could have been removed with reasonable regard for his chances of recovery from the operation.

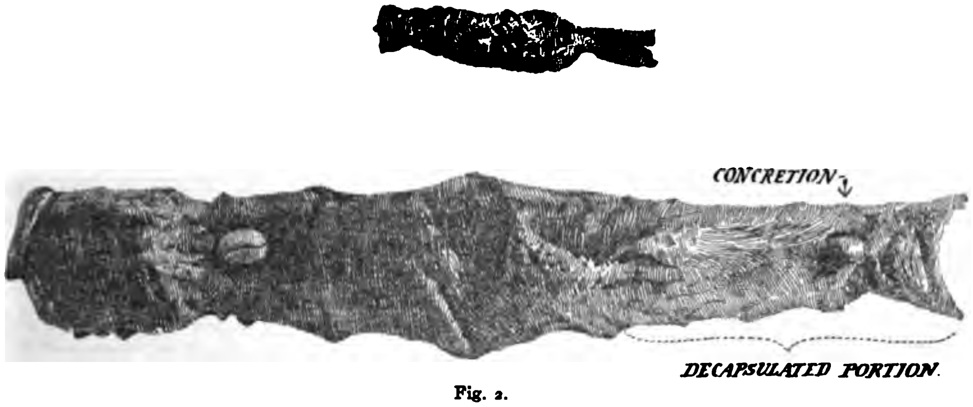

Fig. 2.

The large appendix in Case II. slit open and spread out and one of normal size, treated likewise, for comparison in size. The concretion responsible for the trouble is placed in its original position. Of the others only one is shown. The contrast between the decapsulated area and the portion with its capsule does not show so well because the whole structure was thinned out by distention.

CASE II.—B. H., male, age 20, seen in consultation with Dr. N. Ratnoff, December 27, 1904. Had been under the doctor's observation only that day, but had been sick for five days, beginning with colic, pain right side, some vomiting, etc. No history of previous attack. Now no symptoms except local pain. Sent to hospital and operated next day. Gridiron incision. Deeper layers were edematous and on opening peritoneum quite an amount of free serous fluid was found. Infiltrated mass of gut and omentum adherent to parieties presented below incision, running downwards into pelvis. Lower portion of internal oblique and transversalis had to be incised to reach it. Protective gauze pads inserted and separation of adhesions begun. Appendix encountered in the mass, distended with fluid contents and black with gangrene, running deeply down into the pelvis from where it was released with some difficulty and the distal portion delivered. Towards the proximal end it was followed up as far as the cecum in the same way and freed by ligation of its mesentery. There were now about five inches in length of sacculated gangrenous appendix delivered, and here the difficulty began. While the proximal end was in contact with the cecum to its outer side, it did not seem to be the end of the appendix, and in the general mix-up of infiltrated and adherent gut, omentum, appendix and its mesentery it was difficult to decide whether the whole appendix was freed, or whether in spite of the five inches already out, there was more embedded in the mass. The latter looked likely, as the end of the gangrenous area had not been reached nor could the usual direct connection with the cecum be discerned. To tear the adhesions further would probably have burst the frail remains of the appendix, and have spilled its septic contents over the wound in which no pus had yet been encountered, and, furthermore, there was no guide as to where it would be safe to cut or tear. Under these conditions the serous coat was incised and separated on either side with the handle end of the scalpel until the core was raised from its bed. The separation was continued with a blunt instrument for about half an inch within the serous tube, this much of the tube clipped open and the procedure repeated. In this manner about two inches more of gangrenous appendix, running behind and to the inner side of the cecum, were delivered, followed by an additional inch of healthy appendix. The point between the latter and the gangrene was occupied by a concretion, of which there were three more in the distended portion, which acted as a ball-valve closing the appendicical outlet. Were it not for decapsulation, I doubt if it would have been possible to trace the appendix any further than its first contact with the cecum, and I would, in all probability, have been satisfied that it was all freed when five inches, ending up in the cecal wall, the appearance and relations of which were altered by inflammation and infiltration, were delivered, Even if it were positive that all were not out, the conditions would not have justified further attempts at enucleation by the usual methods. This was a case in which a most grave condition gave hardly any symptoms. Just previous to operation there was no more than local pain on disturbance of the parts. It was as angry looking an appendix as could possibly be, and certainly the largest I ever encountered. It measured 8½ inches in length, of which 8 inches were excised. Wound was closed except for a small gutta percha drain which was removed in 48 hours. Primary union.

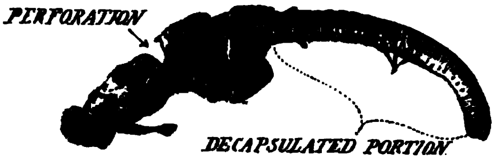

Fig. 3.

An appendix removed in a case not here reported in which it was necessary to decapsulate about half its length.

For the excellent photographs I am indebted to Dr. I. S. Hirsch, Assoc. Radiographist of Beth Israel Hospital.

TUBERCULOUS TESTICLE AND THE X-RAY.

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I AM prompted to report the following case by reading the excellent article of Dr. J. B. Bissell (*Medical News*, July 16, 1904), entitled, "The Treatment of Tubercular Testicle." He says: "A palliative treatment, which seems to have great promise in it, is that held out by the use of the *x*-ray, radium, and the fluorescent solutions. In tuberculosis of the skin and glands the favorable results reported from this procedure promise much for the cure of tuberculosis of the testicle." Dr. Bissell does not, however, report any cases, nor have I seen cases reported by any writer as having been treated by the *x*-ray, and that is my apology for making the report of a single case. This case seems important, not only in (apparently) having been a pioneer case, but in the fact that the testicle on the opposite side had been previously removed and submitted to a well-known pathologist for examination, and in that fully two years have elapsed without recurrence of symptoms.

March 11, 1902. J. M., age 56 years, naturally a large and robust man, has always enjoyed the best of health. Admits gonorrheal infection twenty-five years previously, and thinks that at that time he had a swelling of one testicle, but is uncertain which one. No syphilitic infection. About five years since the left testicle began swelling, and with the increase of size there was gradually increased pain, never very severe, but enough to cause considerable discomfort. During the last eighteen months there has been a gradual loss of general weight, and on this account he has made an European trip and has taken treatment at various bath establishments abroad, without benefit. He did not associate loss of weight with the enlarged testicle, but believed that it came from some other unknown cause.

Examination showed the left testicle to be about the size of a large orange, hard, nodular, and tender to pressure. There was a small amount of fluid (about one ounce) in the tunica vaginalis, and this varied in quantity. A diagnosis of tuberculous testicle was made and its removal advised. This he would not consent to, and a local application of equal parts of tincture of iodine and fluid extract of belladonna was prescribed as a palliative measure.

Two months later, May 2, 1902, he returned, reporting diminished pain, but increase in the size of the testicle. Symptoms of the breaking down of the tissues were present, and operation was consented to.

On May 10 the testicle was removed and sent to Professor H. T. Brooks for examination, and in a few days he reported that it was "typical tuberculosis." The patient made a prompt recovery, and a decided increase in weight during the following two months.

At about this time, however, I discovered a pathological condition in the right testicle, and suspected at once its cause. I advised him to live out of doors as much as possible during the summer and await results. At the beginning of November he came to me with the testicle nearly as large as the one previously removed, but with the same, or even greater repugnance against its removal.

The *x*-ray suggested itself to my mind, and I called up on the telephone three different friends who were using it extensively, but none had treated a case of tuberculous testicle. The patient gladly consented, however, to have Dr. F. B. Carpenter make a trial of it in his case, and the doctor's report is here incorporated. The patient experienced the most complete relief from pain at the very first application, and has not had to the present date any return of it.

"J. M. was referred to me by Dr. W. B. De Garmo on November 3, 1902, for *x*-ray treatment. There was a clear history of tuberculosis of the testicle, which was confirmed by the clinical appearance. The testicle was swollen to several times its normal size and was hard, painful, and quite tender on pressure. One hundred and twenty-six treatments of ten minutes each were given between Novemebr 3, 1902 and September 14, 1903. A medium tube was used at a distance of about ten inches. The first application relieved the pain. The swelling and tenderness also gradually subsided until at the time of the last treatment the testicle was apparently of normal size and in normal condition."

Some recent writer, whose name I cannot now recall, has sounded a note of alarm regarding the use of the *x*-ray in the vicinity of the testicles, on account of it producing a probably subsequent sterility of the patient. Allowing the truth of this statement, it has little bearing on the treatment of these tuberculous cases, as in the majority of instances it is admitted by most authorities that if the case is of any duration, complete castration is the only safe procedure.

Epididymectomy may, undoubtedly will, check the pathological process if the case is seen and recognized in time. The onset and progress of the disease is insidious in the extreme, and the patient does not consult the physician in the majority of cases until it has left this, its usual, point of invasion and infected the body of the gland. The removal of the affected testicle may be followed by development of the process in its fellow.

Cumston ("Tuberculosis of the Testicle," *American Journal of the Medical Sciences,* July 9, 1904) justly holds that the radical treatment should not be allowed to become obsolete, and calls attention to the low mortality of castration. He strongly advocates eradicating the breeding point of the disease in this manner.

While my experience leads me to fully indorse these claims, I cannot lose sight of the possible ultimate results of castration in its effect upon the mind of the patient. The mortality is so slight in present-day surgery as to be scarcely taken into account, but castration must not be entered into without very serious consideration as to its subsequent effect on the patient, since its results may be disastrous. The patient should always know that it is done only as a life-saving resort, and even then his mental balance may be disturbed in contemplating his mutilation in later years.

If the *x*-ray will accomplish, even in a small number of cases what it has seemed to accomplish in the one just narrated, it is of extreme importance that all of those who are liable to meet with these cases should be quite familiar with the facts.

616 MADISON AVENUE.

GRANULATION WOUND ADHESIONS, WITH A PRELIMINARY REPORT ON A NEW APPLICATION IN PREVENTIVE TREATMENT.*

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SURGEON, FELLOW OF THE ACADEMY OF MEDICINE.

In an article published two years ago (*Medical News,* September 27, 1905) I brought forward the theory that the healing of granulation wounds is dependent upon the mechanical principle of friction. The present contribution has in view the presentation of an application for preventive treatment.

The pathology of wounds is the pathology of inflammation which, with the complications arising therefrom, ranges the entire field of disease change. Inflammation being closely associated with both the pathological and reconstructive processes, it was impossible until the discovery of the factor of pus microorganisms to make a correct deduction of when the destructive gave way to the restorative function. To properly understand the healing of wounds of any sort it is necessary to notice particularly the rôle which inflammation plays in the reparative process. Formerly considered to be a disease distinct in itself, writers upon this subject, while differing in their explanations of some of the accompanying phenomena, are to-day generally agreed that inflammation represents a series of structural changes following the reaction of a part to an irritant. While the complete cycle occurs most often under the influence of microorganisms or their products, any form of irritation is sufficient to excite some of the phenomena. Wound healing, therefore, becomes a process of balancing between a mechanical change in the relationship of tissue texture or destruction of it and repair. Considered in this light, the process is simplified, and the principle, being the same for all forms of wounds, becomes one of mere adaptation.

Furthermore, while some investigators distinguish two kinds of wound healing, it can be shown that granulation is a mere excess of that which takes place after agglutination in a coapted, incised wound. When loss of substance requires that space should be filled up, as in badly contused and lacerated wounds, or where there has been loss of tissue and it has been impossible to obtain direct adhesion of the divided parts, and also in those which have become infected by microorganisms, healing by second intention or granulation formation takes place with phenomena somewhat as follows: Until the end of twenty-four hours the various tissues may be distinguished; later the outline is obscured by the gelatinous lymph and by a process of fatty degeneration, the blood coagulum being entirely replaced. About the third day the wound cleft is found to be made up almost entirely of round cells, some intermediate substance and the remains of the blood coagulum. Later come large epitheliod cells, being forerunners of granulation tissue formation and fibro-blasts which change into the fibers of the fibrillar connective tissue. Some of these newly formed cells become wandering cells, and regeneration within the new-formed tissue mass is likewise carried on by the fixed tissue cells. After the scar has become well formed a shrinkage in the newly formed connective tissue takes place with a consequent disappearance of a portion of the newly formed vessels; this causes the red color of the scar to blanch. From a consideration of that which has gone before it will be seen that it becomes a mere incident, depending wholly upon the nature of the wound whether more or less of the formative connective tissue is required to fill up the loss of substance following the injury. The granulation formation in an open wound is in nowise different from the vessel loop formation which takes place in a coapted, incised wound. According to some observers, two layers of granulation tissue are to be noted microscopically in a healing wound, the more superficial made up of vertical capillaries and the deeper containing a transverse meshwork of vessels from which the former originate, coming through a structure more or less dense, according to age. Malposition, arising from excess of irritation of the ground network, giving rise to various pathological conditions such as keloid, cicatricial ulcer, pressure paralysis or neuritis (from nerve filaments becoming caught). The factor which above all else determines wound healing is the presence or absence of friction, or, taken in its broadest application, irritation. Whether it be due to mass motion of the wounded parts, or to the cellular destruction caused by pus germs, failure to secure perfect results will assuredly occur.

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*Presented at a meeting of the Surgical Section of the New York Academy of Medicine, held October 7, 1904.

Friction during the progress of healing of a granulating wound surface is manifested by the outpouring of fluid. Profuse during the early constructive period, it becomes less as the granulation formation proceeds, until it ceases. The untoward reaction of the wound surface to irritation from motion, bacteria, applications or dressings is shown by fungoid formation upon the surface which slowly changes into coarse-grained, contracting scar-tissue.

For many years surgeons without apparent thought as to the causation have endeavored to meet outpouring fluid from wounds by an escape by drainage. The treatment of granulation wounds seems to be based more upon the individual whim of the surgeon than upon the well-founded principles which time has proven. That the early physicians clearly understood the frictional theory is demonstrated by their treatment of granulating wounds with balsams and oils, later by the addition of bulkier bases constituting salves, thus affording support for lubrication. The furtherance of healing is secured by dry wounds. Franciscus Arceus, who flourished in 1580, aware of the necessity for dry wounds, and writing at the time, says, "Wounds are not healed before they are dry, as writeth Hippocrates."

The value of a given application to a granulation wound will depend upon the amount of fluid which it causes to be produced. According to this principle dusting powders having in view the production of a scab mass are without exception irritating. Watery solutions, made directly or upon saturated cloths of gauze, fail of their purpose by the amount of relaxation and maceration which they cause. If an outer covering of sheet rubber tissue or oiled-silk protective be applied the condition is made worse by a direct bid for pus development being made. Heat of about the body temperature, moisture, and the presence of the germs are all three factors necessary for pus development upon a wound surface; the germs themselves are ever present, and to supply the other factors in the combination by this too common practice simply furthers infection, and the wound heals in spite of and not by the assistance of the dressing. Heat stimulation of granulating wounds by hot fomentation dressings are not considered in this connection.

An approach to the ideal application to an external granulating wound is the membranous quality rubber tissue when applied shingle fashion. This, however, is not an animal membrane, and therefore cannot react to the progressive changes of regeneration in the wounded tissues. The employment of the peritoneum of the ox known by the name of Cargile membrane marks, I believe, an epoch in the treatment of granulating wounds, and it is along the same general line that I would direct attention. The specimens of tissue membrane which I present consist of the gastrointestinal mesenteric attachments of the gray or sand shark *(Carcharias littoralis)* so common to the American coasts. Two or three square feet of this almost gossamer but tough membrane are obtainable from an ordinary sized fish. The specimens I secured are but sun dried, and give but a faint idea of the crystal film as it is found. A specimen kept some ten weeks in alcohol, which has no apparent effect upon the texture unless it is to increase the toughness, gives a better idea of the clearness. The ease in securing and cheapness of this material as a surgical application may be judged from a mere questioning of any of the professional fishermen, either beach men or deep-sea fishers, as to the numbers of otherwise worthless sharks which infest our coast.

EAST SIXTY-FOURTH STREET.

A Study of the Bone-Marrow in Typhoid Fever and Other Acute Infections—Warfield T. Longcope gives the following summary of his paper: The bone-marrow from twenty-six cases of typhoid fever showed certain definite and constant histological lesions. These lesions resembled very closely the changes in the mesenteric lymph nodes, lymphoid follicles of the intestine and spleen. The alterations were characterized by the presence of many lymphoid cells, large phagocytes, and foci of necrosis. There was more or less hyperplasia of the blood-forming cells. In many of the marrows from cases dying of perforation and general peritonitis there were, besides the disseminated foci of necrosis, diffuse degenerative changes in blood-forming cells, accompanied with marked edema and congestion of the tissues. Differential counts of the bone-marrow cells from ten cases showed a marked relative increase of the lymphoid cells over the granular myelocytes. The bone-marrow from fifteen cases of acute lobar pneumonia, four cases of peritonitis, one of acute cerebrospinal meningitis, one of retroperitoneal abscess, and one of puerperal septicemia, all showed the same variety of alterations, differing in many important points from the cases of typhoid fever. There was more or less extensive hyperplasia of the blood-forming cells, with a marked relative increase of the granular myelocytes over the lymphoid cells. In the cases of peritonitis due to causes other than typhoid perforation, diffuse degenerative changes were absent. In no cases of this group were foci of necrosis found. Large phagocytic cells were exceedingly rare or entirely absent. It is possible that the lesions in the bone-marrow in typhoid fever are in some way nearly related to and perhaps responsible for the hypoleucocytosis characteristic of the disease. It is also very probable that the lesions in the bone-marrow in acute lobal pneumonia, peritonitis, etc. are in close association with the hyperleucocytosis so ofte seen in these conditions.—*Bulletin of the Ayer Clinica Laboratory of the Pennsylvania Hospital.*

On the Influence of Copious Water Drinking.—P. Hawk concludes that copious water drinking causes an i creased excretion of nitrogen and phosphorus by the urin The increase in the amount of nitrogen eliminated is d primarily to the washing out of the tissues of the ur previously formed, but which has not been removed i the normal processes, and, secondarily, to a stimulation photeid catabolism. The increase in the excretion of pho phorus is due to increased cellular activity and the accom panying catabolism of nucleins, lecithins, and other pho phorus-containing bodies. The course of the SO_3 e cretion, while somewhat irregular, still showed a gener tendency to run parallel with that of nitrogen. The cour of the P_2O_5 excretion, as influenced by copious water drin ing, was distinctly different from that of nitrogen or S In every instance the excretion of P_2O_5 was increas above the normal on each day of the water period, t maximum excretion occurring with absolute regularity the second day of the increased water ingestion. The was a constant tendency for the largest percentage of t ingested fluid to be excreted by the urine on the days copious water drinking.—*University of Pennsylvania Me cal Bulletin.*

Effect of Tubercle Bacilli on the Growth of the C Bacillus.—Korczynski has found that the presence tubercle toxin stimulates the growth of staphylococ streptococcus, and colon cultures, these organisms grow much more actively in media containing toxins than in t that are pure. Streptococci and colon bacilli grow actively the higher the percentage of tubercle toxins p ent. Tuberculin is more effective in this respect tubercle bouillon. The toxicity of colon bacilli culti on tubercle media is higher than that of organisms g under ordinary conditions. Tubercle and colon b appear to be synergists, since animals succumb on re ing at the same time non-fatal doses each of colon tubercle bouillon.—*Wiener klinische Wochenschrift.*

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THE TREATMENT OF PUERPERAL FEVER.

The Practitioner under its new management is continuing the practice initiated by its former editor, Mr. Malcolm Morris, of publishing at intervals special numbers. The issue for March treats of puerperal fever, all the papers being contributed by authorities on the subject. That dealing with treatment of puerperal sepsis is from the pen of Dr. Galabin, Consulting Obstetric Physician, Guy's Hospital. Local disinfection, he says, is the first question to be considered in the treatment of puerperal fever. For this purpose, a strong antiseptic such as a solution of mercuric iodide in alcohol, 1 in 250, tincture of iodine, or pure carbolic acid should be used, that is in cases in which there are lacerations or raw, inflamed surfaces. If such lacerations are covered with a false membrane, generally signifying virulent streptococcic infection, they should be touched with a more caustic solution, such as a solution of chloride of zinc (gr. 300 to the ℥j) after local application of cocaine or under general anesthesia. The site of absorption, as a rule, is the placental site, and a specimen of secretion from the cavity of the uterus for microscopical examination and culture should be obtained. The result is of great importance for prognosis as well as having a bearing upon treatment.

When only moderate pyrexia is present, and the temperature does not exceed 102° F., it may be sufficient in the first instance to wash out the uterus with an antiseptic solution. For the vagina perchloride of mercury may generally be used safely twice a day. The strength may be 1 in 3,000 for two or three days, later 1 in 4,000.

If the bowels have not been thoroughly evacuated when pyrexia first appears, a dose of three or four grains of calomel, followed by sulphate of sodium after a few hours, may be given.

Dr. Galabin is of the opinion that an early exploration of the uterus is indicated in puerperal fever and he does not consider the curette equal to the finger for breaking down and removing adherent placenta.

The writer lays great stress on the importance of maintaining strength in puerperal sepsis, by abundance of liquid nourishment given at short intervals of not more than two hours, except during sleep. Milk is the best food, and a fair amount of alcohol should be taken in the form of brandy or champagne. In some severe cases of septicemia Galabin advises injections into the cellular tissue of sterilized decinormal saline solution, a pint or more at a time.

As to the use of antipyretics in puerperal fever, the writer concludes that quinine in full doses is the most valuable. Perchloride of iron in rather large doses is also a valuable remedy, but other antipyretics are generally to be avoided on account of their depressing effect, although one of the synthetic analgesics may be useful for the relief of pain. Strychnine is valuable when there is a rapid and falling pulse, but opium and morphine are, as a rule, contraindicated. If, however, pain from localized peritonitis prevents sleep, morphine with atropine may be given hypodermically.

Galabin condemns the growing custom in Europe and in America of dealing with puerperal septicemia by operation in the more acute and early stage, and points out that up to the present hysterectomy for sepsis in the puerperium has proved a very dangerous operation. He concludes that hysterectomy has for the present a limited field in the treatment of puerperal fever, and thinks that abdominal section may be undertaken with a much better hope when there is a reason to suspect a pyosalpinx. When diffuse peritonitis has set in, abdominal section can hardly be urged. "The best chance," says Galabin, "in such a condition is to wash out with saline solution, empty the intestines by an incision if they are much distended, and place drains of iodoform gauze or large tubes in the pelvis and lumbar fossæ." When peritonitis is just commencing, the operation recommended by Pryor of evacuating the uterus, opening the pouch of Douglas from the vagina, and packing the uterine cavity and pouch of Douglas with iodoform gauze, is well spoken of by Galabin.

Finally the writer refers to operation in case of thrombotic septicemia. The proposal has been made either to remove the uterus or simply to ligature the uterine and ovarian veins in which the thrombosis exists. Trendelenburg is the only one who has recorded a successful operation of ligature, and Galabin holds that such an operation can only be regarded as affording a slight chance in a case which may otherwise appear hopeless.

The paper by Dr. Galabin, although perhaps, so far as operative procedure in puerperal septicemia is concerned, somewhat more conservative than many American authorities would uphold, is an excellent presentment of the general subject by a justly renowned obstetrician.

COMBATING TUBERCULOSIS IN PRISONS.

PRISONS afford a fruitful soil for the spread of consumption. This is to a great extent, in the nature of things. Confinement, mental depression, and the absence of social life, are apt to lower an individual's vitality and render him prone to tuberculosis. In addition, many prisoners are in themselves insanitary in a high degree, and cell life in the main, is favorable to the dissemination of the germs of tuberculosis.

Dr. J. B. Ransom, physician to Clinton Prison, Dannemora, N. Y., has recently prepared a report for the International Prison Congress of 1905, which has been printed in pamphlet form by order of the Committee on the Judiciary of the National House of Representatives. In order to find out the essential facts relating to pulmonary tuberculosis in prisons, the author formulated a series of questions which were sent to the penal institutions of the

United States, asking for information upon the following propositions: The percentage of tuberculous inmates in the total prison population; what percentage was so on reception; the different manifestations of forms, the mortality, the sanitary conditions of the prisons and workshops, methods of treatment, both preventive and curative, and general suggestions as how best to deal with the situation. There were in all 97 applications for information sent out, and to these 77 answers were returned from prisons in 38 States and 2 Territories. The total population of the 77 prisons reporting was 44,285.

Dr. Ransom, from his own experience, and from suggestions in reports of other institutions, is of the opinion that the means most likely to secure the best results in the direction of prevention and treatment of tuberculosis in prisons may be briefly summarized as follows: (1) Improved construction, housing, and working environment. (2) Larger, better ventilated and lighted prison cells, the abolition of the bucket system, and the substitution of proper toilet facilities. (3) The recognition of the prisoner's receptivity to infection, and the placing of him under the most favorable conditions for resisting the disease. (4) Substitution in so far as possible of other forms of punishment for those of the solitary and dark cell, with starvation diet. (5) Provisions for proper clothing, its cleansing and disinfection, and the administration of spray baths and physical exercise in the open air. (6) The absolute separation from the prison population proper of all tuberculous subjects, together with strict regulation of the spitting habit, the destruction of sputa, the absolute disinfection of beds and bedding after use by one inmate and before transfer to another, the control of dust production in living quarters and workshops. (7) Special wards for the treatment of all active cases. (8) A compulsory law compelling the examination of every person admitted to any penal institution, for the purpose of an early detection of the disease. (9) The construction in every State of a special hospital or sanatorium, favorably located and properly equipped for the treatment of tuberculous subjects, and the transfer of all such to this institution from the jails, penitentiaries, reformatories, and prisons. (10) Provisions for outdoor employment, such as farming, light gardening, etc., for all apparently cured prisoners. (11) The conduct by the Federal Government of an inquiry into the status of tuberculosis in penal institutions of the United States, for the purpose of gaining statistical information of value.

The community at large concerns itself but little with the moral or physical condition of prisoners. So long as the punishment fits the crime, and as the criminal is debarred from exercising his predatory instincts until the expiration of his sentence, the man in the street is indifferent to the treatment meted out to the sinner when under lock and bar. If he were to pause and consider for a short time, however, the fact would dawn on him that both the moral and physical condition of the individual who comes out of prison is a matter of considerable moment to the general public. With the moral phase of the question we have nothing to do here, but it is obvious that if a man or woman be discharged from prison with pulmonary tuberculosis, he or she is a distinct menace and expense to the community. Therefore, from the economic and public health point of view, it would be wise to treat prisoners predisposed to or suffering from consumption, in such a manner that in the first instance the disease may be prevented, and in the second instance the malady may be checked in its progress. Dr. Ransom has indicated the steps to be taken to attain these results, and his report may be studied with advantage by medical men and sanitarians.

THE THERAPEUTIC VALUE OF RELAXING CLIMATES.

A BRACING climate is always the object of laudation, and a relaxing climate is generally regarded as inimical to health. On the whole, however, that is so far as invalids are concerned, it is the dry, stimulating atmosphere which is so injurious to most of the sick, and the humid, equable climate which is beneficial. There are certain maladies which require for successful treatment a stimulating air; but, on the other hand, there are more affections whose cause is favorably influenced by the maligned relaxing climate. Dr. Leonard Williams, in the *Edinburgh Medical Journal* for March, draws attention to this fact, and points out that for a person in robust health a relaxing climate is distasteful, if not absolutely injurious. Metabolism is decreased, appetite impaired, spirits are depressed, and the frame becomes lethargic. Nevertheless, such a climate, despite its disagreeable effects upon the healthy, is possessed of a very much wider therapeutic range than that whose effects are more agreeable.

Putting on one side phthisis, a disease in which the personal equation has always to be considered, and which, according to the condition of the patient, is sometimes benefited by stimulation and sometimes by the reverse treatment, emphysema, on account of the greater uniformity in its prevailing type, is instanced as a disease in which climate has great influence. A bracing climate is contraindicated in the treatment of this disease, because the difficulty of adequately oxygenating the blood causes such patients to suffer acutely from cold and their general condition prevents them from adapting themselves readily to changes of temperature. A relaxing climate, on the contrary, suits those afflicted with this malady, since, in the words of Dr. Williams, "the moisture in the atmosphere acts as a direct sedative on the respiratory passages, while at the same time providing against the frequent and wide variations of temperature which prove so trying."

Chronic nephritis, again, whether of the tubal or interstitial variety, is greatly benefited by a relaxing climate. The excretory power of the kidneys being impaired, more than their fair share of work is thrown on the skin and lungs. A bracing climate, by accelerating and heightening metabolic processes, increases the material of which the excretory organs have to dispose, and consequently further work falls to the lot of the skin and lungs, a result to be avoided. The great essentials in the successful treatment of chronic nephritis are warmth and equability—conditions which are absent in a bracing climate.

In the treatment of chronic diseases of the heart bracing climates are definitely contraindicated. And also in the treatment of degenerative processes affecting the central nervous system, bracing climates have no place. According to the writer, "Such degenerations, so far as the means now at our disposal are concerned, are incurable; the most that we can do is, while relieving the urgent symptoms, to impede the morbid process, and haply to check it. The vital process must be husbanded, for every exhausted point is immediately occupied by the enemy. Such being the case, the dead level of the relaxing climate is the only safe medium."

Dr. Williams' defence of the relaxing climate for perhaps the majority of those who are sick is able and well timed. It is a question open to argument whether many consumptives are not injured by being sent to bracing climates, and, at any rate, it is quite clear that for many diseases a relaxing climate is indicated.

PREVENTION OF LIVE BURIAL.

ALTHOUGH evidence gathered from many sources, especially from the mortuary halls established in many European cities, goes far to show that burial of the living must be a matter of the greatest possible rarity, it cannot be denied that under two conditions, viz., in epidemics attended by great mortality and on the battlefield, this frightful contingency might occur. In a recent brochure,[1] Dr. Icard of Marseilles, cites many cases in point, and describes a method devised by himself for the detection of life if this still persists. Starting with the assumption that some slight degree of circulatory activity, however sluggish, is essential for the continuance of life, the author proposes the injection into the muscles of a solution of fluorescein. In cases of apparent death, after a lapse of a certain length of time, through the diffusion of this very powerful stain the skin will assume a deep yellow color and the eyeballs will be colored intensely green. The test takes but a moment to apply and if positive its results are so striking that no special reexamination is necessary, as in the handling incidental to burial, the discoloration would perforce be noticed. If, then, surgeons or even hospital aids would make an injection of fluorescein into every apparently dead body on the battlefield, the burial corps after the battle would have no difficulty in deciding between apparent and real death, and one horror of war, namely, the danger of premature burial, would be eliminated.

THE CARBON FACTOR IN THE GENESIS OF GOUT.

THAT excess of uric acid in the system is the chief if not the only cause of gout is a theory the belief in which is perhaps hardly so strong as formerly. In *The Lancet* of February 11, 1905, is a paper by Dr. Shearer, in which he argues that an excess of carbonic acid is the *fons et origo,* if not the *materies morbi* of gout, by altering the composition of arterial blood deleteriously. Dr. Shearer says that, "Gout, arterial sclerosis, and chronic interstitial nephritis, and in general all so-called uric-acid conditions, are inseparably bound up with antecedent conditions, of which the main factor and the common factor is the excess of carbonic acid in the arterial blood." A part of the argument of Dr. Shearer in support of his theory is that exercise has a beneficial effect upon those subject to gout, because it increases the exhalation of carbonic acid from the blood. Dr. Hare, writing on the matter in *The Lancet* of March 18, points out that the weak feature of this hypothesis lies in the fact that exercise increases not only the exhalation but also the production of carbonic acid in the blood. He believes that a progressive carbonaceous accumulation is a common factor of disease and leads under varying conditions to various paroxysmal affections (amongst them acute articular gout), most of which result in relief from the carbonaceous accumulation. The theory is a quite novel and interesting one, and its further investigation might lead to interesting results.

A MERITED REBUKE TO THE STREET CLEANING DEPARTMENT.

IN a recent communication to Commissioner Woodbury the Mayor has called public attention in a striking manner to the wretched state of inefficiency to which the street cleaning department of this city has fallen. Ostensibly the letter was written to urge that the men of the department be relieved from Sunday work, but its only effect has been to excite comment upon the filthy condition of the city's highways, and we suspect that this was the Mayor's motive in sending his communication. "I have long thought of recommending to you," he wrote to Dr. Woodbury, "that you endeavor to so systematize the work of your department as to discontinue the cleaning of the streets on Sunday. . . . The city government should respect the prevailing religious sentiment, which disapproves, except in case of necessity or of mercy, of such work on Sunday, and a just solicitude, for the employees dictates that where possible the day should be free to them for religious observance and for rest." Mr. McClellan may be a sabbatarian by conviction, but he has too much sound common sense not to recognize that the cleaning of the streets is a work of necessity as well as of mercy, and that it cannot be dispensed with on any day of the week without serious injury to the comfort and health of the people. What is needed is not less work, but more, and of more efficient character. If the Commissioner takes this rebuke to heart and puts some life and vim into his work, the Mayor will have rendered a signal service to the citizens of this metropolis as well as to himself. The lazy incompetents who now spread the dust over the streets by worn-out tin scoops should be replaced by men who will sweep it up and away on seven days in the week. At present they are merely digging "a hole for McClellan."

BIRTH RATE AND POSTPONEMENT OF MARRIAGE.

THIS question, which has become one of such great popular interest, is treated of in the *Popular Science Monthly,* for April, chiefly with reference to the effect produced on the birth rate by postponement of marriage. The late Dr. Engelmann and President Thomas of Bryn Mawr, both have claimed that delaying marriage until a somewhat mature age does not affect the birth rate. Recently, Mr. Coghlan, government statistician of New South Wales, would seem to show by figures collected by him that this theory is untenable. Up to 1880 New South Wales, like most young countries, had a high birth rate. Since that period, however, the birth rate of this colony has fallen to 27.6 per 1,000 and the average number of children in a family to 3.6. Mr. Coghlan attributes this falling off to postponement of marriage. When the average number of children is 3.6, a woman marrying at the age of twenty may expect to have five children; at the age of 28, three children; at the age of 32, two children, and at the age of 37, one child.

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[1] Le Danger de la Mort Apparente sur Les Champs de Bataille, par le Docteur Icard (de Marseille), Vice-président de la Société de Londres Contre le Danger des Enterrements Prématurés, etc. Paris, A. Maloine. 1905.

News of the Week.

A Politico-Cholera Congress in Russia.—The Congress of Russian medical men summoned to meet in Moscow under the auspices of the Pirogoff Society for the purpose of considering prophylactic measures against the expected invasion of cholera was attended by over 1,000 physicians. As had been foreseen, the sessions resolved themselves into what were practically political meetings of the reactionary order, and the bureaucracy was vigorously attacked. The presidents of the congress, Drs. Chinokayeff and Elpatyevski were recently returned political exiles and it is expected that they will be exiled again. A resolution was passed to the effect that it was impossible for them adequately to practice their profession under the present political conditions. When the doctors ordered goods burned because they were believed to carry cholera infection, the speakers said, the local bureaucrats turned the ignorant anger of the poor upon the doctors and allowed mobs to wreck the houses of the practitioners. The bureaucracy published indiscriminate censure of the doctors for alarming the public by taking preventive measures against the cholera, and also censured them for not taking preventive measures after the cholera had broken out. A resolution was passed that a national assembly, the members elected by universal suffrage, should be convened. The last act of the congress was to despatch a telegram to Maxim Gorky, addressed to him as "a valiant defender of the rights of man." After the adjournment of the congress several of those who had taken a prominent part in its deliberations were arrested.

The Governor of Pennsylvania Vetoes Bill for State Camps for Tuberculosis.—Governor Pennypacker has vetoed a bill passed by the Legislature, appropriating $300,000 for the erection of two State camps for the maintenance, treatment, and cure of cases of incipient tuberculosis. He raises the question whether the resources of the State are sufficient to continue in the enlargement of the scope of the charitable work done by the Commonwealth. He takes the ground that if it is the duty of the State to take care of persons suffering from diseases capable of becoming a source of danger to others, and likely to terminate fatally, it may in time become necessary to care also for those suffering from other infectious diseases, such as smallpox, leprosy, cholera, yellow fever, the bubonic plague, typhoid fever, pneumonia, and others. A further objection to the bill is found in the fact that the benefits of its provision are open to rich and poor alike. The bill provided for the appointment of a commission consisting of two physicians and the Forestry Commissioners for the selection of tracts of land, preparation of plans, and erection of buildings, and finally to act as trustees and managers of the institutions. The Governor thinks the work would require the experience of business men and artisans, the medical superintendency being lodged in the hands of physicians. He points out further that if the forestry lands are to be laid bare for the purpose of erecting buildings in one worthy cause, they may in time come to be utilized for many other such purposes. Finally, he believes that the objects of the bill will be better fulfilled by the proposed act for the creation of a State Department of Health with ample powers to carry out plans for the treatment of tuberculosis and the protection of the community from the evils that ensue from the prevalence of this disease.

Tuberculosis in the Joliet Penitentiary.—Investigation of the condition of the prisoners in the Joliet, Ill., Penitentiary, especially as to the spread of tuberculosis, began recently. The close confinement in the small cells, in connection with the idleness that many of the prisoners have been forced to undergo in the last nine months, has resulted in an increase in tuberculous cases of fully forty per cent., according to the statements of the prison officials. The present cell houses are old and small, and are regarded as unsanitary largely because of their narrow limits and close proximity to each other. Plenty of fresh air and exercise, as well as a new cell house, are needed, in the opinion of experts who made the examination. Dr. George W. Webster, President of the State Board of Health, Dr. J. A. Egan, Dr. Palmer, and Professor J. H. Long, of Northwestern University, have started an exhaustive examination.

City's Consumption Clinic.—The clinic for the treatment of pulmonary tuberculosis established a year ago by the Health Department at 967 Sixth avenue, adjoining the department headquarters, has been so successful that it has been decided to open a similar dispensary in Brooklyn about May 1, for which a building at 76 Henry street has already been leased. During the twelve months of the clinic's existence 3,100 patients applied for treatment, making 13,740 visits, a daily average of forty-four patients. Of this number 327 were placed in hospitals and sanatoria, and 610 patients are now under treatment at the clinic. The objects sought for by the establishment of these clinics are the extension of the sanitary control of consumption among the poor by the Department of Health through education regarding the measures necessary to prevent the spread of infection, providing proper food to indigent cases, supervision of the patients at their homes by visiting nurses, etc.

A Quarantine Against Cuba.—The health boards of the Gulf States have issued a quarantine order to the effect that passengers from localities in Cuba other than Havana, must present certificates from representatives of the United States Public Health and Marine-Hospital Service stationed in Havana showing that sufficient time has elapsed from the original point of departure to prevent such passengers reaching any Gulf port in less than five full days from said point of departure. As soon as this action became public the Cuban National Board of Health sent the following cable to Dr. Souchon of the Louisiana State Board of Health: "The Superior Board of Health protests against your action discriminating against territory of the republic outside of Havana. We are in constant touch with all districts, and we know that they are just as free from quarantinable diseases as is Havana. We had taken for granted that this was well known to all sanitary authorities. We trust, therefore, that you will reconsider your action." Dr. Finlay, Chief Sanitary Officer of Cuba, says that there is no justification for this discrimination against the island outside of Havana, for the entire country is under constant effective sanitary control. When a case or suspect of a quarantinable disease occurs anywhere in Cuba, the local officer is compelled to telegraph the fact at once to the chief sanitary officer in Havana. The latter then orders the provincial inspector for the corresponding province to investigate the case. This inspector telegraphs the result of his investigations and sends by mail all the data about the case, and these are submitted to the board of experts in Havana. If the diagnosis is confirmed, or the suspicions are maintained, one or more of the experts are sent to the spot, and every measure is taken to prevent the spread of the disease.

Osteopaths not Physicians but Liable for Malpractice.—The Supreme Court of Missouri has decided that osteopaths are not physicians and surgeons under the laws of the State, but if they pretend to treat diseases they must be held responsible for their acts. The case came to the supreme court from a lower court, where a young girl, through her guardian, brought suit against one of the leaders of the School of Osteopathy for $10,000 damages for malpractice. She had been treated by him for hip disease, and alleged that he had done her great harm. The lower court sustained a demurrer to the evidence and rendered judgment for the defendant. The supreme court reversed that judgment, and held that the plaintiff was entitled to damages.

A Tapeworm Cure for Tuberculosis.—A recent consular report announces the discovery in Buenos Ayres that the tapeworm is inimical to the tubercle bacillus. A person suffering from consumption is reported to have been restored to perfect health after getting a tapeworm, and the injection of tapeworm juice arrested the progress of the disease in the most advanced cases. There are great possibilities in the exploitation of this theory.

A Blue Germ.—A special to *The New York Times* of April 10, announces that the spotted fever germ has at last been run to cover. To Pittsburg belongs the honor of capturing the bacterium, but with rare magnaminity and moved by an exquisitely developed ethical sense, the bacteriologist who did the feat is willing that this city should share in the glory; he has declared that "He would consult with the New York authorities concerning it, as the victim from whom the germ was taken came from New York a week ago, suffering from the disease." The discovery was not the result of accident but was the reward of reasoning based upon a well-founded suspicion that the spine was affected. When the bacteriologist "saw that the boy could not live he sank a hypodermic syringe into the spinal column of the boy and extracted some fluid, which was examined and the germ was located. It was blue and shaped something like a coffee bean." It must also have been of considerable size, if it was necessary to plunge the whole of a hypodermic syringe into the spinal cord in order to extract it.

The Germs of Smallpox and of Syphilis.—An extraordinary session of the National Board of Health was recently held in Berlin in order to give a hearing to Dr. Johann Siegel who claimed to have discovered the microorganisms both of smallpox and of syphilis and desired to submit his proofs to official scrutiny.

The American Gastroenterological Association will hold its eighth annual meeting at the Academy of Medicine in this city on April 24 and 25, 1905, under the presidency of Dr. S. J. Meltzer. A very interesting program is announced. The annual dinner will take place at Delmonico's on the evening of April 24. The secretary of the association is Dr. Charles D. Aaron of Detroit.

A Specialists' Course on Otology.—Dr. W. S. Bryant has instituted at the Post-Graduate School a course of practical instruction in diseases of the ear. Each course will last for six months.

The Membership of the New York Academy of Medicine has reached the limit of one thousand, and now, for the first time in the history of the society, there is a waiting list.

The British Opticians, following the example of their brethren in New York State, are getting busy and are preparing to introduce a bill in Parliament for the registration of persons who profess to test the eyesight.

Otero County Medical Society.—The physicians of Otero Co., N. Mex., have organized a county society with the following officers: *President,* C. H. Waldschmidt; *Vice-President,* O. W. Miller; *Secretary,* E. B. Van Arsdel; *Treasurer,* G. C. Bryan. Dr. J. R. Gilbert was chosen as a delegate to the Territorial Medical Association, which holds a meeting in Santa Fé in May.

The Eighth International Congress of Veterinary Medicine will be held in Budapest the coming summer. A full program is expected, twenty-two papers being already in hand, and adhesions to the congress are coming in rapidly. The secretary-general is Dr. Etienne de Ratz of Budapest. Dr. Salmon, Director of the Bureau of Animal Industry at Washington, is the American representative.

Railway Casualties.—A report of the railroad accidents in the United States during the months of October to December, 1904, has been compiled by the Inter-State Commerce Commission. It shows that, in that quarter, 53 passengers and 189 employees were killed, and 1,430 passengers and 1,868 employees were injured; a total of 242 persons killed and 3,298 injured in train accidents. Other accidents to passengers and employees, not the result of collisions or derailments, bring the total number of casualties up to 14,978—95 killed and 14,027 injured. The report indicates a decrease of 175 killed and 624 injured, as compared with the preceding three months.

Inspection of Milk Stations.—The Health Commissioner of this city has recently made an inspection of the milk stations along the line of the Delaware, Lackawanna and Western Railroad, at the request of the president of the company, and will make certain recommendations which the company's officials will carry out to the best of their ability. The railroad does not own the milk stations, but by refusing to carry milk from producers who do not observe sanitary rules can compel better conditions.

The Garcia Memorial Fund.—The total amount collected for the Garcia fund is announced to be nearly £800 ($4,000).

Ashland County, O., Medical Society Reorganized.—For the purpose of coming into closer contact with the State and national associations, this society has been reorganized with the following officers: *President,* Dr. D. S. Sampsell, Ashland; *Vice-President,* Dr. J. J. Fridline, Ashland; *Secretary,* Dr. R. C. Kinneman, Ashland; *Treasurer,* Dr. W. H. Wirt, Loudonville; *Board of Censors*: For three years, Dr. D. E. Pocock, Jeromeville; for two years, Dr. Budd, of Perrysville, and for one year, Dr. A. L. Sherick, Ashland. *Delegate* to the Ohio State Medical Association, Dr. F. V. Dotterweich, Ashland. *Alternate,* Dr. C. B. Scott, of Loudonville.

The Cerebrospinal Meningitis Epidemic has apparently passed its acme in this city, and a decrease in reported cases and deaths for last week is announced.

Louisville, Ky., Medical and Surgical Society.—At the annual meeting of this society on March 20, the following officers were elected: *President,* Dr. W. H. Coleman; *Vice-President,* C. W. Hibbitt; *Secretary,* Dr. John K. Morris; *Treasurer,* Dr. Dunning Wilson.

College of Physicians of Philadelphia.—At a stated meeting held April 5, a symposium was held on "Medical Reminiscences of the Civil War," and it was participated in by Drs. S. Weir Mitchell, W. W. Keen, and John S. Billings.

The St. Lawrence County, N. Y., Medical Society will hold its annual meeting at the Arlington House, Potsdam, N. Y., April 18, 1905, under the presidency of Dr. E. M. Somers.

The Texas State Board of Medical Examiners will hold its next meeting in Austin, Texas, May 2, 3, 4, and 5, 1905, for the examination of applicants and transaction of other business. Further information may be obtained by addressing the secretary, Dr. M. M. Smith, Austin, Texas.

Council of Medical Education.—April 20 there will be a meeting of the Council on Medical Education of the American Medical Association, in Chicago, to which representatives of licensing and examining boards of the various States and Territories, as well as representatives of college associations, have been invited. The present status of the laws of the various States and Territories, with reference to licensure, will be presented by Dr. A. D. Bevan; while Drs. J. A. Witherspoon of Nashville, Tenn., and Victor C. Vaughan, of Ann Arbor, Mich., will discuss the subject of preliminary education. Drs. Chas. H. Frazer and Wm. T. Councilman will present reports on the curricula of medical colleges.

Cincinnati Academy of Medicine.—At a regular meeting on April 3, papers were read on "History of Medical Libraries in Cincinnati," by Dr. H. W. Bettmän; "Their Value," Dr. D. I. Wolfstein; "Their Future," Dr. C. R. Holmes. A committee was appointed to represent the Academy, Drs. John A. Thompson, H. J. Whitacre, and A. B. Thrasher, to confer with the committees of the Cincinnati Hospital staff and of the Medical Library Association, as to the best means of getting the various libraries into one central collection.

Dr. David Linn Edsall has been elected assistant professor of medicine in the University of Pennsylvania.

The West Virginia State Medical Association will hold its thirty-eighth annual meeting at Wheeling on May 24-26, 1905. Those who intend to present communications are requested to send the titles of the same to the secretary, Dr. William W. Golden, Elkins, W. Va., not later than May 3.

Obituary Notes.—Dr. WILLIAM HENRY DOUGHTY of Augusta, Ga., died on March 27, at his home in that city. He was born in Augusta, February 5, 1836. He began the study of medicine in the fall of 1852, in Augusta, attending two courses of medicine at the Medical College of Georgia, now the medical department of the University of Georgia, and was graduated from this institution in March, 1855. He served throughout the Civil War in the medical corps of the Confederate Army. From 1868 to 1875 he was professor of materia medica and therapeutics in the medical faculty of the University of Georgia. He was a member of the Georgia Medical Society, of the American Medical Association, of the American Public Health Association, and of the Tri-State Medical Society of Alabama, Georgia, and Tennessee.

Dr. THEODORE SITTEL, formerly of Cincinnati, died on March 25 at his home in South Norwood at the age of seventy-six years. He was born in Germany where he received his medical degree in 1854, settling in Cincinnati the following year. He was one of the founders of St. Mary's Hospital.

Dr. FABIUS FOX of East Baltimore, Md., died suddenly on March 29, at the age of forty-two years. He was born in Russia, and was graduated from the Baltimore University School of Medicine in 1898.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ANTHRAX—RHEUMATIC DISEASES—STARVING SCHOOL CHILDREN—GARCIA—HOSPITALS—IRISH GRADUATES—JUBILEE OF DR. A. H. T. WATERS.

LONDON, March 24, 1905.

THE Milroy lectures at the College of Physicians have been given this year by Dr. T. M. Legge, who has devoted them to an elaborate account of industrial anthrax. As a medical inspector of factories, Dr. Legge had full opportunities of studying the subject, and of these he availed himself to the full. He gave the result of his studies in the three lectures, in which he discussed the disease in all its bearings. I shall only touch here the serum treatment, which is the one of greatest moment to practitioners, and which seems to afford good hope in this formidable disease. Dr. Legge was not content to study it here, where only twelve cases have been reported, and in only four of these was it solely employed. But he went to Italy, and Professor Sclavo placed every information at his disposal and let him see all the stages in the preparation of his serum in the Pathological Institute of the University of Siena. He went to Milan and examined Rachetti's great horsehair factory, where 700 workers are employed. There a physician attends every morning, and a bacteriological laboratory is fitted for his use, and a supply of serum kept, so that cases are caught and treated in the earliest stages. The head of the firm said he had now no fear of anthrax among his workpeople as he has seen so many successes. The claims of the serum treatment Dr. Legge summarized thus: (1) In large doses it is innocuous; (2) it can be borne injected into the veins; (3) taken in early stage no case is fatal; (4) some are saved when the state is critical and the prognosis almost hopeless; (5) injected into the veins the serum arrests the edema and reduces danger of suffocation when the pustule is on the neck or face; (6) used early it reduces to a minimum destruction of tissue; (7) in some situations of the pustule, as the eyelid, serum is to be preferred to any other treatment; (8) patients treated with serum become convalescent in a few hours; (9) in internal anthrax the only hope is the serum injected into the veins The serum is usually followed by a rise in temperature, often to 105° F. or over, but with this the patient's condition is improved, and Dr. Sclavo considers it as a favorable prognostic indication.

Prof. Sheridan Delépine, lecturing to medical officers of health on the increase of anthrax, attributed the cause to concealment on the one hand, and overlooking cases on the other. From his experience in the Manchester University Laboratories he urged a more complete system of notification and greater coordination of the work of sanitary authorities, the veterinary and factory departments, market committees, and police. He suggested paying a small fee to farmers and veterinary surgeons for early notification, and penalties for wilful concealment of cases. If the disease were allowed to spread on our farms we must expect cases of human anthrax to become more frequent.

Rheumatic maladies, under various names, are always with us, and discussions are continually arising as to the exact position of this or that affection in the so-called rheumatic catalogue. Dr. Hale White has detailed to the Clinical Society a case which he calls "acute rheumatoid arthritis," and at the same meeting Dr. Bertram Abrahams read a paper on "Arthritis Deformans and Its Allies." With regard to his acute case, Dr. White said such an illness should be sharply separated as a distinct disease from chronic rheumatoid arthritis, osteoarthritis, arthritis deformans, and chronic articular rheumatism. The disease he described is most prominent in the proximal phalangeal joints and wrists, symmetrical with much swelling beyond the joints, fusiform, sometimes creaking due to thickening of the synovial membrane, leading to immobility and muscular atrophy, but no lipping or bony outgrowths. In a few weeks most of the joints become affected, and the woman (generally the patients are young women) bedridden. Temperature rises in the evenings to 100° or 102° F. In contrast with rheumatic fever, the swelling remains after the acute stage, and fresh attacks occur, each increasing immobility, and making the patient a chronic invalid. These attacks may diminish in severity, and ultimately the patient only suffer from the deformities left. Dr. White considers the disease originates in the synovial membranes and tissues round the joints, the cartilages being unaffected; the bones are unusually transparent to the *x*-rays.

Turning to Dr. Abrahams' paper, he selected the term "arthritis deformans" as the least unscientific and as the one most in use in America and on the continent. He grouped four maladies under it: that described by Still in children, associated with enlarged spleen and lymphatic glands; senile osteoarthritis, a degenerative process which might come on in normal joints or follow in those crippled by other forms of rheumatism. The two remaining groups —acute and chronic arthritis deformans—were probably different forms of the same, and infective or toxemic in nature, the poison in acute cases flooding the joints, but in chronic less in amount though more prolonged, the changes then being more degenerative than inflammatory. The acute and chronic merge, and there are numerous intermediate forms. The brunt of the disease falls on the nervous system. Dr. Abrahams showed skiagraphs and photographs of acute and chronic cases, and of Charcot's and Still's diseases.

Dr. Toogood said the cases described by Dr. White were as common in men as in women, and not easy to distinguish from gout. Drugs he found useless, and advised generous diet, meat and tonics. He found some signs of rheumatoid arthritis at every post-mortem on a person over 65.

Dr. A. E. Garrod said Still's disease was very fatal. Not so adult cases. Excluding senile arthritis, we have in adults two distinct diseases, acute cases such as that of Dr. White, which might sometimes smoulder on for years. Distinct from this was multiple osteoarthritis, affecting joints of thumb and metacarpus, and causing less damage. He suspected a third form, far less common, with deformity as its chief feature, and not much enlargement of the joints. Other cases were due to infections, many of them puerperal.

Dr. Luff thought rheumatoid arthritis due to infection from the intestinal tract, and carbonate of guaiacol the best drug, as the guaiacol was set free in the intestines. The two hands were symmetrically attacked, and there was sweating of palms and soles, two conditions absent in gout, which latter did not spread to the vertebræ or temperomaxillary joints.

Dr. Preston King considered rheumatoid arthritis a bastard form of rheumatism, due to the action of the poison on the nervous system.

Dr. Blanc of Aix-les-Baines had found the serum injected for diphtheria in patients who were also subjects or rheumatoid arthritis had seemed to benefit this as well as the diphtheria. He then tried the serum on ten cases of rheumatoid arthritis, and all improved, two getting well. The arthritis of tuberculous patients he found aggravated by baths.

Dr. Ewart attributed various forms of the disease to toxemia, the poisons being either microbes or autotoxins.

Dr. Ll. Jones of Bath had known six cases to follow gastric ulcer.

Dr. White, in his reply, said the spindle-shaped joints and thinning of the ends of the bones were always present in the cases to which he had drawn attention. The primary lesion was in the synovial membranes and the soft tissues around the joints. He doubted the power of any drug to disinfect the intestinal tract.

Dr. Bertram Abrahams also replied. He found guaiacol useful. He saw Ringer treat some cases years ago with diphtheria antitoxin, and one of them seemed decidedly benefited.

The sentimental public has been holding high revel over the alleged hunger of starving school children, and the sensational papers have been duly gushing over a revelation which turns out to be a mare's nest. Sir John Gorst, who has been actively advocating the duty of the State to feed as well as educate the scholars, in company with the Countess of Warwick and Mr. Macnamara, M.P., paid a surprise visit to a board school in Lambeth, satisfied themselves that a large number of the scholars were in a state of semistarvation, and communicated their discovery to the guardians, and then to the press. The public was duly shocked, and like these amateur inspectors did not pause for a reply. But the guardians at once investigated the matter, and the result is that the inexperienced, self-appointed investigators were duped. They asked the children who had come to school without breakfast to hold up their hands, and many did—no doubt expecting the visitors were going to give them an extra treat. They then called upon guardians to give immediate relief to the parents. But the guardians sent their officer to visit the homes of the children. In some cases his visit was resented, in others the parents were at work, in one or two they were previously receiving relief, in some the boys said they got up late and left breakfast to be in time for school. Lastly, some parents said they sent them without breakfast, as they knew if they did it would be given them, as other people's children were given things, and why should not theirs? which is a good instance of the independence of a certain class as disitnguished from the respectable workman. The earnings of these families varied from 20 shillings to 73 shillings per week, and so the gush of the aristocratic socialists has been shown to be absurd.

Let me add a word or two to my last week's report of the Garcia commemoration. In the morning the hale centenarian was received by the King at Buckingham Palace and invested with the Victorian Order. In the afternoon he took the chair with remarkable vigor for a man of his years, and in the evening he responded to the toast of his health in an equally surprising manner. It is a pleasure to think he sustained the excitements of the day without undue fatigue. The menu of the dinner was adorned with two striking portraits—one taken about the time of the invention of the laryngoscope, the other taken for the occasion.

The Duchess of Albany attended the annual meeting of the National Hospital for the Paralyzed and Epileptic on Tuesday. The institution is in great need of funds—another £5,000 a year. The chairman, Mr. Power, said that a committee of ladies had brought about a saving of £2,000 a year in housekeeping and domestic expenses. The Duchess responding to a vote of gratitude for the interest she takes in the hospital, thanked the chairman for all he had done for it, and while regretting his vacating the post, wished him every success in his new office—the secretaryship of King Edward's Hospital fund.

The Earl of Derby is president of the Royal Sea-Bathing Hospital, and took the chair at the annual meeting on Wednesday. The income had fallen short of the expenditure by about £1,300, and if patients had been admitted free the deficiency would have been £4,700. His Lordship thought the time was coming when only curable cases should be admitted, and perhaps in years to come an institution might be attached to it where the incurable cases could spend their last days with all the amelioration possible. Sir H. Lennard, chairman of the hospital, announced that the Earl had handed him a cheque for £1,000.

The Mount Vernon Hospital for Consumption appeals for £100,000. At its two houses it provides 250 beds, but 110 are empty for want of funds. There is no reserve fund. Too much building seems to have been undertaken.

There was a large attendance at the dinner of the Irish Graduates' Association, when Sir W. Whilla presided, and was supported by the presidents of the Irish and English Colleges of Surgeons, the director-general, A.M.D., various officers, and others. Mr. Chance, P.R.C.S.I., complained of the restrictions of the London hospitals, and urged that surgery could not be limited by geographical bounds.

The Liverpool Medical Institution made its meeting on the 16th inst. one of congratulation to Dr. A. T. H. Waters, on his attaining his jubilee of membership of the institution of which he is a past-president. Dr. Waters gave an address on his reminiscences in the profession, which he entered nearly sixty years ago, and during many of which he held a leading position in the Liverpool school.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

PRACTICAL NOTES ON APPENDICITIS—PNEUMONIA IN THE TROPICS—DISEASES IN THE HIGHLANDS OF BENGUET—SMALLPOX AT SHANGHAI—VACCINATION OF THE MOROS.

Manila, P. I., February 16, 1905.

At the February meeting of the Manila Medical Society a paper was read by Major J. M. Bannister, U. S. Army, entitled "Practical Notes on Appendicitis and Its Treatment." The subject was treated in an exhaustive manner. The etiology, the symptomatology, and the many complications were discussed at length. Under the head of treatment the author stated that all cases seen within forty-eight hours of the beginning of the disease should be operated upon immediately. He stated, as evidence that he practised what he preached, that he had carried out this course in a case of appendicitis occurring in his own family. He preferred the McBurney incision because of the lessened danger of postoperative hernia. The simplest plan for the removal of the appendix itself was by ligation, excision, and cauterization of the stump with carbolic acid. Judging from the seventy odd cases that had come under his observation since he has been in the Islands he was led to believe that appendicitis ran the same course as in the United States, and that the operative results were equally good. In the discussion which followed, Professor Watson, of the Adelaide, Australia, Medical School, who was a guest of the Society, stated that he fully concurred in all that had been stated by the author, and that the subject had been so fully covered that there remained very little to add. Dr. McDill stated that after reading the papers and the discussions which took place at the last meeting of the American Medical Association, and after listening closely to the author's paper, he had failed to observe that any of the writers had mentioned the desirability of seeking for a fecal concretion in perforative cases of appendicitis. He cited a number of instances in which such concretions had been found to be the cause of subsequent fecal fistulas.

Dr. Moulden, the medical officer of Bilibid prison, showed a large number of charts and histories and specimens from cases of lobar pneumonia, and stated that at a future meeting of the Society he hoped to be able to show in a paper that lobar pneumonia in the tropics differed from that in temperate climates.

A paper entitled "Notes on the Diseases Encountered in Baguio and the Neighboring Highlands of Benguet During the Year 1903-4," was read by the secretary, Dr. J. B. Thomas being the author. He stated that Baguio was a small village situated in the province of Benguet at an altitude of about 5,000 feet above sea level. It is at this place that the Civil Government proposes to establish its summer capital. The temperature ranges from 40° to 70° F. With the exception of a few weeks this represents the daily difference between the night and day temperature. The severe rainy season lasts about three months in the year. Pine trees are abundant and the vegetables which ordinarily grow in temperate climates may be successfully raised. He had seen some cases of beriberi, but they had been contracted in the lowlands, and in his experience he had never seen a case of beriberi at an altitude above 3,000 feet. He also did not believe that a non-nitrogenous diet was a cause of the disease. He could not trace any cases of dysentery as having originated in Baguio. The various forms of intestinal worms were found in the same proportion as elsewhere. Catarrhal inflammations of the nose, throat, and upper air passages were rather common. He thought the climate suitable during nine months of the year for such cases of pulmonary tuberculosis as it was not practicable to send to the United States on account of extreme feebleness or other equally important reason. Yaws was a very common affliction. In the discussion, Major Carter, of the Board of Health, mentioned that a number of cases of beriberi had occurred several years ago among the inmates of the Alabama Insane Asylum who were being subsisted upon a rich nitrogenous diet, and who, so far as known, had not come in contact with any cases of beriberi. The neighborhood was reported to be entirely free of the disease.

The smallpox outbreak in Shanghai is one of the worst that has occurred in the Orient in recent times. According to the reports there were some weeks during December and January in which 200 cases were reported. Estimates made by conservative medical men resident of Shanghai are to the effect that one additional case occurred for each one given by the official statistics. Eight vessels are known to have had smallpox break out after leaving Shanghai. Among these were the German mail steamer, and the French mail steamer *Australien*, upon which General Stoessel, of Port Arthur fame, was a passenger. One vessel arrived in Manila from Shanghai which had a case of smallpox on board which developed fourteen days after leaving Shanghai. The great danger of shipping conveying the infection to all parts of the world will be readily appreciated. The Hongkong quarantine authorities, who ordinarily are slow to require quarantine inspection of incoming vessels, now board all ships arriving from Shanghai before permitting them to discharge passengers. The United States quarantine authorities require that the crews and steerage passengers bound for Philippine ports be vaccinated before leaving Shanghai.

Upon further investigation the Insular health authorities found that the reports of the smallpox occurring on the island of Marinduque were very much exaggerated. In Manila there were a few cases during January; they practically all occurred among transients. General Wood recently requested that he be furnished with a corps of vaccinators in order that he might commence the vaccination of the Moros. This experiment is being watched with much interest because the Moros are among the wildest tribes in the Philippines and in many respects resemble the American Indian.

TREATMENT OF CEREBROSPINAL MENINGITIS.

To the Editor of the Medical Record:

Sir: In the following epitome, it is the intention of the writer to sift the chaff from the wheat, and give an outline of the treatment of this disease.

Ice bags are uncalled for; they are harmful, and at best I consider them of the purgatorial placebo order.

Occipital vesication, effected by the use of Spanish fly blister, 3½ by 7 inches, should be resorted to at once, without delay, removing what hair is necessary. Do not remove the blister too soon. Keep a running sore for a week or two by poulticing, etc. This all-important matter should not be neglected; herein lies success.

Unload the primæ viæ with 15 to 20 grains of calomel (adult dose), followed in three hours by a large dose of magnesium sulphate. This is obligatory.

To jugulate the disease in conjunction with the blister the following formula has its merits:

℞	Potassii bromidi	℥i
	Chloral. hydrat	ʒii
	Ant. et pot. tart	gr.i
	Tr. aconiti	ʒi
	Aq. cin	℥ii
	Aq. font., q. s. ad	℥vi

M. Shake well and give a teaspoonful or two in a little water every two to four hours, day and night, and oftener if necessary. Also acetanilid 5 grains in capsule or solution every four to eight hours; this is an acknowledged cerebrospinal sedative. Chloroform inhalation is frequently called for; its proper use is a Godsend. Hypodermicsc should be avoided if possible.

An easily assimilated and nutritious diet should be strictly enforced.

The advocacy of this line of treatment is based on over forty years' experience. A few years ago my daughter (adult) was stricken down with this terrible disease in its severe form. Suffice it to write, she made a handsome recovery.

John T. DeMund, M.D.

Ridgewood, N. J.

CALCIUM SULPHIDE IN DIABETES AND GINGIVITIS.

To the Editor of the Medical Record:

Sir: Referring to my article on diabetes in the Medical Record of June 11, 1904, I beg to make the following addition: Having had excellent results in the use of calcium sulphide in carbuncles and furuncles, the frequent symptoms of diabetes, it occurred to me that this drug might also be used successfully for gingivitis, another symptom of diabetes, and for diabetes itself. From my experience with the drug I now strongly believe that it is really good in these diseases. I used it to great advantage in six cases, and Dr. Charles Vetter, lecturer on materia medica in the New York College of Dentistry, to whom I suggested its employment, in two more cases of gingivitis; his two cases and two of my cases were purulent, while the rest showed induration. The eight cases were the only ones treated by us.

There is hardly ever any local treatment of gingivitis followed by a good result, and this is quite natural, since gingivitis is not only a local disease, but usually the manifestation of abnormality of the entire system, which requires a general treatment. Calcium sulphide seems to answer this purpose better than any other drug. But one must be careful in the selection of this drug, and if it comes in hard tablets or pills, directly before using it, it should be broken into a few pieces. Of course, the paucity of the mentioned trials is not quite a sufficient proof, but it invites to some more.

Louis Barkan, M.D.

454 West Twenty-ninth Street.

Progress of Medical Science.

Boston Medical and Surgical Journal, April 6, 1905.

Surgical Treatment of Nephritis; a Résumé.—Paul Thorndike reviews the statistics of the surgical treatment of nephritis, describes the technical features of the operation and analyzes results. He finds four clinical conditions given as indications for the operation: (1) Albumin and casts associated with movable kidney; (2) cases of true nephritis with the same association; (3) Chronic interstitial nephritis, and (4) Diffuse nephritis. Doubtless in many of the cases so far collected the albumin and casts were manifestations of a temporary condition brought about by tension of the renal pedicle, torsion or kink in the ureter, or some similar mechanical condition resulting from the renal mobility. In these cases the operation has removed the cause and its manifestations have disappeared. Doubtless, also, some of these cases may have been reported as cases of true nephritis, although the conditions involved have not existed long enough or continuously enough to have brought about permanent degenerative changes in the renal tissues. In others a true nephritis doubtless exists associated with the renal mobility. Both these classes of cases are fit subjects for operation, but whether the individual patient under consideration demands a fixation as well as decapsulation must always be a matter, and often a difficult matter, for the judgment of the surgeon to decide at the moment. He believes that evidence gathered at post mortem in persons who have been operated on but have died at different intervals from causes entirely apart from the kidneys, proves that a new capsule forms within a few weeks of the operation, but finds no positive evidence of the establishment of a collateral circulation sufficient in degree to materially affect the renal.

Diet in Nephritis.—H. Jackson gives the following dietary for patients with renal disease. Breakfast: Cereal with cream, egg, bread and butter. Very weak coffee with much cream, fruit, glass of milk. Dinner (preferably in midday): One ladleful soup, little fish, one slice meat, one vegetable. Dessert: Essentially fruits; "simple" children's puddings may be taken as desired. Supper: Cold meat, broiled fish, bread and butter, milk. In cases in which the condition is not good milk in the forenoon and at bedtime is indicated. Koumyss in my hands has rendered very material service. It is the author's experience that in cases of this class the exhibition of a considerable quantity of water, especially alkaline waters, is of value. Since the publication of Van Noorden's work on the subject he has made trial of reducing the fluids, and his results have not been favorable. In general terms it may be said that in acute nephritis the diet must be cut down to the smallest amount compatible until the maintenance of a fair degree of bodily strength; the patient must be fed as one would feed in an acute febrile disease. In chronic cases, the diet must be so limited as to maintain a proper equilibrium. As much cream and fresh butter should be taken as can be digested. In those cases of the pure interstitial type with the excretion of a large amount of water and the presence of an occasional type the diet should be simple and nourishing. No stimulating food, wines or liquors should be allowed.

New York Medical Journal, April 8, 1905.

Spondylose Rhizomyélique; a Study of the Relative Frequency of Spinal Involvement in Rheumatoid Arthritis, with Autopsy Findings.—Fourteen cases are reported by D. J. McCarthy, who makes a brief mention of the cases of rigidity of the spine reported since von Bechterew's revival of the subject in 1893. His own paper discusses spinal rigidity (1) As a separate and distinct clinical and pathological entity and (2) as a local manifestation of rheumatoid arthritis. His personal conclusions are as follows: (1) That ankylosis and rigidity of the spinal column is a frequent manifestation of advanced rheumatoid arthritis; (2) That it may develop early in the course of the disease and be associated with irritative root symptoms; (3) That if the disease described by von Bechterew is to be considered as a distinct clinical entity separate from rheumatoid arthritis, it should only be diagnosticated as such after the disease has progressed over a considerable period of time without involving joints other than those of the spinal column; (4) That we are not able at present to differentiate from rheumatoid arthritis that large group of cases, reported by Marie and others, where the rigidity of the spine is associated with changes in the hip and other joints.

Asepsis and Antisepsis in Obstetrics; also "Sterile Gauze" and "Sterile Water."—J. Milton Mabbott reiterates his plea for immediate repair of perineal lacerations and his belief that the best results cannot be obtained without the systematic use of antiseptics. A soap and water solution is but weakly efficient in this direction but does not meet all requirements. He says there is no question whatever of the danger of sepsis being greater in an infected closed wound than in an infected open wound. And since we believe that microorganisms in the contiguous skin or air are occasionally responsible for infection, we too should have some hesitation in sewing up the perineum without disinfection even in a cleanly conducted case. But why should we not cleanse the wound with an antiseptic solution and seal it from later infection? So far from being a cause of sepsis perineorrhaphy thus becomes a valuable means of prevention. While there is one practitioner openly advocating the open treatment of the perineum, the subject is worthy of our attention lest others be misled. The expression "sterile" gauze is a misnomer. It cannot remain sterile after the unavoidable exposure incident to its removal from the sealed container and introduction into a wound or cavity. "Sterile" water exposed to the air is sterile only while it is too hot for use in midwifery. By the time it has cooled sufficiently for use, many germs will have fallen into it from the air and will remain undestroyed at the lower temperature. The paper closes with a description of the obstetric technique followed by the author.

Medical News, April 8, 1905.

The Function of the Parathyroid Glands.—W. G. Maccallum and C. F. Davidson recount the results of numerous experiments on dogs. They find that when the parathyroids more rapidly to death and with less tendency to the development of emaciation and cachexia than in cases in which the thyroid is removed at the same time. Nevertheless, a considerable proportion of those cases do develop violent tetany—tetany which quickly leads to the death of the animal—and in practically all the cases the symptoms began quite as soon as in the other cases. In a series of six experiments no effect on the tetany was produced like thyrodectomy, the parathyroids having been previously removed. In one the tetany was slight before the removal of the thyroid, and disappeared entirely after it. In one the tetany, also slight, continued, but became progressively milder until it disappeared just before death, which occurred four days later. The authors, therefore, regard the tetany not as the result of a disturbance of the thyroid from the loss of the influence of the parathyroids, but as the direct result of the loss of parathyroid function, especially since it may be directly cured by injection of parathyroid emulsion in the absence of the thyroid.

American Medicine, April 8, 1905.

The Optic and Ocular Factors in the Etiology of the Scoliosis of School Children.—George M. Gould says that 27 per cent. of all European schoolchildren, probably of American also, have lateral spinal curvature, and the fact constitutes a source of disease, suffering, and death greater than many others about which the profession and the public are infinitely more concerned. But the cause of lateral curvature remains a most perplexing mystery. In some way or other orthopedists and hygienists usually charge it to school life, posture in study, and, more closely, to the writing posture. The slanted style of handwriting is by many believed to be the source of the mischief. Dr. Gould sets forth the reasons why it is the consequence of visual function—a certain proportion being due to a peculiar axis of astigmatism, compelling a lifelong canting the head to one or the other side in order to see plainly. But a larger number of cases arise in the habitual bending of the head and body to the left in writing. This necessity of bending the head to the left is caused by the impossibility of seeing "the writing-field," or what is being written when the paper is placed, the pen held, and the body postured as commanded by all teachers and writing masters of the past. This is illustrated by photographs, and can be demonstrated by observation of others or by one's self in writing. The right eye (one is right-eyed, as he is right-handed) must see the writing-field. The habitual cervical curve, it is suggested, with convexity to the right, neglected by orthopedists, by compensation creates the secondary spinal curves lower down. The prophylaxis and cure consists in placing the paper opposite the right shoulder, 14 inches from the eyes, and upon a desk leaf slanted at least at 30°, whereby the body may be kept erect, hygienically posed, and the writing plainly seen. If this is impossible because of old school desks, a peculiar angled penholder devised by Dr. Gould may be used. The Oriental style of grasping the holder may be used, or, as somewhat common, held between the first and second fingers. If this theory is true, the Oriental schoolchildren should be relatively free from spinal curvature.

Tendon Transplantation.—H. Augustus Wilson gives an historical review of the various improvements and methods of procedure. He concludes from his personal experience that tendon transplantation, alone or combined with arthrodesis or other bone operations, offers prospects of materially adding to the comfort, convenience, and usefulness of a very large class of patients otherwise more or less dependent upon forms of mechanical apparatus. The frequently observed improvement in the action of muscles that previous to operation gave evidence of being paralyzed or atrophied from disuse, shows the capabilities of restoration when the offending abnormalities have been removed. It is impossible to estimate properly what the future development in a given case will be. The cooperative, intelligent care of the patient must be depended upon in securing the best permanent results. Muscles cannot develop when they are used to excess or are under constant strain. The atrophy from disuse, whether caused by tension or relaxation, often presents all of the appearances of paralysis. The avoidance of overstrain upon incapable muscles is often demanded, so that the minimum muscle force may accomplish the maximum of action. The after-treatment is fully as important as the surgical procedure, and must be given prolonged consideration in order to accomplish the best ultimate results. Arthrodesis alone possesses advantages in cases incapable of benefit from tendon transplantation. Various forms of osteotomy, osteoclasis, and other bone operations are available for the removal of deformity and for the prevention of undue strain upon the soft parts around a joint.

Enterostomy.—J. W. Long holds that the following important measures are accomplished by enterostomy: (1) Drainage of gas and feces from the intestines. (2) Relief of distention, pain, vomiting, and toxemia in mechanical obstruction. (3) Depletion of the inflamed bowel and peritoneum in septic conditions; the intestinal paralysis and sepsis are also overcome. (4) Protection to the peritoneum, as in typhoid perforation. (5) Nourishment to the patient by making an artificial mouth. The author considers the subject under these heads, and concludes enterostomy is always a life-saving measure, never an operation of choice. It is never indicated when a more ideal surgical procedure is feasible. In the hands of an experienced, carefully trained abdominal surgeon, capable of dealing with grave emergencies, an enterostomy is rarely resorted to; but the better the surgeon the more quickly will he adopt any measure that will rescue his patient. Every abdominal surgeon finds cases in which only an enterostomy can with propriety be done. When an enterostomy is indicated, to hesitate is to lose the patient; therefore operation should be done promptly, dexterously, and with celerity. Dr. Long reports eight cases occurring in his own practice, with five recoveries.

Journal of the American Medical Association, April 8, 1905.

Ocean Bathing.—Philip Marvel calls attention to the effects of ocean bathing. Sea water is really a mineral water containing large quantities of salts in solution. He calls attention also to the effects of temperature; to the depression of the system due to long exposure in cold water, showing itself by a drop of from one to two degrees of body temperature and in lessening of the pulse rate from fifteen to twenty beats. If after a bath there is a general glow of the surface, succeeded by a pleasing warmth internally and accompanied by a sense of general invigoration, the effect is salutary. If, on the other hand, there is chilliness, depression, and languor, the reverse is the case. In his opinion, ocean bathing, as carried on in the Atlantic coast resorts, does more harm than good, and physicians should warn patients of the dangers of too long immersions and of exposure in wet clothes on the sand. The practice of promenading the beach in scanty and wet clothing after a long exposure in the surf is to be condemned. An important feature in sea bathing is the impact of the waves on the body, and to this may be added the thermic stimulation of the cold, the chemical irritation of the salt, and the mechanical effect of the forced activity, all producing a combination of the stimulating influence of a brine bath at low temperature with the effect of a stimulating hydrotherapeutic procedure. These effects are admirable for stimulating functional activity in weakened conditions in which normal metabolism is inhibited, or in which a condition of perverted nutrition exists, as in some functional disturbances of long standing. Sea bathing is contraindicated, however, wherever there is weakening or loss of elasticity of the arteries, organic heart disease, recent rheumatism, cholelithiasis, acute gastrointestinal or febrile disease, or in any condition where the normal resistance is so reduced that it is necessary to guard the patient's forces.

The Elimination of Typhoid.—A. Robin holds that, while bacteriological proof is lacking in the chain of evidence connecting typhoid fever with a polluted water supply, there is yet abundant clinical and epidemiological evidence of this relation. It is a striking fact, however, that even artesian well water seems to be among the possibly polluted sources. That the infection is avoidable is amply shown by European and American experience. He goes at length into the prophylaxis of typhoid fever, and shows that domestic methods, except boiling water, which is often only sporadically employed, are generally ineffective. Even the best domestic filters require frequent cleansing and sterilizing to keep them in good condition. The use of unboiled water to cleanse foods that are eaten raw, and a polluted milk supply are also to be held accountable for infection. Municipal prophylaxis also may be defective, especially if mechanical filters are employed, and he illustrates this by a comparison of the typhoid death rates of Wilmington, Del., which is thus supplied, and that of Lawrence, Mass., where the better plan of slow sand filtration is in use. There should also be laws preventing the discharge of raw sewage into streams which supply the drinking water of towns. For the purification of sewage he believes the septic tank method promises the best results.

Variola.—W. T. Howard, Jr., has followed up the study of the organism found by Councilman, McGrath, Brinckerhoff, and Tyzzer in variola and its life cycle. He finds that these bodies in their various stages are constantly present in the skin lesions of vaccinia and variola, and gives the technic of their study. Zenker's fluid is the only fixative that is satisfactory, and it is important that the section should be made so as to include the whole thickness of the skin. Mallory's is the best methylene blue eosin stain for these bodies, but other methods, such as that of Borrel and Weigert's fibrin stain, preceded by carmin, may be used. The bodies stain brilliantly, and with a good light and an oil immersion lens, should be easily recognized in properly prepared specimens. In the later stages of the disorder the Borrel stain is best. A second cytoplasmic stage recognized by Howard and Perkins is found only in well-established variola vesicles, never in vaccinia, so far as known. The other stages are the intranuclear ones already described by Calkins, with the exception of one which was not found by Howard, and which appears in the later stages of the eruption. It is useless to look for cytoplasmic forms (excepting in local autoinfection) in late lesions, or for the intranuclear forms in early ones. The importance of these findings is in the service they may render in the early diagnosis of variola and vaccinia. Howard believes that this can be made in doubtful cases, with the result of cutting short various epidemics in their beginnings.

Tropical Amebiasis.—W. E. Musgrave gives the results of his experience with tropical amebic dysentery in Manila, where it causes more than 50 per cent. of the invalidism of public, and especially of civil, employes. In the military service there is a smaller percentage on account of the stricter regulations and the medical oversight. The use of cold drinks, and especially of ices containing encysted amebæ, is specially dangerous. Fresh vegetables are responsible for some cases, and others come from lack of cleanliness of the hands. He condemns the tendency to routine treatment. Acute cases should be kept in bed, on fluid diet, pain being controlled by opiates or by local applications; calomel and salines and enemas are useful. After the acute symptoms subside, strict confinement is no longer required, because the patient usually can be treated at home, and can have the benefit of carefully directed moderate exercise. Musgrave advises a liberal diet, except where there is disturbance of the stomach and the small intestines. While change of climate is desirable, especially in old, obstinate, and emaciated cases, it should be preceded and followed by careful local treatment. He thinks that the routine use of bismuth has worked harm, at least in a negative way, by interfering with the effects of other drugs. Ipecac, as sometimes prescribed, is apt to be dangerous, but in small doses it may act beneficially. Salines should be used with caution for catharsis only. Musgrave favors the hydrochloric acid and pepsin combinations. Strychnia, while a valuable general tonic, is too stimulating to the bowels to be used simultaneously with enemas. Local treatment is important, and he goes at length into the directions for the administration of injections. The various salts of quinine have been the most satisfactory agents in this method of treatment. There is little choice, apparently, between the different salts, but the solution should be an acid one and of a strength from 1-1500 to 1-750. In concluding his paper Musgrave notices at some length appendiceal amebiasis. Appendicitis may occur, either independently of the amebic affection or as a continuation, by contiguity, of the structures. In a minority of these latter cases operation may be performed, but more frequently the surgeon will find a gangrenous cecum and will increase his mortality rate. Generally the symptoms are due to irritative involvement of the cecum, without amebic involvement of the appendix.

The Lancet, April 1, 1905.

A Soluble Button for Intestinal Anastomosis.—P. Patterson has discovered this desirable medium in a combination of gelatine with chrome alum. Ten grains of chrome alum are dissolved in one ounce of cold water. Moulds are then prepared—lined with a layer of strong muslin and filled with a strong watery solution of gelatine. The fibrous mould-lining becomes saturated with the gelatine and incorporated with the outer portion of the gelatine button, giving additional strength, while diminishing the tendency to brittleness. When the gelatine has set, the casts are removed from the moulds and placed in the alum solution (one button to each ounce of the solution) for twelve hours. They are then kept in 50 per cent. alcohol until required for use. A button three-quarters of an inch in diameter resists solution for about five to seven days when placed in the bowel. The buttons are used in the same general way as the Murphy button. Thick hydraulic dental cement may be used, if necessary, to firmly approximate the male and female halves.

Pericolitis Sinistra.—Under this title H. D. Rolleston groups the following conditions: (1) Local peritonitis of comparatively slight intensity around the descending colon or the sigmoid flexure; (2) a local abscess in connection with the descending colon which may eventually burst into the general peritoneal cavity and set up (3) general peritonitis. The clinical manifestations are as follows: After constipation of some duration the patient experiences pain in the left iliac fossa, usually has a somewhat raised temperature, and may vomit. On palpation there are deep tenderness, muscular resistance, and a more or less cylindrical tumor palpable in the left iliac fossa, features which suggest appendicitis on the left side. Leucocytosis and indicanuria have been noted in some instances. Several illustrative clinical histories are given.

The Vibrating Sensation in Affections of the Nervous System and in Diabetes.—R. T. Williamson notes that when the foot of a vibrating tuning fork is placed over subcutaneous bony prominences or surfaces in certain parts of the body a peculiar vibrating sensation is felt. If, for example, the foot of a vibrating tuning fork be placed firmly in contact with the ulnar side of the wrist, just at the prominence caused by the styloid process of the ulna, a peculiar vibrating or trembling sensation is felt at the region named, and in many healthy persons this sensation is felt throughout the whole length of the ulna. A similar sensation is felt when the foot of a vibrating tuning fork is placed over the subcutaneous processes or surfaces of many other bones. The author uses a fork six inches long, and finds the following three places convenient for examination: The styloid process of the ulna, the internal malleolus, and the inner surface of the middle tibial region. From examination of a considerable number of healthy and diseased individuals, he comes to the following conclusions: (1) In the normal condition the vibratory sensation, tested in the manner described, is probably always present at the three points mentioned. (2) In early tabes it may be lost in the legs before impairment of other forms of sensation occurs and before ataxia or Rhomberg's sign can be detected. (3) In certain cases of spastic paraplegia it may be lost in the legs, when other forms of sensation are not affected. (4) In some cases of diabetes mellitus and chronic glycosuria it is lost when sensation in other respects is normal. (5) From these facts it is evident that sensation cannot be declared to be normal until the vibrating sensation has been tested. Though the loss of the vibrating sensation is a symptom of considerable interest, it is at present too early to say what its diagnostic value will be in the future.

The Growth of Cancer.—E. F. Bashford declares that the problems of cancer are essentially the same throughont the entire vertebrate creation. The "age of incidence" is relatively the same in all, when we take into account the normal duration of life in the different classes of animals. It takes so long to study the various stages of processes of cancer growth in man that it has been hoped that we might obtain important information from the study of cancer growth in short-lived animals. Such growth is essentially different from a simple process of infection. The experimental propagation of a malignant new growth means simply the continued proliferation of the cells of one animal in another animal. The parenchyma cells of the neoplasms arising at the new sites are the direct genealogical descendants of those introduced, and are not provided by the host. In experimental propagation of cancer the elements of the soil play the insignificant part of subserving the needs of the tumor. The main ideas of the author are embraced in the following conclusions: (1) Cancer is identical in all vertebrates, and in growing accommodates itself in a striking manner to the time limitations imposed by the compass of life in different animals. (2) Underfavorable experimental conditions the growth of cancer is undefined, of enormous, and, so far as we can judge, limitless amount. (3) Artificially propagated cancer (2) Under favorable experimental conditions the growth of sporadic tumors. (4) The growth of artificially propagated cancer is due to the continued proliferation of the parenchyma cells. We have confirmed this conclusion, originally advanced by Jensen, on his own tumor and on four other different carcinomata. (5) The artificially propagated parenchyma makes the reaction of the host subserve its own needs. (6) Artificially propagated tumors cause no symptoms in the organism to which they have been added. (7) The power of differentiation is definitely in one direction only, even three and a half years after separation from the original host. (8) The number of chromosomes constant for the healthy body tissues is retained, notwithstanding the recurring reduction of this number to the exact half.

British Medical Journal, April 1, 1905.

The Diagnostic and Prognostic Value of the Leucopenia of Cachexial Fever and Kala-Azar, and Its Treatment by Quinine and Bone Marrow.—Leonard Rogers presents the following conclusions: A very marked decrease in the leucocytes is always found in uncomplicated cases of cachexial fever, and when they number below 2,000 per c.cm. this is almost diagnostic of the disease, but may rarely occur in true malarial cachexia. In cachexial fever the white corpuscles are reduced to a greater degree than the red, so that the ratio falls below 1 to 1,000 in all uncomplicated progressive cases. This is rarely so in true malarial cachexia, while a reduction in the ratio to below 1 to 1,500 appears to be quite diagnostic of cachexial from other Indian fevers. The most marked degrees of reduction of the leucocytes, and especially of the polynuclears, is of bad prognostic import, and vice versa. Red marrow tabloids are of great value in increasing the leucocytes, and this increase may take place during the continuance for months of intermittent fever, and be then followed by cessation of the fever and complete recovery. High remittent fever is accompanied by progressive deterioration of the blood and general condition, but it may be often to a large extent reduced to the less iniurious intermittent form by continued large doses of quinine, combined with red marrow. The best results yet reported have been obtained by those who carry out vigorous quinine treatment.

Enterectomy at Twelve Hours of Age; Recovery.—A. E. Kennedy believes that this case which he reports must be the earliest of the kind on record. The patient was a child twelve hours old. Meconium was coming away from the umbilical cord. The writer found a fistula the size of a crow's quill about one inch from the umbilical aperture in the side of the cord. He slit the cord longitudinally—not using an anesthetic—thus exposing a blind finger-like process of intestine, with the fistula in its side. When drawn out of the umbilical aperture it proved to be about two inches long and to come from the cecum. The intestine on either side of it was so narrow that the writer did not think it capable of maintaining the alimentary passage. He excised the narrowed intestine and joined the large to the small intestine by lateral anastomosis, closing the end of the large intestine. The intestine was returned into the abdomen and the umbilical aperture closed after removal of the umbilical cord. The child made a good recovery. The newly-born infant bears the handling of the intestine well, as far as can be told, and apparently does not feel pain, for this infant quietly sucked a sugared teat while its intestine was being stitched.

Chronic Constipation and Its Medical and Surgical Treatment.—W. Arbuthnot Lane states that the condition of constipation often dates from a very early period, when, owing to the unsuitable feeding of the child, the intestines, particularly the large bowel, are distended with gas. The cecum and ascending colon appear to suffer most severely, since this part of the bowel is hung up at the hepatic flexure, which is made more acute by the distension and consequent elongation of the transverse colon in a downward direction. The large bowel becomes more or less inflamed, and even a distinct peritonitis may be reproduced. The inflammation of the cecum and ascending colon produces an adhesive process between the outer wall of the bowel and the peritoneum, with which it comes in contact. These adhesive processes develop also about the hepatic flexure and at the splenic flexure. By these adhesions the bowel is more or less fixed, and it is thus hindered from normally performing its functions. The muscle wall wastes as the free action is limited. The presence of the inflamed large bowel in the true pelvis readily interferes with the functioning of the ovary and Fallopian tube. Thus constipation would appear to play an important part in the sterility so common among women. The small intestines become progressively dilated from below upwards by their dammed-back contents. The muscle wall is thinned and the capacity of the intestine for performing drainage efficiently is diminished. The stomach itself may become disabled. In a large part of these cases the kidneys are mobile. A conspicuous clinical symptom is a fullness and tenderness in the region of the cecum. There is often pain along the course of the sigmoid. The appendix is sometimes removed for the amelioration of these conditions, with only the temporary relief afforded by the prolonged assumption of the resting posture favorable to the emptying of the cesspool, and by the care that the bowels receive during convalescence. In certain cases the patient refers all pain to the epigastrium or to the umbilical region, and the many symptoms of "indigestion" may be present in an aggravated form. After a certain period of time the patients lose fat. This is the best indication that can be given that the patient is going downhill. The writer does not deal with any other form of treatment than the operative, for he assumes that everything short of operative interference has been tried. The problem generally presents itself as to whether an attempt should be made to liberate the constriction by the division of bands or adhesions, or whether it would be better to establish direct continuity between the lower end of the ileum and the termination of the large bowel. In men, the former is apt to give relief, while the latter is more successful in the case of women. The writer urges the importance of early operation, since the results vary inversely with the length of time during which the constipation has existed and with the mechanical changes resulting from such constipation.

The Experimental Transmission of Mediterranean Fever.—Edward H. Ross and G. Murray Levick give the methods and results of various experiments which they have tried in relation to the transmission of Mediterranean fever. Non-immunes have nursed cases of the fever, taking no special pains to avoid contracting the disease. They have also slept in the bedclothes used by a patient. The results were negative. The urine of a case of fever was mixed with dust and the paste allowed to dry. It was then powdered and inhaled, sniffed up the nostrils and swallowed by non-immunes. The disease was not conveyed in this manner. The urine of a fever case in the sixth week of the disease was mixed with drinking water, and two non-immunes drank the mixture. This did not cause any untoward results. Experiments with mosquitos did not result in the transmission of the disease. The mosquitoes were infected from cases in different stages of the disease and allowed to bite the non-immunes. All of the experiments so far have failed to produce the disease, but the investigators declare their intention to persevere with their researches until they find the true nature of the transmission of the Mediterranean fever and the method of its prevention.

Berliner klinische Wochenschrift, March 20, 1905.

The Morphology of Carcinoma and the Parasitic Theory.—J. Orth, after a lengthy exposition of the theoretical grounds which make it unlikely that carcinoma is of parasitic origin, sums up the objections to the present status of this theory as follows: The essential feature of all cancers, primary and secondary, is the cancer cell; without the cancer cell, no cancer metastases. In order to explain the occurrence of metastatic deposits it is not necessary to presuppose the existence of parasites, for cancer cells capable of proliferating suffice for this. It is not possible to establish an analogy between the metastases of malignant growths and those of suppurative processes, tuberculosis, etc., and the question of analogy cannot be used as an argument in favor of the parasitic nature of carcinoma. The cases in which transplantation of cancer to another individual has succeeded can be explained without calling in the aid of the parasitic theory, through the assumption of direct transport, the cancer cells simply giving rise to metastases in another body. The various parasites that have so far been described are still entirely inadequate to form a basis for scientific speculation, or, in other words, the parasitic theory is still all in the air.

Rectal Gonorrhea in Infantile Vulvovaginitis.—Flügel found that of the women patients under treatment for gonorrhea in the City Hospital of Frankfort, about one-third were also suffering from rectal infection. In extending his investigations to the children in the wards he found twenty cases of gonorrhea of the rectum in fifty-six patients. The presence of the gonococcus was established by passing a wire loop into the anus, and it is noted that in many cases the examination had to be repeated a number of times before a positive result was obtained. Under the circumstances, it seems most likely that infection takes place through the flow of discharge from the vagina, and the author suggests as a prophylactic measure that a pad of gauze suitably supported be kept in constant apposition with the vulva. Treatment consisted in the use of suppositories and irrigations of silver nitrate, and of icthyol suppositories. The gonococci usually disappeared from the rectum much earlier than from the vagina, and the rectal symptoms were never very severe.

Münchener medizinische Wochenschrift, March 21, 1905.

The Treatment of Epidemic Cerebrospinal Meningitis.—Lenhartz has observed forty-five cases of this disease during the past ten years, in forty of which the diplococcus intracellularis of Weichselbaum could be identified. He accordingly concludes that this organism is the exclusive inciting agent of the malady. The object of his communication is principally to direct attention to the therapeutic value of lumbar puncture in these cases. The histories of several cases are reproduced in order to demonstrate the improvement in objective and subjective symptoms, particularly the relief of the headache, following the diminution in intracerebral pressure. The operation in many cases was frequently repeated, in one instance fifteen punctures being made and a total of 400 c.c. of fluid removed. The author recommends making the puncture exactly in the middle line between the spinous processes of the vertebræ, at the level of the iliac crests. It is of great assistance to have the spine curved forward as much as possible by bringing the thighs up against the abdomen. Not more than 30-50 c.c. of fluid should be drawn off at one time in the average case.

The Dilatation of Cicatricial Stenoses of the Esophagus Through the Esophagoscope.—Reizenstein, who is an enthusiastic manipulator of the instrument, reports several cases in which the esophagoscope was found of great service in the treatment of cicatricial contractures, and summarizes his views as follows: In cases of this sort, if the stricture is not permeable by the ordinary instrumentation, before resorting to operative procedures the attempt should be made to locate the lumen of the constricted zone in the esophagoscope and to introduce filiform bougies under the guidance of the eye. If this is possible, the effort should be made to secure dilatation by introducing laminaria pegs, stretched rubber tubes, or flexible metal bougies. If unsuccessful, a gastrostomy should be done and retrograde dilatation, or dilatation following the shot and string method, be resorted to. If the condition of the patient is such as to require immediate nourishment, gastrostomy should be performed at once. If all attempts to pass the stricture fail, external or combined esophagotomy is indicated.

Forensic Proof of Death by Drowning.—Revenstorf draws the following conclusions from a study of this question. Hemolysis of cadaveric blood in the first days after death is neither the result of physical changes nor of autolysis, but is due to bacterial activity, *i.e.* putrefaction, and is one of the earliest macroscopic signs of commencing putrefaction. Through this agency the portal blood is decomposed to the greatest degree, that of the right heart and its tributaries to a less extent, and that of the left heart and of the arterial system least of all. If anisotonic fluids entering the air passages come into intimate contact with the blood corpuscles, hemolysis results. Hemolysis following death by drowning differs from that of ordinary death in the fact that the serum of the left heart shows a higher grade of hemolytic decomposition than that of the right side. Pulmonary tissue juices, pleural transudates and pericardial fluid that contain no dissolved hemoglobin are free from admixture of the drowning fluid. Watery edema always shows hemoglobin serum, while colorless serum indicates true pulmonary edema. The hemolysis of drowning is an indication of this form of death which in accuracy surpasses the other methods of demonstrating the presence in the blood of extraneous fluid. The absence of diffusion of the coloring matter of the portal blood, together with hemolysis of drowning, in the heart blood, is evidence that the foreign fluid diffused itself into the cardiac contents only after cessation of circulatory activity.

Deutsche medizinische Wochenschrift, March 9, 1905.

The Treatment of General Peritonitis.—Barth considers that gastric lavage is of the greatest value in treating the tympanites and intestinal atony following operations for this condition. Even before vomiting has set in, the use of the stomach tube will often reveal the course events are about to take by bringing up from the stomach enormous amounts of fluid regurgitated from the intestine. In addition to lavage the author has found enterostomy a valuable measure in promoting the return of peristaltic activity. Ordinarily the little operation can be done without anesthesia. The operation wound usually gives access to one of the dilated loops of gut, which may or may not, according to circumstances, be stitched to the parietal peritoneum. The intestine is then punctured with a fine trocar to which a length of rubber tubing is attached, and which is retained in position by a suitable dressing. On removal of the trocar the puncture in the intestinal wall closes without any necessity for suturing. In case it is not practicable to use the operation wound for this purpose a small incision is made in either side of the abdomen. The histories of eleven cases in which this plan of treatment was used are abtracted and show that in seven the procedure apparently contributed to the recovery of the patient.

Hyoscine-Morphine Narcosis.—Dirk has employed this method in two hundred and sixty patients of all ages, the number including one hundred and eighty-eight laparotomies. The usual course of procedure was to give the patient two hypodermic injections, amounting together to 1mg. of scopolamine hydrobromate, and 2.5 cg. of morphine, two hours and one hour, before the operation. The author expresses himself as very much pleased with the method, which always greatly reduces the amount of general anasthesia necessary, and frequently renders it possible to dispense with all further narcosis. The patients after the second injection become apathetic and unresponsive, so that usually they have no recollection of what has happened after this time until they awaken from the deep sleep lasting seven or eight hours, which usually follows the termination of the operation. In this way they are brought comfortably through the first period of postoperative pain, and the usual nausea and vomiting are entirely eliminated. Three cases of death occurring five to seven hours after the operation are reported, but these were all in persons from sixty-nine to seventy-six years old, under conditions which render it doubtful whether the narcotics were at fault or not. The author believes that for hospital work, where the patient can be under trained supervision both before and after the operation, the method is very advantageous, and that it deprives major operations of their chief terrors for the patient, viz., the disagreeable sensations accompanying the administration of the anesthetic and the postoperative nausea. In the discussion that followed, Israels reported on 332 operations performed under the influence of the combined narcotics, and also expressed himself as favorably impressed by the method. He had one patient die on the table and two others some days after the operation under circumstances which render it possible that the drugs contributed to the fatal ending.

The Value of the Koplik Spots in the Diagnosis of Measles.—Brüning shows that although the vast majority of reports indicate that the Koplik enanthem is visible in practically all cases of measles, especially before the appearance of the rash, still a few observers have published less confirmatory statistics. A study of one hundred cases of measles seen during a recent epidemic of the exanthemata in Leipsic leads him to ascribe the greatest value to the sign, both from a diagnostic and differential point of view. The spots were never found in cases of rubeola, scarlatina, or serum rashes, whereas they are to be considered as invariably present in measles, and must be valued as an important differential aid in diagnosticating the exanthemata both in private and in hospital practice.

French and Italian Journals.

Treatment of Typhoid Fever by the Tincture of Iodine.—For several years Raynaud has systematically treated all of his typhoid fever patients by the internal administration of the tincture of iodine. The results of this treatment have been very striking, for not only have all of these patients recovered, but in 90 per cent. of the cases, the duration of the fever has not been over from twelve to fourteen days. In the beginning of the illness calomel is given. Its dose is in inverse ratio to the temperature, for the action of this drug is more energetic in hyperthermia. There is no other medication given on the day that calomel is administered. On the next day and the three following days, the tincture of iodine, from twenty to twenty-five drops in a potion of 150 c.c. is given in the twenty-four hours. All of the vehicles for this drug are not equally convenient. The iodine evaporates too rapidly in sweetened or alcoholic solutions. Distilled water gives a more stable solution, especially if a trace of potassium iodide is added. The mixture is made up as follows: Tincture of iodine, 20 to 25 drops; potassium iodide, 0.01 gram; water, 150 c.c. On the sixth day the calomel is given again. On the seventh day and on the following days the iodine is administered. The only medicament besides iodine to which Raynaud has recourse is the sulphate of strychnine, in cases in which there is great depression or in which the heart is weak. This drug is given in the dose of 2 milligrammes a day. By twelve or fourteen days after the beginning of the treatment, the fever is nearly always terminated, and the patient has begun to convalesce.—*Revue Française de Médecine et de Chirurgie,* March 27, 1905.

Extirpation of the Lacrymal Sac and Canal.—Basso believes in the extirpation of the sac. He has practised it in cases of simple dacryocystitis without lacrymal tumor, in dacryocystitis with lacrymal tumor, in dacryocystitis with tumor and fistula, in stenosis of the nasal orifice, in mucocele and empyema of the sac. The writer does not recommend the opening of the sac. The macroscopical and microscopical examination of the specimens taken from various cases, show that in simple dacryocystitis without lacrymal tumor and without purulent secretion with simple epiphora, there is ordinary diffuse infiltration of the sac and of the canal with polypoid vegetation. In dacryocystitis with dilatation of the sac, there exists an organic stenosis of the canal. The osseous and membranous canals are no longer in contact.—*Recueil d'Ophthalmologie,* March, 1905.

Differentiation of the Fusiform Bacillus from the Spirillum Sputigenum.—Certain authorities have suggested the hypothesis that the fusiform bacillus, the pathogenic agent of Vincent's agina, was the same organism as the spirillum sputigenum. Vincent has demonstrated that the fusiform bacillus never assumes the spiral form, neither in exudates nor in cultures. There are besides this other fundamental differences between these organisms. The dimensions of the fusiform bacillus are from 6 to 10 micra in length by 1 to 1.5 micra in width. The spirillum sputigenum measures from 1 to 2 micra in length by 0.4 micra in width. The fusiform bacillus is spindle shaped, or like an elongated lozenge, and its protoplasm often shows irregular vacuoles, as if it were full of holes. The spirillum sputigenum is, on the contrary, identical in form, appearance, dimension, mobility, and color characteristics, with the vibrio of cholera. It is a comma bacillus. The fusiform bacillus can be cultivated, the spirillum sputigenum cannot be. The former is slightly mobile in exudates, but immobile in cultures. The second has great mobility. These organisms could not possibly be identical.—*Gazette des Hôpitaux Civils et Militaires, March* 21, 1905.

Iodized Gelatin in the Treatment of Basedow's Disease.—Valerio Lusini reports the case of a girl of 20 years, who was affected by an acute case of Basedow's disease. The thyroid gland had been increasing in size for some three months before she came under treatment. She had no other disturbances except frequent cardiac palpitations. The thyroid became much enlarged, was hard, not painful on pressure, and there was bilateral exophthalmos. The area of diffusion of the heart beat was much enlarged, pulsations 120-130 per minute, increased to 160 by excitement. Iodide of soda in large doses and iodide of potash were given, with external applications of iodine to the gland, with no beneficial results. She was then put on iodogelatin by the mouth, 100 grammes of the preparation containing 2 grammes of iodine. After twenty days she was so much improved as to be willing to have the iodogelatin used hypodermically. A course of three weeks of injections of 5 c.c. of the iodated gelatin, containing 0.10 grammes of iodine was administered, a week of rest given, and then the course repeated. The result was a complete reduction of the enlargement of the gland; the heart symptoms passed away, the pulse being reduced to 78, and only a small amount of exophthalmos remained. After three months the patient remains completely well.—*Rivista Critica di Clinica Medica,* March 11, 1905.

Action of Alkalies on the Poison of Tetanus.—Giulio Cerri gives us the results of his experiments on guinea pigs with injections of tetanus toxin mixed with hydrate of soda. He first determined the amount of toxin necessary to kill a pig of 400-450 grammes in 24 hours. He then injected twice that amount of toxin mixed with a solution of sodium hydrate. His conclusions are as follows: (1) Caustic soda prevents the toxic action of tetanus poison. (2) Three milligrammes of soda is sufficient to neutralize doses three and four times larger than the lethal dose for guinea pigs. (3) The loss of activity of the toxin through the use of the soda is not due to the prevention of its absorption, nor to a chemical combination with the toxin, but to an effect on the direct action of the poison.—*Lo Sperimentale,* January-February, 1905.

Elimination of the Bile by Man After the Ingestion of Proteids and Fats.—Francesco Randone experimented on a patient who had a permanent bilary fistula, feeding him with different food substances and then watching the flow of bile. He gives us the following conclusions: (1) The ingestion of food in man is followed by a marked elimination of bile, which begins soon after ingestion and reaches its maximum at the end of three hours. (2) The ingestion of proteids does not modify the relations existing between the elimination of bile and that of urea in the urine. (3) The ingestion of fats does increase, but less than do proteids, the elimination of bile; this does not occur immediately after ingestion, but about the end of one hour, and is greatest after a quarter of an hour from the beginning. (4) The ingestion of fats changes the relations of urea to bile. (5) The results of Barbera, obtained by experiments on dogs, are confirmed by these on man.—*Il Policlinico.*

Gastric Tetany.—According to Pol Gargaud, tetany is observed in the adult in the most diverse affections of the digestive tract. Various authorities have noted its existence in typhoid convalescence; again, following dysentery, and following cholera. Many have reported its existence in cases of diarrhea of every kind. In most of the cases which have been published up to this time, tetany has been preceded—at varying intervals—by more or less violent or repeated attacks of vomiting. In a case of Gargaud's nothing of this kind occurred, the tetany developing like an absolutely primary affection. The patient, a man of forty-nine years, entered the hospital on July 13, suffering with rigidity at the nape of the neck. The whole picture of tetany developed. He grew weaker gradually. On August 14, for the first time, he vomited dark blood. Death took place the same evening. At autopsy, an annular scirrhus cancer of the pylorus was found. There had been no functional trouble before the hematemesis to draw attention to the stomach. Renvers has reported a case in which tetanus developed suddenly in a man who appeared to be in good health. At autopsy ulcer of the duodenum, pyloric stenosis, and hypertrophy of the gastric musculature were discovered. In cases of tetany, even in the absence of any appreciable functional trouble, careful examination of the stomach for a possible gastric origin, should be made.—*Revue Française de Médecine et de Chirurgie.*

The Value of the Electric Potential in Electrodiagnosis.—A. G. Gramegnau discusses the best method of measuring electric excitability, and has experimented on patients to test this matter. He concludes that voltage is not the precise exponent of excitability, since it is subject to all the variations of the body resistance during an examination; milliampères tend to increase, while volts tend to diminish. The electric excitability of nerve and muscle in man, expressed in milliampères is the same whether used with low or high potential; intensity is the best measure of nervous and muscular excitability. The best methods for an electric examination are those which render the body resistance least. These are equal electrodes; the indifferent electrode placed on the palm of the hand or sole of the foot; fixed electrodes, with temperature and pressure maintained the same, and an interruptor in the circuit; instantaneous closure of the circuit; an aperiodic galvanometer, and the use of relatively high initial potential.—*Rivista Critica di Clinica Medica.*

Book Reviews.

The Medical Examination for Life Insurance and Its Associated Clinical Methods. With Chapters on the Insurance of Substandard Lives and Accident Insurance. By Charles Lyman Greene, M.D., St. Paul. Professor of the Theory and Practice of Medicine in the University of Minnesota, Member of the Association of American Physicians, American Medical Association, ex-President of the National Association of Life Insurance Examining Surgeons, etc. Second Edition, Revised and Enlarged, with 99 Illustrations. Philadelphia: P. Blakiston's Son & Company, 1905.

Although published only a little over four years ago, this book has been out of print for two years, a fact that speaks eloquently for the widespread recognition of its utility. In its present form the volume has undergone such radical revision that it has become almost a new work, for much of the old matter has been rewritten and a great deal of new material incorporated. Among the additions are a report of the investigations of the Actuarial Society of America, many graphic statistical plates, and details concerning the rules governing selection, and bearing on some of the more important diseases from an insurance standpoint, such as diseases of the heart, appendicitis, tuberculosis, etc. The section on physical signs in diseases of the chest forms an admirably written and illustrated dissertation on this subject, which should prove interesting and instructive to all practitioners, whether engaged in insurance work or not. Indeed, every section of the volume contains much information likely to be of general utility, and certainly for the guidance of insurance examiners it is a very good manual.

Studies in General Physiology. By Jacques Loeb, formerly of the Department of Physiology, University of Chicago, now Professor of Physiology in the University of California. The Decennial Publications, Second Series, Volume XV, Parts I and II. Chicago: The University of Chicago Press, 1905.

It is only necessary to mention the titles of a few of the thirty-eight papers contained in this collection, all of which are the sole work of the author, in order to convey an idea of the extraordinary interest attaching to their perusal. Some of these are: The Artificial Transformation of Positively Heliotropic Animals Into Negatively Heliotropic and *vice versa;* On a Simple Method of Producing from One Egg Two or More Embryos, Which Are Grown Together; On the Limits of Divisibility of Living Matter; The Influence of Light on the Development of Organs in Animals; The Physiological Effects of Ions; On the Nature of the Process of Fertilization and the Artificial Production of Normal Larvæ (Plutei) from the Unfertilized Eggs of the Sea Urchin; Maturation, Natural Death, and the Prolongation of the Life of Unfertilized Starfish Eggs (Asterias Forbesii), and Their Significance for the Theory of Fertilization. It is impossible in a notice of so extensive a series of investigations, which, although correlated by a dominant motive, still embrace widely differing fields of observation, to do more than indicate the general trend of the author's work. The fundamental object was to show that vital phenomena are subject to certain influences, which it is in our power to control, and in approaching this problem the author has studied the agencies governing the direction of the motions of animals, the phenomena of regeneration and of heteromorphosis, and, finally, the far-reaching question of fertilization.

The Naked Eye Anatomy of the Human Teeth. By Thos. E. Constant. Bristol: John Wright & Company, 1905.

This book presents a very comprehensive account of the anatomy of the teeth and of the muscles and other structures which come into relation with them. It is noteworthy for a series of most excellent photographic plates, which alone make the book of considerable value. Among them are a number depicting the changes in the dental succession, which have been made from dissections of the skulls of infants at various ages. These are particularly interesting and instructive for any one studying the dentition of children.

A Treatise on Urological and Venereal Diseases. By B. G. Carleton, M.D. Philadelphia: Boericke & Tafel, 1905.

The author has endeavored to give a thorough presentation of the approved essentials and principles involved in the pathology, diagnosis, and treatment of urological and venereal diseases. It is tinctured to some extent by his personal experiences and conclusions, and it is also made distinctive by the space devoted to the application of homeopathic principles for the cure of disease. The book is essentially a compend, most of the material being derived with "grateful acknowledgment" from sources other than homeopathic. The specific remedies of the latter school are especially recommended and a variety of proprietary drugs are also prominently mentioned. The illustrations are numerous and derived from many sources, but as a rule are very poorly executed.

The Old Family Doctor. By Henry C. Brainard, M.D. Cleveland: The Arthur H. Clark Company, 1905.

Another member of the profession has received the call to pronounce a eulogy on our old friend, the family doctor. And it is well that those of the present generation should not forget their prototype. His store of scientific medical knowledge may not have equaled that of his successor of the present day, but his grasp on human nature and his ability to dispense what we now call "unconscious therapeutics" makes his character not only an interesting study, but a worthy model in many respects. Within the brief limits of this little book are depicted comedy, tragedy, and melodrama, all of which afford a pleasant hour in the reading.

Bacteriology and Surgical Technique for Nurses. By Emily M. A. Stoney, Supt. of Training School, St. Anthony's Hospital, Rock Island, Ill. Second Edition, thoroughly revised and much enlarged by Frederick Griffith, M.D. Philadelphia, New York, and London: W. B. Saunders & Company, 1905.

This is a very practical book which presents the subjects stated in the title in a concise, yet sufficiently expanded, manner, that a nurse may gain much information as to the whys and the wherefores of the work she is called upon to do. The revised second edition contains some eighty new pages of text and many cuts, the added chapters including "Bandaging and Dressing," "Obstetric Nursing," "Hygiene and Personal Conduct of the Nurse." A valuable aid is a glossary, containing all of the terms and technical phrases commonly employed with which a nurse should be familiar. The work constitutes a practical book of reference for nurses in either private or hospital practice.

Die Physiologischen und Pathologischen Beziehungen der weiblichen Sexualorgane zum Tractus Intestinalis, und besonders zum Magen. Von Dr. Erwin Kehrer, Privatdocent an der Universität und Assistenzarzt an der Univ.-Frauenklinik in Heidelberg. Berlin: Verlag von S. Karger, 1905.

This monograph embodies the researches of Kehrer on the state of the stomach in menstruation, pregnancy, lactation, menopause, and various gynecological conditions. It is replete with practical deductions and clinical facts, and presents many new ideas worth considering. Space forbids a full analysis, but we should like to call attention especially to the detailed study of hyperemesis, of the dietetics of pregnant and parturient women, etc. Changes of motility of the stomach, according to the author, play a more prominent rôle in menstrual gravid, or puerperal digestive disturbances than actual changes in secretion. Yet a hypoacidity is often found (in three-fifths of the puerperal women). There has been a great deal too much talk of reflex gastric disorders in gynecological conditions. Often these disorders depend on totally different causes, the author found. In 42 per cent. of a series of cases with dyspeptic signs, the stomach contents were normal.

Important deductions are drawn by Kehrer in his study of cancer of the genital organs. He solemnly warns operators against removing ovarian cancers without examining the stomach contents for possible metastases, which he says are more frequent than has been supposed. This principle has already gained currency in cancer of the uterus, where operators should examine the bladder for cancerous involvement.

Elements of Applied Microscopy. A Text-Book for Beginners. By Charles-Edward Amory Winslow, Instructor in Industrial Microscopy and Sanitary Biology in the Massachusetts Institute of Technology. New York: John Wiley & Sons, 1905.

This little manual is intended as a laboratory guide in applied microscopy for students of chemistry, biology, and engineering, but will also serve as an elementary treatise on the technique and applications of microscopy for medical and pharmaceutical students. It contains a well-arranged and systematized series of lessons on the microscope, its manipulation, the mounting and preparation of specimens, micrometry, the camera lucida, and a series of short chapters upon the microscopy of foods, common drugs, textile fibers, and paper, as well as upon the uses of the microscope in medicine, hygiene, medical jurisprudence, chemistry, and mineralogy. Naturally the subjects are not treated from the viewpoint of the specialist, but from that of the student and beginner. The book is well put together, lucidly written, and usefully illustrated.

Society Reports.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held March 20, 1905.

Dr. Francis J. Quinlan in the Chair.

Nomination of Officers for the Ensuing Year.—Nominations for officers, for member of the Executive Committee, for Fellows and Alternates of the State Association and member of the Nominating Committee of the District Branch were made.

A Plea for Local Anesthesia in the Radical Cure of Inguinal Hernia.—Dr. John A. Bodine read this paper. His communication presented a personal study of 300 radical operations for the cure of inguinal hernia under local anesthesia. The patients numbered 284; 16 were cases of double rupture. There were 275 males and 9 females. The youngest was 15, the oldest 80 years. Ten were strangulated. The omentum was amputated in more or less quantity 12 times. The appendix was found with the contents of the sac three times, and in each instance was excised. Undescended testicle was found once and removed. The hospital detention was two weeks and the patients were away from work one week in addition. The amount of cocaine used in no case exceeded one-half grain. No wound suppurated and no patient died. "Nerve blocking" made possible a painless dissection for the radical cure of inguinal hernia. The anatomy of this region was so constructed in accessibility, regional restriction, paucity of blood vessels, and above all sensory nerve supply as to make the operation in question the most favorable in general surgery for local anesthesia. No nerve trunk or sizable blood vessel was encountered in the skin or subcutaneous fascia. Beneath the aponeurosis of the external oblique lay the three nerve trunks that presided over sensation in the entire field of work. Th inguinal branch of the ilioinguinal the hypogastric branch of the iliohypogastric and the genital branch of the genitocrural were the three nerve trunks in question. If all three were found and cocainized the operation afterward was totally devoid of pain. Their identification was not difficult. The first two named lay between the two oblique muscles directly under the incision. The genitocrural was usually found among the structures of the cord. The nerves were named in the order of their pain-bearing importance and in the order of constancy of anatomical position. He said that the mortality, in the hands of a clean and competent surgeon, of operations for inguinal hernia was practically the mortality of the anesthetic. It was an obvious proposition that a solution of cocaine injected intermittently into the circulation, amounting in all to one-half grain and occupying an hour in its introduction, was less dangerous than ether or chloroform carried to the full surgical narcosis for the same period of time. He believed fewer wounds would suppurate under local anesthesia because of the more gentle handling of the tissues. Danger to the line of deep sutures from nausea and vomiting was obviated, a very important point. Morphine was administered because of its calmative effect upon the nervous organization, a trustworthy preventative of certain psychical phenomena which sometimes was encountered. The amount and degree of pain suffered by the patients was purely relative and differed widely; great pain to one was slight pain to another. The pain endured was not in any case as disagreeable as the nausea following ether narcosis. The line of skin incision was infiltrated throughout its extent. Fat could not be edematized after the skin incision. The external oblique aponeurosis required no anesthesia. After the sac was opened and contents dealt with the Trendelenburg position was used to retain viscera within the cavity to avoid the pain caused by crowding a pad in the peritoneal cavity. Operation upon the female was easier than on the male, the round ligament being less sensitive than the cord. He believed that if the future transplantation of the cord was abandoned, the radical cure of inguinal hernia would be strictly one for local anesthesia.

Dr. W. L. Rodman of Philadelphia said he had had but very little experience with local anesthesia in hernia work and limited its use now to operations upon strangulated hernia. He spoke of one case of large umbilical hernia, which had been strangulated nearly five days. A large amount of omentum was excised which the patient did not feel at all. The only part of the operation that gave pain was when the parietal peritoneum was pinched. No pain was encountered in handling the intestines. Dr. Rodman believed this to be one of the best fields for local anesthesia because the nerves were so readily found. He saw Dr. Bodine operate and was interested in noting the entire cessation of pain after the ilioinguinal nerve was "blocked." Most pain seemed to be in cutting through the fat. It was of interest to note the matter of indifference whether two or three nerves were blocked so long as the ilioinguinal was cocainized. He questioned the advisability of operating under local anesthesia upon nervous persons. Personally he believed the dangers of general anesthesia were nonexistent, or at least greatly overestimated. He had never seen a death from ether, and but one from chloroform after twenty years' experience. More was said about the dangers of general anesthesia than really existed. Local anesthesia would never be tolerated in young children, because of the element of fright. He was inclined to believe that cocaine anesthesia would always be of limited utility and would never take the place of general anesthesia in operative surgery.

Dr. R. H. M. Dawbarn said that he believed it was through the brilliant and able work of Dr. Bodine that the profession as a whole would be likely to adopt, with certain exceptions, the customary use of local anesthesia in the radical cure of inguinal hernia. Thousands of men now wearing trusses would be operated upon if they knew it could be done without the employment of general anesthesia. He referred to the statement of Dr. Henry O. Marcy of Boston some time ago that one man in every ten was ruptured; Dr. Dawbarn thought that one in every twenty would be nearer the truth at present. The operation, if thought advisable, on a child was very easy because adhesions were not encountered as in adults when the hernia had existed for some time. Again he thought it made a difference in the ease of work whether the sac was distended or empty; under general anesthesia one often heard that peculiar gurgle which told of an emptying of the sac. Under local anesthesia the patient could be instructed to cough or strain and the sac would again fill; this fact made a great difference in the ease of operation. Again under local anesthesia, if an appendix was encountered that should be dealt with, the patient's consent could be had at once. Again the avoidance of nausea and vomiting after the operation was a point of great value in favor of the local form of anesthesia. Among the objections he spoke of the danger, in certain instances, of nervous collapse in hysterical or neurotic patients; this was a point that unquestionably came up. The mind should be engaged and less danger would be run. When called upon to operate in strangulated hernia he said it was the rule rather than the exception that the question was not between the physician and the surgeon, but between the surgeon and the undertaker. In these cases he believed cocaine was to be preferred. The solution used should be carefully prepared. He had been informed that heating cocaine to 212° F. decomposed it into ecboline and several subsidiary alkaloids of little anesthetic power. Dr. Dawbarn therefore had the cocaine baked first and then dissolved in physiological saline solution.

Dr. William B. Coley said he had had no practical experience with local anesthesia in hernia work. In his experience with general anesthesia he had seen but one death, and this occurred in a child from pneumonia. This child had had an attack of measles not long before operation that made her lungs easily affected. Dr. Coley took exception to the remark that it was sometimes necessary to have the patient cough or strain in order to aid in discovering the sac; it could be found readily enough without such efforts. The sutures might be torn out after general anesthesia, but he said they would not if properly applied. He believed the mortality in the radical cure of hernia was due entirely to other causes than the ether; it might be due to sepsis, etc. Patients did not like the idea of being cut, and he thought the majority of them would prefer general anesthesia on this account. If patients were afflicted with cardiac or pulmonary disease he did not believe they were good subjects for any operation, and they would do better by wearing trusses.

Dr. George E. Brewer said that his experience with local anesthesia in the radical cure of inguinal hernia was very limited, and was due to rather an unusual train of circumstances. The first operation he performed by this local anesthesia method was on a woman with a strangulated hernia, where it was impossible to give general anesthesia. The cocaine was given in the old way, a four per cent. solution being used, and the operation was carried on without pain and with great satisfaction at the time; but the wound suppurated because the cocaine solution was an old one. After seeing Dr. Cushing's article and being much impressed with his results, he made another attempt and found the anesthesia was imperfect. He then visited Dr. Cushing, but unfortunately the local anesthesia had to be abandoned in the operation he saw Dr. Cushing perform, and general anesthesia given. Therefore, he did not deem it wise to pursue the method further. Dr. Brewer acknowledged that in all probability his method was faulty, and he felt satisfied that most of the objections given to the method were purely theoretical. If Dr. Bodine's technique was adhered to he believed that these patients could be operated upon without pain. The ether mortality rate he said was one in from 20,000 to 24,000 cases, but this meant the deaths that occurred on the table; many died from remote effects, and he believed the rate was much higher than most people believed.

The Administrative Control of Tuberculosis.—Dr. Hermann M. Biggs read this paper. He said that remarkably few cities had attempted to adopt efficient measures against this dread disease in this country or abroad. He spoke of the special committee that was appointed several years ago by the New York Academy of Medicine to consider resolutions regarding this work, and this committee reported that such work was inexpedient and unadvisable. It always seemed as though there was opposition somewhere, expressed by the authorities and which was due to the influence of precedence. Now it was universally believed that some kind of supervision of tuberculosis was not only justifiable but necessary. Dr. Biggs then outlined the plan that had suggested itself to him and which he had carried out by the health department. It was adopted nearly twelve years ago, but had been amplified and perfected in minor ways since as the facilities of the department permitted. The administrative control of tuberculosis was considered under the following headings: (1) Compulsory notification and registration of all cases. In 1893 the public institutions were required to report such cases, but the physicians were only requested to do so. This lasted for three and a half years, and then it was required that all be reported and registered. Such notification did not require action on the part of the authorities unless such action was deemed to be advisable. If the patient lived in a poorly furnished room, or in a tenement house, the removal of that patient might be considered necessary and then the authorities would take action. That was the attitude adopted by the sanitary authorities of New York City. If the consumptive was under the care of a physician no further cognizance of the case would be taken after registration. The mere fact of notification and registration acted powerfully in the way of education. During 1903 more than 16,000 cases were reported and during 1904 more than 19,000. (2) Facilities for early and definite diagnosis of tuberculosis. As a rule the authorities offered every facility for free examinations of sputa. Where the physical signs failed to reveal the condition this afforded a ready means of making a positive diagnosis early. Yet he believed it was erroneous to say that one was not dealing with a case of tuberculosis because no tubercle bacilli were present. He emphasized the importance of the earliest possible diagnosis. Many physicians had not the facilities and many were not competent to make these examinations, and it was of great aid to have the city furnish these facilities. In 1904 more than 17,000 examinations were made in the laboratory and the material came almost entirely from private physicians. (3) Education. He said it was difficult to overestimate the importance of educating all the people regarding tuberculosis. Circulars had been printed which were designed to reach the different classes of people, and the public press was also utilized in the diffusion of knowledge. The nature of tuberculosis and the means of prevention were especially dwelt upon. (4) The visitation of consumptives in their homes. In this way verbal instructions could be given, and printed circulars left for the information of the consumptive's family. Then too data could be gained which was of value to the Department. Sometimes it would be demonstrated that the consumptive should be sent to some sanatorium, asylum, etc., out of the city. (5) Disinfection or renovation of rooms vacated by consumptives or after death of the consumptive. In those cases where the premises were very dirty and surroundings bad, renovation must be made by the owner and at his cost. Where materials could not be disinfected thoroughly with formaldehyde they should be removed by the authorities and disinfected with steam without cost to the owner. It was not their wish to entail any additional hardship upon the patient. (6) Provisions made for making repeated visits upon patients in tenement houses when it was impossible or undesirable to move these patients to institutions. (7) Suitable food, especially milk and eggs, should be provided by the authorities in those instances in which the families were destitute and could not obtain them, and when the patients could not be removed to institutions. (8) The sanitary authorities should provide three classes of institutions for consumptives as follows: (a) Free dispensaries; here the cases should be constantly under observation by the district physician and nurse, and if necessary the medicine and food should be furnished free. From the dispensaries suitable cases should be referred to the hospitals or sanatoria. (b) Hospitals for the care of advanced cases. It was necessary and desirable that all such hospitals should be under the care and control of the sanitary authorities, or that they should exercise a general supervision of them. In such institutions patients should be received who violated the rules, or those who were homeless, friendless, and destitute, those that were a menace to the community. Such cases must be provided for by the sanitary authorities at any cost. Also there should be sent there cases living in lodging houses, or in public institutions where there were no facilities for their care. They should be removed by force if necessary. In large cities many cases should be removed from their homes because of the danger to others in the family from the overcrowding. Again there were cases already under the care of other institutions that become dissatisfied and determine to return to their homes; these cases should be taken by the health authorities and retained. Rarely did the Board of Health of New York City have any difficulty in the management of such cases. (c) Sanatoria in the country districts for the care of these patients. When these patients were discharged he said they became great educational factors. (9) The sanitary authorities should see to the regulation as to the care of consumptives. The regulations should apply not only to the general hospitals, but also to the hospitals for the insane and penal institutions. (10) There should be enacted and enforced measures to prevent spitting in public places. The careful disposal of the sputa was very important, and Dr. Biggs thought this to be the keynote in the prevention of the diseases of the respiratory tract. There would be no pneumonia or tuberculosis except from organisms contained in the secretions from the respiratory tract. These diseases attacked all classes of people and of fundamental importance in the prevention of them was the proper disposal of the sputa. When the mass of people were educated to this view it would be an important factor in the solution of the question of prevention of tuberculosis and diseases of the respiratory tract. A semiannual census of consumptives should be taken in institutions. Sanitary cuspidors should be provided by the health department. Circulars of information should be distributed ; these should be in various languages. The inspectors of tenement houses should report all cases they found. Dr. Biggs closed his paper by asking if the scheme of sanitary surveillance was a feasible and practical one; he believed it was. This had been demonstrated by the experiences in the second largest city in the world, New York City. Were there any serious objections to the enforcement of such a scheme? He answered this decidedly in the negative; none had ever been encountered in carrying on this work. What might reasonably be expected by the enforcement of such measures? There had been a rapid fall in the death rate in New York City, more rapid than in any city in this country, notwithstanding the fact that conditions here were more unfavorable because of the dense population and foreign born population. In New York City there were from 600 to 1,000 people to the acre; abroad there were only 400 or less persons to the acre. During the last ten years there had been a decrease of 40 per cent. in the death rate in children under 15 years of age from pulmonary tuberculosis and tubercular meningitis. Between 1887 and 1903 there had been a decrease of nearly 40 per cent. in the death rate from tuberculosis. The decrease was a real and not an apparent one. This rapid decrease in the death rate was the direct result of the application of the measures referred to in his paper, and Dr. Biggs believed that within the next fifteen years this reduction would be equalled. One could not escape from the conclusion that tuberculosis was a preventable disease, and one of the most preventable. The time was not far distant when the municipality would be considered criminally negligent in its administration of sanitary affairs if such measures as advocated were not enforced.

Dr. John Winters Brannan wished to commend the work Dr. Biggs had done on the tuberculosis problem, and referred to the time, a few years ago, when a number of physicians gathered to protest against the measures proposed at that time and which were just described after having been in effect five or six years. At that time the feeling in Philadelphia was the same as in New York. Under the influence of the work done in New York, Philadelphia and Boston were trying the same measures, and the medical men now were asking that such rules be enforced. Those physicians who, a few years ago, opposed the measures proposed by Dr. Biggs were now his most hearty and enthusiastic supporters.

Dr. Egbert Le Fevre said that years ago there were misunderstandings on both sides. The Board of Health was zealous for control and, from a sanitary point of view, that was correct. People at that time did not understand the differences between communicability, infection, and contagion, and consequently these names were surrounded with undue terror. At that time the discussion was an educational one. But gradually the profession and the laity had been educated, and now they all had a true conception of the disease. The bread winners made up a large proportion of the cases of tuberculosis and he wished to emphasize the importance of opening up public dispensaries for their care and so they could gain advise. He believed the time would come when certain organizations, especially those interested in insurance work, would do as was done in Germany, and have protective unions take up the care and treatment of cases of tuberculosis from purely an economical standpoint; it certainly would be cheaper to have these sanatoria scattered throughout the country.

Dr. Thomas Darlington wished to give credit to Dr. Biggs for the control of tuberculosis in New York City. He referred to a recent article in a medical paper in which the writer assumed that it was a trivial thing to spit upon the sidewalks. He considered the article very vulnerable, and the arguments presented in it would scarcely hold. Dr. Darlington said that it was rare for women to expectorate, and he asked if it was more necessary for men. Spitting was a filthy and disgusting habit, and he said it was a stigma upon the American people. He did not believe that it ought to be necessary to have so many printed signs against spitting as now were seen in ferry houses, subway, surface, and elevated cars, etc. To-day it was without any doubt necessary to have them, but he hoped that they soon would be abandoned. He regretted very much that any medical journal should have permitted the publication of such an article as the one he had referred to; it might be all right in the daily newspapers, but not in a reputable medical journal. He did not believe that receptacles should be placed all over the city of New York for people to spit in; that portion of the law should be wiped out. Let people carry their own receptacles. If people were not consumptives he did not believe there was much harm from swallowing the sputa. He said that there would be printed 1,700,000 circulars which were to be placed in the school books of children which no doubt would serve as an educational factor for coming generations.

Drs. Cubin, Cooper, and Bryan also discussed the paper.

NEW YORK ACADEMY OF MEDICINE.

Section on Medicine.

Stated Meeting, Held March 21, 1905.

Dr. Charles H. Lewis in the Chair.

The Present Clinical and Bacteriological Status of Vincent's Angina.—Dr. William N. Berkeley read this paper. He said that this disease from a clinical point of view might be defined as a localized, acute, or subacute inflammation, usually ulcerative, less often membranous, of the mouth and fauces, in which below the diseased tissue certain bacilli and spirocheta were found in virtually pure culture. The etiologic nexus between the ulcer and the germs was not yet scientifically established, but those who had studied the germs and ulcers together had become convinced that the relation between the two was casual. He reviewed the history of the affection from the early eighties, when the bacilli and spirilla were apparently known to Miller. The synonyms for this disease were numerous. It was known as plant angina, ulceromembranous angina, ulceromembranous stomatitis, angina diphtheroides, "bazillen-spirillus angina," and others. In 1898 Vincent's accounts of the affection gained the attention of the medical world, and his name had now been accepted as a convenient designation of the condition. He said the literature of Vincent's angina was now enormous. The disease might be called relatively rare both in Europe and America, however the disease had been repeatedly noted in all of the large clinics in New York during the past four years. Sobel and Herman had given an excellent account of 12 cases seen in the summer and autumn of 1901 at the Good Samaritan Dispensary, and he mentioned numerous other cases which had been reported. He had notes of 27 cases seen at his own clinic in the last three or four years. Since Vincent's earliest papers many series of cases have been reported from abroad, and there are now many hundreds of cases on record—sufficient to warrant some reliable clinical data. The lesion was usually a circumscribed penetrating ulcer. It might spread laterally as a false membrane, or the two processes might be combined. The first was the usual condition. The site of the lesion in the majority of cases was the tonsil, usually one, rarely both. Out of 22 cases of Dr. Berkeley's series the right tonsil was involved 14 times. A case of average severity was apt to begin at the upper angle of the tonsil as a grayish necrosis quite similar to diphtheretic membrane and from $\frac{1}{8}$ to $\frac{3}{4}$ of an inch in diameter. When this necrotic covering was broken a penetrating ulcer was disclosed from ½ to ¾ of an inch in depth. The margins were steep and irregular, and the bed was covered with pus and saliva. It bled easily from contact with food or the swab. Sometimes the whole of a hypertrophic tonsil was involved in a destructive process which leveled off the organ as though it had been removed by operation. Smears from beneath the slough showed pus cells, necrotic fragments, mucus, and a pure or nearly pure growth of the bacteria. The reaction of the exudate was usually slightly acid to litmus. The tonsil and fauces were usually red and odematous, the neck on the affected side slightly swollen, and one or two large lymph nodes were generally present. The lips, gums, cheek or tongue, or all combined might show a pseudomembrane or one or more ulcers in which the bacteria were present in large numbers.

Bacteria of the same appearance quite regularly occurred also in the pus of pyorrhœa alveolaris, though the causal relation was here much more doubtful. The majority of cases occurred in children. In Dr. Berkeley's series of 29 cases 13 were between the ages of 3 and 6 years; 9 between 6 and 10, 3 between 10 and 20, 4 between 20 and 33 years. Fourteen were male, 15 female. There was probably no special seasonal prevalence. The introductory symptoms were usually those of subacute sore throat—without a distinct chill, but with headache, malaise and a temperature of from 99 to 102.5 degrees. In ordinary cases the general symptoms subsided in from three to four days. Locally there was moderate pain and dysphagia. There might be slight salivation. The results of examination of the urine and differential counts of the leucocytes were negative. The superficial similarity of Vincent's angina and tonsillar diphtheria in the earlier stages was very great. As to the communicability of the disease, so far as the present weight of experience went it might be broadly stated that it was communicable. There was abundant evidence that Vincent's angina might complicate or be complicated by various other zymotic diseases of the mouth and pharynx—notably diphtheria, syphilis, scarlatina, scurvy, and the ordinary coccus-anginas. The baccili and spirilla are also apt to appear in pure growth on tonsil-stumps after amputation and in varying quantities in aphthous ulcer of the buccal mucosa. The most important complication was diphtheria. As systematic complications, polymorphous erythemata, temporary albuminuria, suppurating axillary nodes, and painful and swollen joints had been reported, but were probably coincident streptococcus infections. The cases ordinarily healed in from one to three weeks, lasting longer in patients with unhealthy mouths. The prognosis as to life was probably always good. Neither predisposition nor immunity appeared to follow in a single attack. The clinical aspect of the disease was so characteristic that it could usually be recognized without the microscope, though microscopic examination was essential to avoid error. A sterile swab was first plunged into the depth of the slough, a smear made at once, fixed, and while still warm, flooded with carbolic fuchsin. Ten seconds' contact was enough. The slide was then washed, dried, and examined. To be perfectly sure it was wise to examine both a fresh mucus from the swab and a culture. In treating his own cases Dr. Berkeley put the patient to bed during the existence of the fever, and provided a gargle of sodium bicarbonate and boric acid, equal parts, in a sufficient quantity of hot water. If complications arose they should be treated rationally. Vincent recommended tincture of iodine swabbed into the ulcer vigorously every day. Methylene blue had also been used. Many other remedies had been suggested, but in the experience of the speaker they were needless. Isolation should be practiced to a reasonable degree.

The germs commonly called Vincent's bacteria were morphologically two in number. (1) A spindle-shaped bacillus named by Vincent bacillus fusiformis; this name was only provisional. The bacillus was 7-14 in length, ½ in thickness and stained fairly with most anilin dyes, very brightly with carbol-fuchsin (Ziche's solution). It was usually straight, but might be curved or even "S" shaped. The germ was easily identified. If it showed certain peculiarities of shape in the first examination it would preserve these marks throughout the case. (2) A spirillum, more properly a true spirochete, one-half or one-third as thick as the bacillus, staining much more lightly as a rule, and showing from 2 to 5 spiral turns, which might be tight or loose. On the cover glass the spirillum had usually a rectilinear axis, but might be doubled or twisted on itself. Its axial length was 15 to 25 microns. It was generally agreed to be motile, but stained flagella had not been mentioned so far in literature. It was also beaded at times, but less often than the bacillus. Both these germs had probably been known for a long time as saprophytes in many apparently normal mouths. The occurrence of the germs in decayed teeth, inflamed gums and aphthous ulcers had also been noticed by many. The speaker said that it was rather surprising that in spite of an immense amount of ingenious research these germs still refused to grow in pure culture. In some instances the organisms had been successfully carried in a mixed growth, through a few transplantations, but they were rapidly overgrown by contaminating germs and soon disappeared. Inoculation of the ordinary mixed cultures into animals had been followed by lesions in which the germ, still mixed, could be recovered. Dr. Berkeley said that he had been experimenting for over two years without success. The peculiar association of two such dissimilar germs as a pathogenic entity had excited much discussion. The French writers had accepted the condition as a peculiar "symbiosis," while others had suggested that the two were morphological variants of a single germ.

Dr. Emil Mayer opened the discussion by referring to the first case reported by him. The patient was a man, 28 years of age, who had a peculiar ulceration on the tonsil, which would surely have been taken for a specific ulceration at first glance, having many of the signs of syphilitic lesions. Dr. Libman declared it to be of an entirely different nature. Because of the possibility of the practitioner making some error the patient was asked to go to the laboratory, which he did. A correct diagnosis was then made, and this was the first case reported by Dr. Mayer. From 1893 to 1901 about sixty papers on this subject were presented abroad, but not one in this country. A point of special interest was the differential diagnosis. He wished to combat the statement that the majority of these cases were seen in children; the majority occurred in adults. The diagnosis lay between Vincent's angina, diphtheria, and syphilis. If specific disease a course of the mercurial treatment would cause the ulceration to promptly heal. If diphtheria the culture method would soon make the diagnosis. Dr. Mayer's treatment consisted in the application of Lugol's solution, directly with a swab or by means of a spray. Nothing should be so violently applied as to bruise the parts. A spray of permanganate of potassium was also of value.

Dr. William K. Simpson thought that undoubtedly our present knowledge of Vincent's angina cleared up the diagnosis of a certain class of cases seen formerly when physicians were at a loss to know just what they were. Some of these cases had been passed on as cases of specific disease, and some had been given the credit of having been cured by specific treatment. The cases occurred in young adults and gave all the appearances of an ulceration which they knew nothing about. The lesions cleared up without treatment. With regard to the location, especially of the most common variety, the tonsillar, it was found that the ulceration appeared more often in the upper portion of the tonsil and passed under the superior border of the anterior pillar. He believed the disease was much more frequent than generally supposed. This disease was an entity. It was first thought to have been a remnant of some type of ulceration. The microscope gave a positive means of diagnosis, although in the early stages it could easily be confounded with diphtheria or follicular tonsillitis. In the early stage he did not think it would be confounded with specific ulcerations. As an axiom in lesions of the throat he said that if lesions persisted over two weeks one could be fairly positive of some constitutional disease existing. After two weeks one must differentiate from the tertiary ulcerations.

Dr. E. **Libman** took up a consideration of the organisms found in these cases. There were found fusiform bacilli which were anaërobic and which were also found in other necrotic affections. There were other organisms found which looked like these fusiform bacilli which were also anerobic. The fusiform bacilli that were found in Vincent's angina could not at present be successfully cultivated artificially. Welsh of Baltimore some time ago had stated that the spirocheta of relapsing fever was a division form in the life history of trypanosomes, and it was probable that these spirochetæ were of the same nature. Wright of London had shown that the fusiform bacillus and the spirocheta found in Vincent's angina were one and the same organism because found in transition forms. If this was so it was evident why attempts at cultivation had been unsuccessful, because trypanosomes could not be cultivated except on blood media.

Dr. **Sobel** said that the organisms had been frequently found by him in children under 10 years of age. During the past four years he had seen 29 cases; all were limited to the tonsil except four, which had associated lesions in other portions of the mouth. When so associated the difficulty of diagnosis was increased. He believed the disease to be far more frequent than generally supposed, and it was common in all the walks of life. In a paper published some years ago he reported 12 cases and divided them into the clinical, microscopical, and bacteriological. Clinically the cases differed somewhat from those reported by Dr. Berkeley. The constitutional symptoms were practically nil, the temperature ranging from 99.5° to 100° or 101°. There was no headache or constitutional symptoms. The children complained of pain in the throat on deglutition and there was a submaxilar adenitis. A striking feature was the lack of proportion between the constitutional symptoms and the objective symptoms. There was no fetor to the breath. The resemblance to diphtheria during the first twenty-four hours was quite marked, but after that time the diagnosis was easily made. The diagnosis was made not from the culture, but from a smear, and the technique was exceedingly simple. The doctor here described his method of making a smear, and emphasized the importance of not simply applying the swab directly to the mass, but of pressing it firmly against and into the necrotic mass. If the necrotic structure be entered with the swab one would probably obtain a very clear-cut picture. In making a differential diagnosis it should be borne in mind that in Vincent's angina there was an ulcer from the beginning, which spread deeply as a rule. The vacuolations seen he believed were due either to a contraction of the protoplasm or to a regenerative form of spirillum. The prognosis was good if no complications arose. He had one case that lasted 42 days in spite of treatment. A remedy that was efficient in one case might not be in another. He placed more faith on Lugol's solution, though sometimes he used chromic acid.

Dr. J. **Finley Bell** reported a case of Vincent's angina that he had seen at the Englewood Hospital.

Dr. **Herman** said that it was not a bacillus, but a segment of a spiral, or vibrio. There was a flagellum attached to the capsule which surrounded the body of the organism. In every case fusiform bacilli were found. Attempts to grow it on blood agar had been unsuccessful. It seemed as if the lesion spread as in diphtheria but, as a matter of fact, it spread simply by contact; sometimes two lesions occurred with a bridge of tissue between the uvula and tonsil. The odor was due to the spirocheta. The lesion he believed to be more common in children. The removal of the entire tonsil might be justifiable in certain cases.

A Case of Acute Polyarticular Gout.—Dr. N. B. **Potter** reported two cases. The first was a man who was taken ill December 24, and admitted to the hospital the day following with what appeared to be an acute articular rheumatism. He was placed on large doses of salicin, 400 to 450 grains being given in twenty-four hours, but without any abatement of the symptoms. It was a polyarticular affection. He changed the therapy and placed the patient on colchicin, 1-100th of a grain every two hours, and shortly after the symptoms improved, the joint inflammation subsided and the patient became very comfortable. The patient entirely recovered. The second case was taken with articular difficulty. Before this, following exposure, he had had some polyarticular trouble. Under large doses of salicin he failed to improve. There was redness, swelling, and pain, with fever, but no improvement followed these large doses. He changed the therapy and placed him on colchicin with a subsidence of all symptoms.

Dr. **Charles C. Ransom**, who saw the cases at the City Hospital, said that he had been taught that such involvement of the joints in the way described were due to rheumatism and, therefore, the report of these cases was especially interesting. As a matter of fact such clinical pictures were impossible to diagnose from the joint involvement alone. He saw a case at the hospital which began as an acute inflammation of the big toes of both feet. The man had some temperature and entered the hospital chiefly because he was unable to work. The diagnosis of gout was made, and colchicin was given for two weeks without any abatement of the symptoms. It was learned that some six or seven weeks prior to entrance to the hospital he had had an attack of gonorrhea. He was taken off colchicin and the urethra treated, which was followed by a disappearance of all symptoms. In this case there was the classical development of gout, and yet the treatment proved that it was not gout at all. In many instances, he said, the joint lesions could be diagnosed by the treatment employed.

A Sterile Purulent Joint, Following Acute Articular Rheumatism.—Dr. H. S. **Carter** reported the case of a youth, 19 years old, with no history of any specific disease, whose illness began in June of last year with pains in the legs, but without any local signs. Four days later he had a typical attack of acute articular rheumatism. Alkalies and salicylic acid were given, but this caused carbolic acid absorption which appeared in the urine and had to be stopped. The temperature and pulse were moderately elevated. Fluid collected in the knee joint of the left side. The pain was considerable in spite of local applications. The joint was considerably swollen; the skin over the joint became reddened, later pale and resembled somewhat a tubercular joint. From June 1 until July 5 the condition persisted and with but little change. There was no sweating or any wide range of temperature. Thirty-five days after the onset of the trouble the joint was aspirated and no irrigation was used. The morphological examination followed; there were two layers above the fluid resembling synovial fluid, while below there appeared pus, which contained 99 per cent. polymorphonuclears. No tubercle bacilli were found. No guinea pig inoculations were made. The local symptoms subsided and convalescence was rapid and uninterrupted.

Dr. **Henry W. Frauenthal** said that the source of infection in these cases might be from the urethra, and many men had cited cases in which the gonococccus was found in the joint during the first three or four days, but was not found ten or fifteen days after. He had himself reported some twelve cases with the same findings.

Recent Studies in the Diagnosis of Rabies.—Dr. **Daniel W. Poor**, of Orange, N. J., read this paper. (See page 568.)

Dr. **Harlow Brooks** did not believe the rabic tubercle was at all characteristic in this disease, and said that the changes in the ganglionic cells were not to be relied upon; they were closely simulated by post-mortem changes. With regard to the changes in the posterior ganglionic cells, he stated emphatically that he had no use for them for diagnosis because the same changes were to be noted in tabes dorsalis, chronic alcoholism and syphilis.

Dr. Robert J. Wilson said that any one who had seen people who had been bitten by rabid animals knew just what their anxiety was, and how desirous they were not to take the treatment. He referred to some cases he was called to see three months ago; he was asked to delay treatment until it was positively known whether or not the dog was rabid. A smear was taken, and the Negri bodies or corpuscles were found in a few hours. Before three o'clock that same afternoon the treatment was instituted.

Dr. Charles H. Lewis said that a short time ago he was called to see a woman who had been bitten by a dog. There was no reason for suspecting the dog to be rabid. He saw her one and a half hours after she was bitten, and he cauterized the wound thoroughly. The dog was then taken to a veterinary surgeon, who thought the dog had rabies. At five o'clock that afternoon the diagnosis of rabies was made, and the woman received her first injection of antirabic serum. Her last injection would be given the following day (Wednesday). The dog died on the day after he had bitten the woman, and the disease apparently was in a very virulent form. Dr. Poor took charge of the dog's brain and made the examination, but had not as yet reported his findings.

Dr. Poor, referring to the case cited by Dr. Lewis, said that the diagnosis was easily made from the brain findings, although it was taken from the animal on the second day of the disease. As a rule, when animals showed early symptoms of rabies they were at once killed and then the findings were not so marked. Twenty-one full days' treatment was employed. By means of smears the diagnosis could be made in a few hours. Of course, a negative diagnosis from smears was often of less value than a diagnosis made from cultures, chiefly because there was much less tissue in the smears. The tissue in smear work, too, must be in a fresh state.

Election of Officers.—*Chairman,* Dr. Charles H. Lewis; *Secretary,* Dr. E. E. Smith.

Philadelphia County Medical Society.

At a stated meeting, held March 8, Dr. Charles W. Burr exhibited "A Case of Fracture of the Fifth Cervical Vertebra, with Partial Recovery." The patient was a man 56 years old, who, in November, 1898, fell from a wagon, striking the neck and shoulders. There was at first great pain in the back of the neck, shoulders, and arms, with loss of power in the upper extremities. Six weeks later the man was able to walk, though with some rigidity in the legs. The arms were held close to the side of the body. With effort the forearms could be flexed on the arms and the arms could be slightly abducted. The grasp was enfeebled. Sensibility was everywhere preserved, and there was no muscular wasting. The biceps and triceps jerks were absent, and the knee jerks were increased. There was pain in the back of the neck and in the arms, and sensitiveness to pressure along the spine. The muscles of the neck were stiff, and the head was bent forward on the chest. The movements of the head were restricted and attended with pain. There was slight spasmodic retention of urine. The bowels acted normally. From all of these symptoms there was great improvement. A skiagraph disclosed a fracture of the laminæ and spine of the fifth cervical vertebra, with dislocation and possibly fracture of the body of the bone. Dr. J. Madison Taylor read a paper entitled "How Can the Physician Profit by Preventive Medicine." He contended that the mere alleviation of human suffering is only a part of the prerogatives of the educated medical expert. The effects of preventable disease must be regarded as so much loss of wage-earning dynamics. In order to attain the best results the physician must become an expert in the conservation and development of the bodily energies, through the principles of hygiene in all its broad compass. He must be prompt to recognize the prephenomena, the omens of disease. He must become a practical psychologist and give adequate attention to psychic progress and variants, ethical peculiarities and limitations. He must become the guide, philosopher, and friend of those with whom he is associated. Dr. W. Wayne Babcock read a paper entitled "The Osmic Acid Treatment of Tic Douloureux." He reported the case of a man 55 years old, who for more than thirty years had suffered from infraorbital neuralgia, first upon one side, and later upon the other side, and for relief from which he had submitted to several surgical operations. Finally the inferior dental nerve was exposed from within the mouth, and twelve minims of a freshly prepared two per cent. solution of osmic acid were injected into the trunk of the nerve. At a later date other affected nerves were treated in a similar manner, with marked relief in each instance. Dr. W. G. B. Harland read a paper entitled "The Problem of the Treatment of Tuberculosis of the Larynx." He defined the disorder as an insidious, intractable subepithelial infection, the germs of which are hidden in and beyond the limits of the apparent disease. The local lesion ordinarily represents an extension of the morbid process from elsewhere, and affords evidence of impairment of the powers of resistance. Many of the forms remain harmless indefinitely if local irritation is prevented and the general health is improved. Although ulceration, when it occurs, has little tendency to heal, it often does so under treatment. This should be directed to liquefying and removing secretions from the upper air tract, relieving congestion, allaying irritation, destroying tubercle bacilli, and removing the tissues destroyed at a result of their activity.

Philadelphia Pediatric Society.

At a stated meeting, held March 14, Dr. Eleanor C. Jones exhibited four members of a family of five children with "Multiple Exostoses." A similar condition existed in the father, who was a confirmed alcoholic, and whose mother likewise had been an alcoholic. Dr. D. J. Milton Miller exhibited "A Case of Fetal Chondrodystrophy." The patient was a boy 7 years old, with the characteristic depression of the bridge of the nose and a large head. The long bones generally were shortened from defective development of the epiphyseal cartilage. The stature was abbreviated by reason of the shortening of the bones of the lower extremities, while the trunk corresponded in size with that of a normal child. Dr. Charles W. Burr exhibited "A Case of Stuporous Insanity at Puberty." The patient was a boy 13 years old, who had been a heavy smoker of cigarettes, and had, besides, a most unfavorable environment. From having been an ordinarily bright lad, he developed delusions of persecution, and subsequently became taciturn and uncommunicative, and eventually apathetic and apparently oblivious to his surroundings. He failed to control his sphinsters, and took food only when it was forced on him. For a time the members exhibited waxy rigidity. He became greatly wasted. The first sign of a change for the better was sudden laughter at what appeared to him as a ludicrous incident. After this, coincidently with improvement in the general nutrition, indications of improvement in the mental state made their appearance. The prognosis was considered fairly good. Dr. J. B. Crozer Griffith reported "A Fatal Case of Chorea." The patient was a child, in whom the movements were characterized by their great violence. Symptoms of acute endocarditis were present. Death resulted apparently from exhaustion, in spite of most active treatment. Autopsy disclosed the lesions of malignant endocarditis, but examination of the nervous system was not permitted. Dr. R. Max Goepp reported "A Case of Necrotic Stomatitis following Pneumonia and Measles." The patient was a child, in whom inflammation of the tissues of the cheek developed, with necrosis, but not progressing to gangrene. Diphtheria bacilli were found in cultures, but under treatment recovery ensued. The case must be considered as belonging in a category intermediate between ulcerous and gangrenous stomatitis. Dr. Goepp reported also "A Case of Malignant Scarlet Fever." The patient was a child, presenting sore throat, cultures from which failed to disclose the presence of diphtheria bacilli. In view of the existence of scarlet fever of mild grade in another child in the family, a diagnosis of this disease was made, although no exanthem appeared. Death took place at the end of forty-eight hours.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Wharton and Stille's Medical Jurisprudence. By Robert Amory, A.M., M.D., and Robert L. Emerson, A.B., M.D. Vol. II. Poisons. Fifth Edition. 8vo, 858 pages, leather. The Lawyers' Co-Operative Publishing Co., Rochester, N. Y.

A Text-Book of the Practice of Medicine. By Hobart Amory Hare, M.D., B.Sc. 8vo, 1119 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $5.00 net.

Meals Medicinal: with "Herbal Simples," (of Edible Parts)—Curative Foods from the Cook; in Place of Drugs from the Chemist. By W. T. Fernie, M.D. 8vo, 781 pages, leather. John Wright & Co., Bristol, England. Price, 7/6 net.

Conservative Gynecology and Electro-Therapeutics. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M.D. Fourth Edition. 8vo, 467 pages, illustrated, muslin. F. A. Davis Company, Philadelphia. Price, $4.00 net.

Monograph Supplements. The Psychological Review. Edited by J. Mark Baldwin, Howard C. Warren and Charles H. Judd. Yale Psychological Studies. Vol. I. No. 1. 8vo, 226 pages, illustrated. The Macmillan Company, New York.

Ailments of Women and Girls. By Florence Stacpoole. 12mo, 238 pages. J. Wright & Co., Bristol, England. Price, 2/- net.

The International Medical Manual: A Year Book of Treatment and Practitioner's Index. 1905. By various authors. 8vo, 644 pages, illustrated, muslin. E. B. Treat & Co., New York. Price, $3.00.

Veröffentlichungen aus dem Gebiete des Militär-Sanitätswesens. Heft 28. Beitrage zur Schutzimpfung gegen Typhus. 8vo, 63 pages, paper. August Hirschwald, Berlin.

Dr. Jessner's Dermatologische Vortrage für Praktiker. Heft 14. Diagnose und Therapie des Ekzems. I. Tiel: Diagnose. Von Dr. S. Jessner. 8vo, 50 pages. A. Stuber, Wurzburg, Germany. Price, M. 0.80.

Diseases of the Skin, Their Description, Pathology, Diagnosis, and Treatment with Special Reference to the Skin Eruptions of Children and an Analysis of Fifteen Thousand Cases of Skin Disease. By H. Radcliffe-Crocker, M.D., F.R.C.P. Volumes I. and II. Third Edition. 8vo, pp. 1-727 and 728-1466, illustrated, muslin. P. Blakiston's Sons & Co., Philadelphia.

Diseases of the Heart. By Edmund Henry Colbeck, B.A., M.D., B.C., F.R.C.P., D.P.H. Second Edition. 8vo, 350 pages, illustrated, muslin. W. T. Keener & Co., Chicago. Price, $2.50.

Errors of Refraction and Their Treatment. By Charles Blair, M.D. 16mo, 103 pages, illustrated, muslin. John Wright & Co., Bristol, England. Price, 2s. 6d. net.

Medical Philology. By L. M. Griffiths, M.R.C.S. Part I. 16mo, 100 pages, card-board. J. W. Arrowsmith, Bristol, England.

Die Vergiftungen. Von Dr. med. O. v. Boltenstern. 12mo, 355 pages, paper. C. G. Naumann, Leipzig, Germany.

Uber eine neue Ultraviolett-Quecksilberlampe. Uviol-Lampe. Von Dr. O. Schott. 4to, 10 pages, illustrated, paper. Schott & Genossen, Jena, Germany.

Recurrent Effusion into the Knee-Joint after Injury, with Special Reference to Internal Derangement Commonly Called Slipped Cartilage—An Analysis of 750 Cases. By Sir William Bennett, K.V.V.O., F.R.C.S. 8vo, 29 pages, illustrated, muslin. Longmans, Green & Co., London and New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 8, 1905:

	Cases.	Deaths.
Measles	422	13
Diphtheria and Croup	339	27
Scarlet Fever	259	7
Smallpox	4	......
Chickenpox	94	
Tuberculosis	441	201
Typhoid Fever	26	13
Cerebrospinal Meningitis	191	110
Typhus Fever	.	.....
Yellow Fever		.....
Cholera		
Totals	1,776	371

A New Theory of Fever.—T. G. Atkinson, in explaining this theory, states that in the production of carbon dioxide heat is liberated; in the formation of water, as accomplished by nature in the human body, heat is absorbed. The quantity of water formed bears a definite and constant relation to the amount of carbon dioxide produced, and therefore to the extent of oxidation performed. The greater the oxidation, the larger the amount of carbon dioxide produced and heat liberated; the larger the amount of carbon dioxide produced and heat liberated, the greater the quantity of water formed and heat absorbed. The writer offers this as a natural and logical cycle of processes by which the generation and the loss of body heat are automatically and constantly balanced, leaving to the lesser functions of radiation and evaporation the simpler task of draining, not the excess heat, but the constant level of normal heat. After the water is formed it becomes one of the most potent factors in distribution and surface elimination by virtue of its high degree of specific heat. If this theory is allowed, a serious elevation of temperature can result from only one source of disturbance—from any condition interfering with the free formation of water in the body. Water is the sine qua non of fever therapeutics—water in all forms in abundance, and by every available means of administration. While no amount of water ingested can perform the function of water-production and lower the temperature level at the fountain head, yet by virtue of its high specific heat it is the ideal agent for maintaining a steady level of the normal heat-tide. Little can be done with drugs. The writer concludes that if, in the present stage of our knowledge, we possessed the means of checking the fever process, we might ignorantly thwart one of Nature's safeguard processes and let loose upon the patient far graver troubles which we should be powerless to remedy.—*The Medical Standard.*

Leukopenia in Malta Fever.—Axisa from his experience in the hospital for Europeans at Alexandria says that the diagnostic triad of diazo reaction, splenic tumor, and leukopenia, which is so characteristic of the early stages of typhoid fever, is also encountered quite regularly in cases of Malta fever. The only means of early differentiation lies in the serum reactions and these, of course, are sometimes late in appearing. It also happens that the serum of a patient may agglutinate both typhoid bacilli and the coccus of Bruce, as in a case described by the author, so that diagnostic embarrassment may ensue. Of twelve cases of Malta fever, in which the leucocytes were counted ten days to four weeks after the beginning of the disease, values ranging from three to eight thousand to the cubic millimeter obtained, the majority being very low.—*Zentralblat f. innere Medizin.*

Inhalations of 95 Per Cent. Alcohol.—E. B. Silvers calls attention to the inhalation of alcoholic fumes in cases of head colds and grippe attacks. In laryngeal and bronchial cases he orders the inhalations for ten or more minutes three or four times a day. The first effects are not pleasant, as there is considerable smarting with much defluxion from the eyes. But this soon passes off and is followed by a pleasant clearing of the nasal passages and prompt relief. If it is breathed at the start through the mouth, and exhaled by the nasal passages, it will smart less. When giving it to children it is well to add a perfume, the oil of wintergreen being best, on account of its antiseptic properties. A little salicylic acid extra can be added, especially in diphtheritic cases. The writer takes a section of an unfolded newspaper, approximates the two opposite edges, somewhat overlapping them, and fastens them with a large safety pin. At the apex of the cone he secures an unfolded handkerchief. In using it he has the eyes out, but the nose and mouth covered. The cone can be readily renewed. This method aborts a cold and prevents it from traveling down and affecting the lungs. The hawking and strangling, so often incident to a cold in the head, are easily prevented, and sleep is readily induced if the treatment is used freely before retiring.—*Journal of the Medical Society of New Jersey.*

Treatment of Advanced Cardiac Dilatation.—R. A. Flemming has had very good results in the treatment of cardiac dilatation by massage, passive movements, and modified resisted exercises. He believes the method to be useful as an adjunct to rest and cardiac tonics in many cases of cardiac dilatation, other than cases of acute endocarditis. It is in extreme degrees of dilatation in which its cautious use has yielded striking results. In none of the writer's cases was the entire series of exercises as prescribed by Schott carried out. They were limited to such movements of the arms and legs as could be carried out with the patient in bed, and no particular movements were ordered. Fatigue was never permitted. When the resisted exercises were completed, the patient was allowed to get up and a fw minutes' slow walking replaced the exercises. The period of time given up to this treatment varied with each case. The writer reports ten cases in which he has used this treatment, with eight successes, or moderate successes. He thinks that the systematic trial of this method is warranted by his results. In over half of his successful cases, considerable periods, varying from six months to over two years, have elapsed without any breakdown of compensation. One case has relapsed, although it is not a complete failure.—*The Scottish Medical and Surgical Journal.*

Some Newer Aspects of the Pathology of Fat and Fatty Degeneration.—Henry A. Christian emphasizes the following points: Osmic acid does not stain all forms of fat and fat alone, and so is but an imperfect method of demonstrating fat. Sudan III and Scharlach R, though having disadvantages, give more satisfactory results. Visually demonstrable fat is present normally in very many cells of the body, while extractive fat occurs in practically all of the tissues. Under abnormal conditions visually demonstrable fat appears in cells in increased amount, and is an index of cell injury. Fatty infiltration is the physiological appearance of fat in normal cells, and fatty degeneration is the appearance of fat in injured cells; the fat is an index rather than the direct result of the cell degeneration. In both, the origin of the fat is probably the same and mainly from without the cell by transport from fat depots elsewhere, but may arise within the cell from fat-related bodies, not from proteid.—*Bulletin of The Johns Hopkins Hospital.*

Modern Treatment of Leprosy, Especially with Chaulmoogra Oil.—Alberto Serra gives us the result of his treatment of leprosy with mercurials, cacodilate of soda and chaulmoogra oil. The mercurial treatment ameliorates somewhat the condition of the leper. Sublimate is to be preferred to calomel because it is better borne by the patient and brings better results. Cacodilate of soda is useful in giving some general improvement, increase of body weight, of red blood corpuscles and hemoglobin, and rendering him more resistant to the poison. Chaulmoogra oil is the most useful remedy of all. It may be given by mouth, though it produces gastric disturbances in some persons. It may be also given by injection. It aids in the repair and cicatrization of ulcerations; has the power of modifying the leproma and infiltrations, and aids in absorption of them; it improves the general condition; it has a specific action against the lepra bacillus superior to all other remedies.—*Giornale Internazionale delle Scienze Mediche.*

Experimental Production of Concretions in the Pancreatic Ducts.—Nicola Pende, by tying the duct of the pancreas in rabbits, produced concretions in the duct. He examined the glands and the concretions, and gives us his conclusions thus: Calculi of the pancreas are not necessarily connected with an ascending infective process either in the excretory ducts, or arising from the blood. This may be the case sometimes, but in most cases there is a pancreatic sclerosis, with atrophy and destruction of the secreting cells, produced by substances circulating in the blood, such as alcohol and toxic products of syphilis and rheumatism, producing modifications in the pancreatic juice. The same factors may irritate the mucous membrane of the excretory ducts, and with desquamation of the cells, form an organic nucleus for the concretions, and favor their formation by deposit of calcareous salts. A simple obstacle to the flow of the pancreatic juice, acting on the gland, may produce the same effects.—*Il Policlinico.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended April 8, 1905:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
District of Columbia, Washington	Mar. 18–25	3	..
Florida, Jacksonville	Mar. 25–Apr. 1	5	..
Illinois, Cairo	Mar. 28	7	..
Chicago	Mar. 18–Apr. 1	36	3
Kentucky, Covington	Mar. 25–Apr. 1	1	..
Missouri, Saint Louis	Mar. 25–Apr. 1	40	9
New York, New York	Mar. 25–Apr. 1	1	..
Ohio, Cincinnati	Jan. 6–Mar. 31	66	2
Toledo	Mar. 18–Apr. 1	7	..
Pennsylvania, Altoona	Mar. 25–Apr. 1	1	..
Steelton	Mar. 25–Apr. 1	1	..
Tennessee, Memphis	Mar. 25–Apr. 1	8	..
Nashville	Mar. 25–Apr. 1	3	..

SMALLPOX—FOREIGN.

Brazil, Rio de Janeiro	Feb. 28–Mar. 12	16	9
Canada, Hamilton	Mar. 1–31	1	..
China, Shanghai	Feb. 11–Mar. 4	3	18
		Foreigners,	Native.
France, Paris	Mar. 11–18	22	1
St. Etienne	Feb. 19–28	(Present.)	
Great Britain, Bradford	Feb. 25–Mar. 11	4	..
Cardiff	Mar. 4–11	1	..
Hull	Mar. 11–18	3	..
Leeds	Mar. 18–25	13	..
Leith	Mar. 11–18	2	..
London	Mar. 11–18	9	..
New-Castle-on-Tyne	Mar. 11–18	2	..
Nottingham	Mar. 11–18	1	..
Sheffield	Mar. 11–18	2	..
South Shields	Mar. 11–18	3	1
India, Bombay	Feb. 28–Mar. 7	..	186
Calcutta	Feb. 25–Mar. 4	..	12
Karachi	Feb. 26–Mar. 5	4	1
Madras	Feb. 25–Mar. 3	..	3
Italy, Catania	Mar. 2–23	..	7
Palermo	Feb. 25–Mar. 18	42	8
Japan, Formosa	Feb. 1–28	1	..
Mexico, City of Mexico	Feb. 11–Mar. 25	22	9
Russia, Moscow	Mar. 4–11	4	2
Odessa	Mar. 11–18	6	3

PLAGUE—INSULAR.

Philippine Islands, Manila	Feb. 11–18	2	1

YELLOW FEVER.

Brazil, Rio de Janeiro	Feb. 26–Mar. 12	31	12
Mexico, Coatzacoalcos	Mar. 18–25	1	..
Merida	Mar. 18–25	1	1
Panama, Colon	Jan. 23–Mar. 22	4	1
Panama	Jan. 1–Mar. 18	42	18

CHOLERA.

India, Calcutta	Feb. 25–Mar. 4	..	39

PLAGUE—FOREIGN.

Africa, British, Cape Colony	Feb. 18–25	1	1
East Africa	To Feb. 11	1	25
Arabia, Aden (Corrected)	Feb. 11–18	254	244
Aden	Feb. 28–Mar. 10	299	208
Australia, Brisbane	Feb. 11–18	5	..
Clarence and Richmond River Districts	Feb. 4–11	1	..
New Castle	Mar. 27	(Present.)	
Brazil, Rio de Janeiro	Feb. 26–Mar. 12	4	1
Egypt, Suez	Feb. 25–Mar. 4	..	1
India, General	Feb. 18–25	34154	29465
Bombay	Feb. 28–Mar. 7	..	860
Calcutta	Feb. 25–Mar. 14	..	213
Karachi	Feb. 26–Mar. 5	60	58
Rangoon	Feb. 6–13	10	8
Japan, Formosa	Feb. 1–28	177	169

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Original Articles.

VISUAL FUNCTION THE CAUSE OF SLANTED HANDWRITING; ITS RELATION TO SCHOOL HYGIENE, SCHOOL DESKS, MALPOSTURE, SPINAL CURVATURE, AND MYOPIA.

By GEORGE M. GOULD, M.D.,
PHILADELPHIA.

Slanted Handwriting is Bad, but not because of Bad Reasons.—Careful and trustworthy statistics show that on the average 27 per cent. of the pupils in the primary grades of the schools of Europe have lateral spinal curvature. The fact is as terrifying as the greatest in pathology, as bad, for instance, as the prevalence of tuberculosis. There is no reason to doubt that American children are less scoliotic than those of Lausanne, Dresden, etc. If not actually crying out against slanted handwriting and school desks as the causes of this appalling disease, almost all orthopedists and school hygienists admit or suggest it. And yet slant handwriting is not only not the cause of the writing malposture and of scoliosis, it is only a minor effect of the writing malposture. It is not only an effect, but, bad as it is, it is a method of avoiding worse malposture. To no one could such a style of writing be more repulsive than to me, and yet, as one must so often emphasize, the bad reason does not make it bad. The reasons for vertical *vs.* slanted handwriting must be scientific and true or the slanting will never be done away with. There are considerations very different, and of infinitely more importance than the slanting itself, why such writing must be abolished.

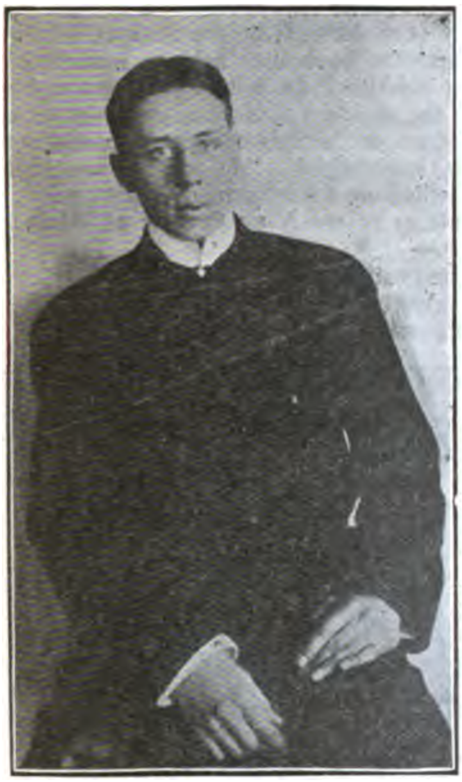

Fig. 1.—Habitual posture of head and shoulders of a patient with an axis of astigmatism in the dominant eye that compelled the head-tilting, depression of the right shoulder, etc., and caused curvature of the spine.

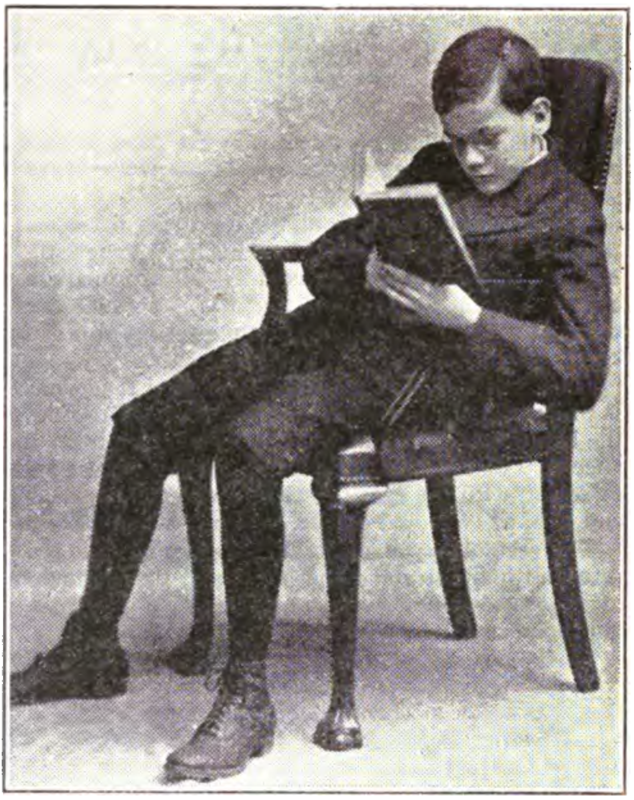

Fig. 2.—Habitual reading-posture of a boy with beginning latera curvature of the spine caused by a peculiar axis of astigmatism.

Factors of the Writing Malposture.—All acts or habits are wrong some of the time, and some acts or habits are partly wrong all of the time. Only the act of writing, as commonly carried out, is wholly wrong all the time.

1. In a state of rest every object illustrates and obeys the law of gravity, equilibrium, or architecture, which demands that its center of gravity must be vertically above its base or point of support. A feeling of strain or irritation arises in the mind when natural objects do not conform to this law. Tumbling-down chirography does not obey this law.

2. The letters of the alphabet are conventionalized pictures or ideograms of the pictograms or pictures of natural objects—the ox, horse, camel, door, window, hook, serpent, hand, fish, water, eye, mouth, head, etc. These prototypes, of course, obeyed the law of gravity in Phoenician and Semitic times as they do now. The modern written letters of the alphabet should do the same.

3. All printed and type-written letters, and musical notes preserve the erect position. The handmade letters should conform to the rule.

4. The slant method of writing is a result of the writer's personal difficulties, but the character of the writing is, or should be, dictated by the consideration of the reader's sake, not because of the writer's personal or pathologic trouble.

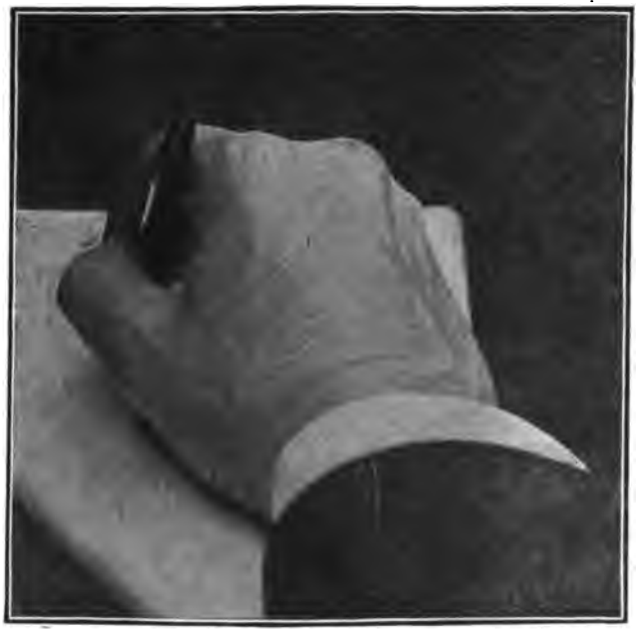

Fig. 3.—The hand in the writing posture as usually ordered, but not practiced, because to the writer the writing-field is hidden by the thumb, finger, and holder. An actual view of the hand with the writer's head displaced.

5. More important than all the foregoing is the fact that the vast majority of all persons have some astigmatism, and about 95 per cent. of all astigmatisms are at or about the axes 90° and 180°, and such eyes demand the prevailing lines of things seen at 90° or 180°.

Even if no astigmatism is present, or if that which is present is not in the neighborhood of 90° or 180°, the habit of equilibrium, and the inheritance from all ancestors of the habit of holding the head erect and of seeing with the eyes coincident with the usual 90° and 180° axes, would compel the customary position.

The secondary factors, which determine the posture and malposture of the body, and the character of the handwriting, vertical, slanted, or otherwise improper, are:

1. The position or posture of the head.
2. The position or posture of the body.
3. The location of the paper upon the desk.
4. The angling or skewing of the paper as regards the right angles of the desk top or writing board.
5. The flatness or inclination of the desk top or writing board.
6. The relative height and distance apart of the desk and seat.
7. The position of the hand, method of holding the penholder, etc.
8. The necessity of parallelism between the vertical axis of the head, or what is the same thing, of the 90° axes of astigmatism of the eyes, and the vertical lines, real, supposed, or presented by the formed lines of the written letters.
9. The relative position of the right or dominant eye, and the unhindered meeting of the visual axes of both eyes, upon what may be called the writing field, *i.e.* the space at and about the pen-point.

In other articles (*Popular Science Monthly,* August, 1904: *Ophthalmology,* October, 1904) I have explained the terms, ***dominant eye,*** and ***dextrocularity.*** The relation of the writing malposture to the production of lateral spinal curvature I have set forth in *American Medicine,* April 8, 1905.

Briefly epitomized, this etiological factor arises from a bending of the head to the left, skewing of the paper, etc., in writing, in order that both eyes of the writer may have a clear view of the writing-field or space about the pen-point. And especially by the right or dominant eye, the one corresponding in function, and particularly in writing, with the right-handedness (expertness) of the right-handed person. This canting of the head to the left produces a functional cervical curve with the convexity to the right, which I suggest is the primary factor in the formation of subsequent compensation curves of the spine below. Orthopedists seem to have forgotten that the cervical vertebræ are part of the spinal column; any lateral bending of any part of the column produces twisting or rotation, with the production of reverse or secondary curves later, in the effort at compensation. (Figs. 1, 2.) George Sand and all the advocates of vertical handwriting have persistently demanded *Ecriture droite, sur papier droit, corps droit* —vertical handwriting, on vertical paper, the body also vertical. Knowing what was and is intended by the words, not what literally is said, we may add that even this intended advice is impossible of execution. No right-handed person ever writes so,or could write so, *i.e.* if the paper (as supposed) is horizontal, placed squarely (not skewed) before the median line of the body, and the penholder held as instructed in the "correct position," *i.e.* with the upper end pointing toward the shoulder. No one ever wrote a line in this position, and simply because he could not see the letters he was making. And to write we must see the letters which are being formed. (Fig. 3.)

Details as to the Nine Factors of Malposture in Writing.—

1. **The position of the head may be:**

a. Perfectly erect, its long or vertical axis corresponding with the vertebral axis when the body is erect and accurately and squarely in front of the desk.

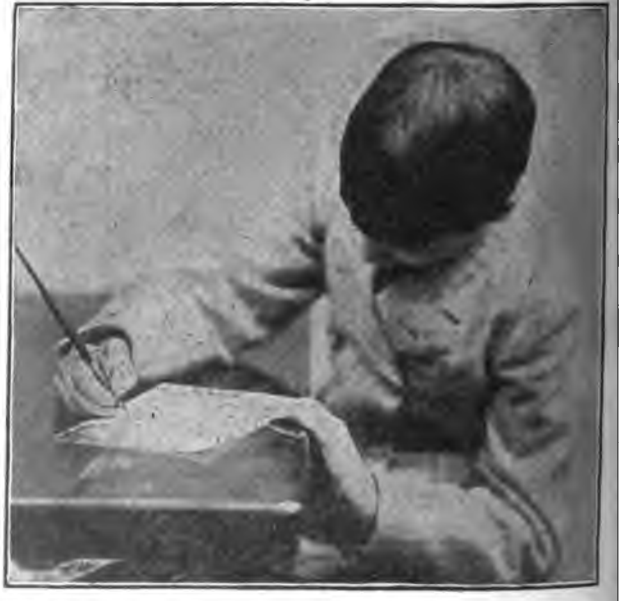

Fig. 4.—The common but in the picture somewhat exaggerated writing malposture, method of holding the pen, skewing the paper, bending of body, torsion of head, etc., in order to gain a clearer view of the writing-field.

b. Canted or tilted to one side, to the left in the dextral, and in varying degrees.

c. Twisted on the vertical axis of the head and neck, to the right in writing, by the dextral.

d. Positions *a* and *c,* combined or mixed.

e. Positions *b* and *c* combined or mixed.

2. The posture of the body may be:

f. Erect, the lateral axis parallel with the front line of the desk.

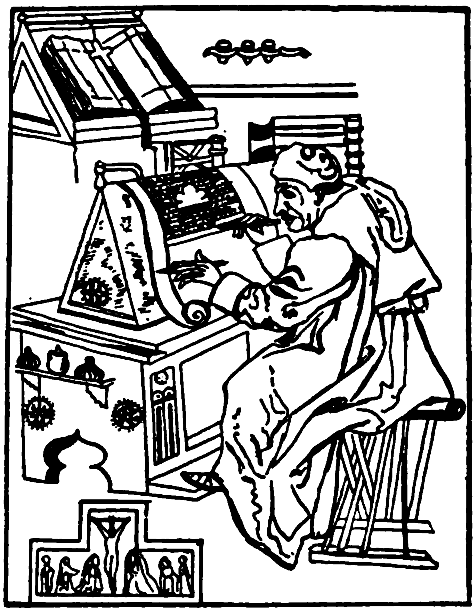

Fig. 5.—The medieval copyists wrote with the paper pitched at a sharp angle.

g. Bent to the left (in the dextral) in varying degrees, the vertebral column being either straight or curved.

h. The spinal column twisted in varying degrees.

i. The right side of the body turned toward the desk or approximated to it more or less.

j. Varying combinations of the positions *g, h,* and *i.*

In practical and unconscious writing the positions of the head and postures of the body above enumerated under 1 and 2 may be and usually are mixed and interdependent, thus resulting in many modifications and variations.

3 and 4. The location and angling of the paper upon the desk may be:

k. In front of the face and squarely placed, *i.e.,* its lower border parallel with the front of the desk.

l. Askew, at varying angles to the left, but usually at an angle of about 35° with the desk front.

m. With the left hand border parallel with the desk front.

n. Opposite the right shoulder in head and body postures *a* and *f,* the lower border parallel with the desk front.

With the ordinary straight penholder and pen held as universally ordered, and the head and body in postures *a* and *f,* no ordinary human being can write, because the index finger and the pen necessarily come between the right eye and the pen-point. (Fig. 3.) Therefore, every writer immediately disobeys the teacher and varies one or all of the positions, postures, etc., so that the dominant eye has an unobstructed view of the writing field. (Fig. 4.) The most extreme position of the body and head I have ever seen was in a patient who had an enormous astigmatism, and who was compelled to bring the eyes almost to a level of the table, with extreme rotation of the head in order to bring the astigmatic axes into parallelism with the lines of the writing being executed. Position *n* of the paper is the only one that permits of the perfectly erect or hygienic postures of the head and body designated as *a* and *f,* because only under such conditions can the dominant eye have a clear view of the writing field.

5. But the difficulty of writing in these postures and conditions is greatly increased by the flat desk, and is almost done away with by an inclination of the desk leaf or writing board at an angle of 30°. The ink will still flow from the pen with the leaf at this angle, the position of the head and body made most comfortable and hygienic, and the unconscious tendency to bend the head and body is neutralized. The copyists and monks of medieval and Latin times learned this, as is illustrated by the annexed cut. (Fig. 5.) An added and highly important consideration is that by the 30° or 40° sloped desk leaf, the eyes are enabled to look off at the book or writing at nearly a horizontal line, instead of down upon it with the eyes nearly vertically over the letters. The traction on the inferior recti muscles of the eyes with the resultant unnatural position of the eyes, is a prolific source of eyestrain. It also compresses the chest, humps the back, interferes with the circulation of the neck, the supply of blood to the brain, and the flow of air in and out of the lungs in breathing. The inclination of the desk may be more pitched in reading than in writing.

6. The organizers, teachers, trustees, furniture makers, and parents have too often failed to notice that children differ in height from adults, differ from each other, and that they have a habit of growing. Even the most progressive in very recent years have not come to a thoroughgoing knowledge of these simple facts, and have not made the school desks and seats to conform accurately to them. What is now needed is mechanical constructions which will meet the differences of each child in an easy and perfect manner.

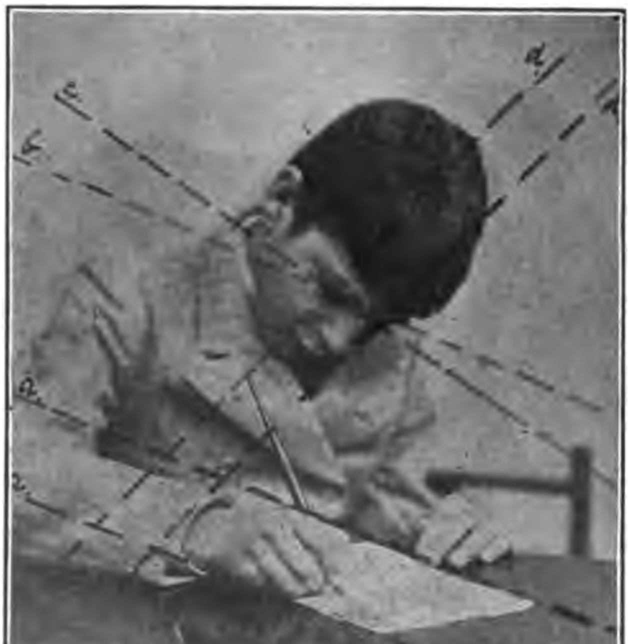

Fig. 6.—The usual writing posture. The body and head are bent to the left, the head in addition, rotated so that the chin is to the right; there is a cervical curve with the convexity to the right; the right side of the body is turned toward the desk; the paper is skewed to the left; the predominant 90° axes of astigmatism, *d d*, are at approximate right angles to the vertical lines of the paper, *a a*; to lessen the strain upon the body, neck and eyes, the approximate parallelism of the lines *c b*, with the lines *a a*, of the skewed paper is varied, causing the obliquity of the written letters to the right, or the slanted style of handwriting.

o. The child's feet must rest lightly and naturally upon the floor, with the knees bent at about a right angle, the body at the proper distance from the edge of the desk. This can be effected only by means of a seat that may be raised or depressed, and not attached to the floor.

p. The leaf of the desk, in addition to being inclined at an angle of about 30°, must be of a height which brings the printed book and writing paper at a distance of about 14 inches from the eyes.

q. The pedagogs have also usually failed to notice that in reading a book it may be placed opposite the median line of the body or face (in erect position), but that in writing the paper cannot be thus placed. Hence the frequent permission in writing to turn the right side of the body toward the desk. When the paper is placed opposite the right shoulder upon a sharply-inclined desk leaf of the proper height, the eyes can see the writing field without unnatural positions of the body and head.

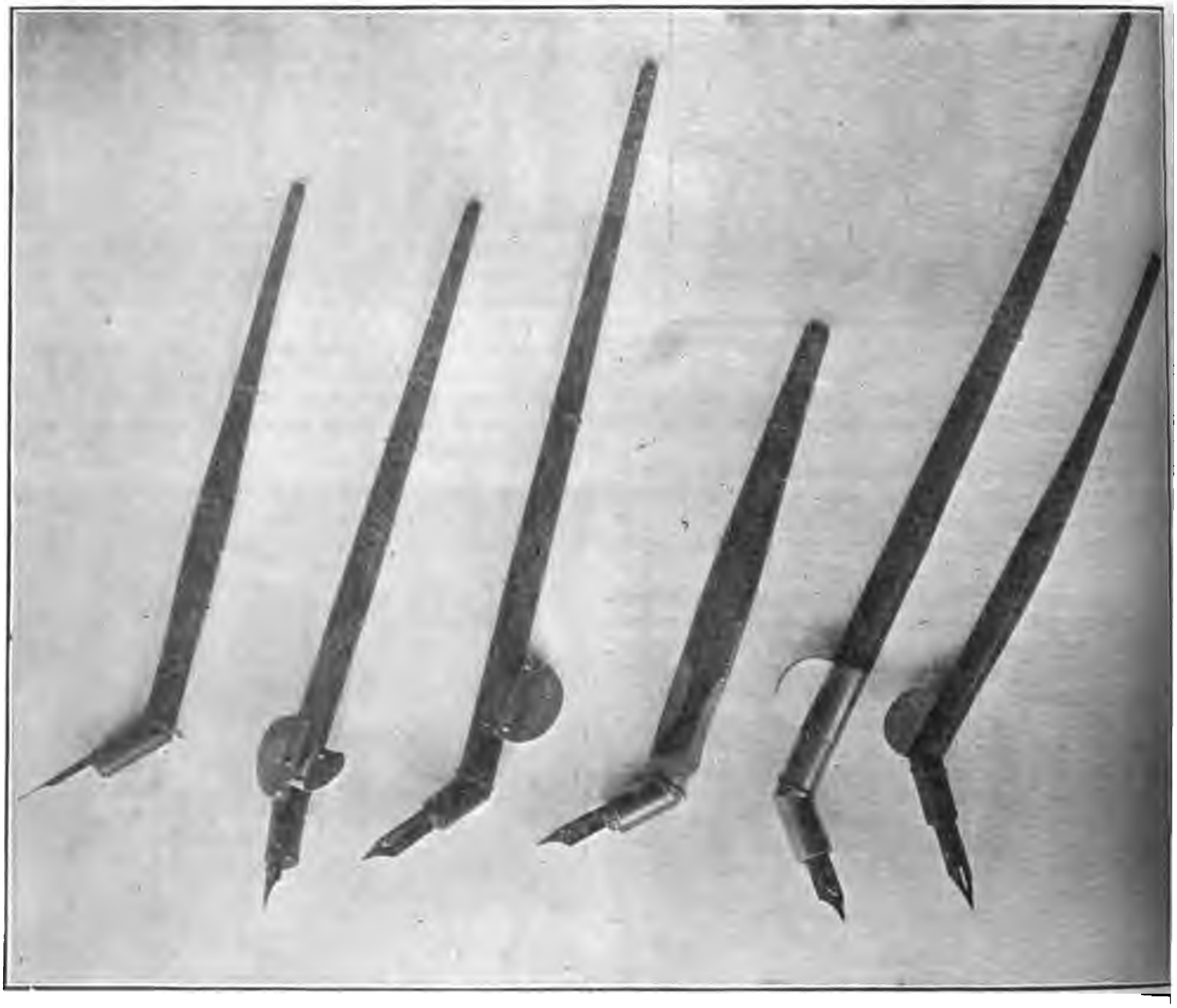

Fig. 7.—Styles of angled holders which permit of an unobstructed view of the writing-field without malposture of body, head, paper, or hand.

7. Everyone has probably wondered why, when the school and writing teacher are ignored or forgotten, the pen and holder are either slanted differently; held between the first and second fingers; not seldomed angled parallel with the lateral lines of the paper, even nearly vertical, or toward the upright lines of the paper; drawn inward and toward the chest, the eyes above and looking down vertically upon the sheet; and the head in various other unnatural and cramping positions. (Fig. 6.) Such anomalies are too frequent to be called anomalies, and are simply the unconscious morbid methods whereby the dominant eye gets a free view of the writing field The types of this unhygienic pen-holding are too numerous and anomalous to be classified.

Artists, by means of long-handled brushes, etc., are able to gain a clear view of large spaces about the point of the brush, pencil, etc., by grasping the handle several inches from the point. They are thus under no necessity of inclining the head and body. Also their canvases, easels, etc., are either vertical or nearly so, and this does away with the visual difficulty encountered when the surface is horizontal or only slightly inclined. There is a simple method whereby the writing field or space about the pen-point may be seen without canting the head and body to the left and with the paper placed squarely in front of the body. This is by means of angled penholders which I have devised and of which I show cuts of some styles. (Figs. 7, 8.) The difficulty in holding these without the depression of the angled part is obviated by flanges or supports for the fingers. Of course they seem odd and "awkward" at first, but one soon writes with them easily and unconsciously. And with them one finds himself writing vertically without effort or intention. Any lateral or unhygienic posture is unnecessary in their use.

8. Some authors describe postures in which the body is leaned to the right, but they are not practiced because the writing-field is thus hidden to a greater degree. (Figs. 9, 10, 11, 12, 13, 14.) In all the multitude of improper postures, positions, pen holdings, etc., the teachers of writing, hygiene, and physiology have failed to notice that by some device nature will bring it about that the 90° axes of the eyes and astigmatism will be forced into parallelism with the vertical or slanted lines of the long letters being written. Hence the multiplicity of morbid postures begotten

by the failure to place the paper properly before the right shoulder and with the head and body erect, with the inclined desk leaf, and the penholder properly seized.

9. Only when these conditions last named are assured has the dominant eye an unobstructed view of the writing field, at the proper distances, etc. To secure this clear view of the writing-field with the paper placed according to universal instruction, the head and body are forced into unnatural positions. The unnaturalness and weariness of these morbid postures are lessened a little by the slanting of the letters to the right, and the tendency of the line of writing to slant upward. This any one can demonstrate by a few thoughtful tests or observations. And this is the source of slanted handwriting. (Fig. 6.) It is in fact a method of avoiding still more extreme torsion of the head or neck—a greater morbid slant of the patient by a slant of the writing.

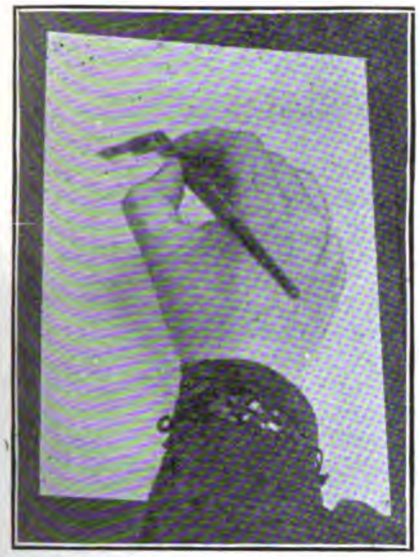

Fig. 8.—The writing-field is clearly seen with an angled holder, the body, head, and hand being hygienically posed, and the paper vertical and opposite the median line of the body, upon a flat desk or table.

I cannot find that anyone who has written of handwriting or of school hygiene, or who has constructed or advised as to the making of school desks and seats, has ever dreamed of the patent and easily recognized fact that every one of the nine factors are verities, and that they are bound together into a coordinate unity. None of them can be much changed without changing all of the others, and unconsciously every pupil and writer has solved the problem of carrying out the writing act by a special and personal adaptation and modification of each of the factors mentioned. The one all-dominating necessity which everyone discussing the subject seems to have overlooked, is that the writing-field (the space about the pen-point) shall be seen, seen with both eyes, but especially seen with the right eye. I speak of right-handed and right-eyed persons. All is reversed as to the left-handed and left-eyed. The essence of the matter is the necessity of binocularity and especially the existence of dextrocularity, a hitherto unrecognized thing, and the most intimate coordination of the right eye and right hand in the most mental and intellectual of all acts, except speech—that is, writing. The positions usually taught by school teachers, writing teachers, and copy-books are next to impossible, certainly not practised by the child or man when writing much or unconsciously. Then nature modifies all the nine factors mentioned, solely and simply in order that the hand, fingers, and pen shall not come between the right eye and the writing-field. The pathology of school life in a multitude of symptoms and diseases consists for the greater part in the unhygienic attempts to see the writing-field with the dominant eye. And the two great blunders of all the teachers and desk-makers are that the penholders and pens are not shaped so that the writing space or field about the pen-point can be seen with both eyes when the body and head are erect; or that the desk is not inclined at an angle of about 30°, and the writing paper is not placed squarely and opposite the right shoulder, with the body and head erect and squarely postured before the desk. With the paper so placed the desk top so inclined, the body and head thus erect, the right eye sees the paper at 12 inches or 14 inches, and the writing is vertical. (Figs. 15, 16.)

Probably as many as 200 distinct styles of school desks and chairs have been proposed, tried, and rejected, or in use. The reader may find some of these described in works on school hygiene, such as that of Kotelmann, Meyer, Staffel, Fahrner, Rettig, Hermann, Bendzula, Schildback, Schenk, Hippauf, Prausek, Wallraff, Barnard, Priestly Smith, Stone,[1] Shaw,[2] and especially Risley.[3]

So far as these relate to reading of a single book, the results reached by students of pedagogy are of great value—but with one exception: All advise an inclination of only 10° or 15°. It should be at least 30°, and with easily made devices for holding the book should be 45°. Even with the 30° inclination the pupil will often hold the book with the hand at a greater inclination, and there is no reason why every desk should not be inclined at least 30°. When two books are used at one time, or when the pen or pencil is used synchronously with reading, the inclination must be greater than 15°, in order to permit hygienic posture. In the writing act hygienic posture is almost impossible with less than a 30° pitch. This fact, together with insufficient space at the right, largely vitiates all previous results, decisions, and mechanisms as regards school-desks. The simple device needed is one which will permit a varying and independent pitch of the two vertical halves of the desk itself. It should be possible to give either any pitch between 15° and 45°, and with devices so that the book, slate, paper pad, etc., will not fall, and may be held in place without the hand. If the pencil is used, even as high a pitch as 40° or 45° will be grate-

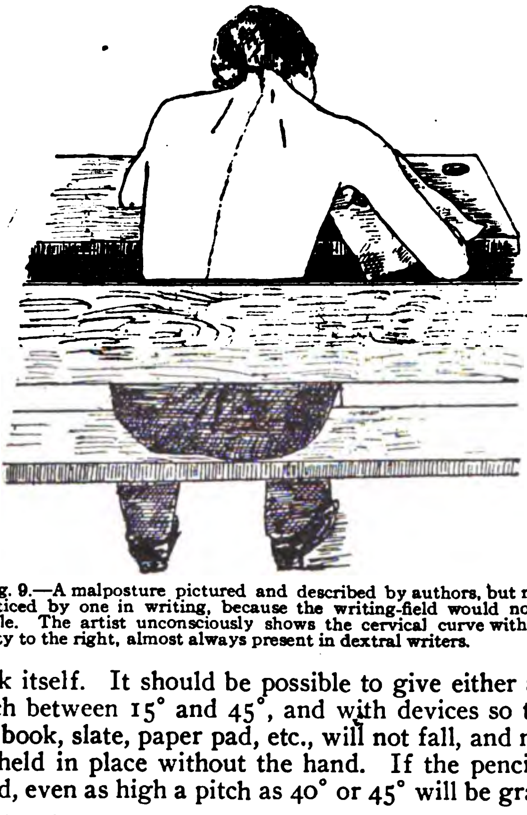

Fig. 9.—A malposture pictured and described by authors, but never practiced by one in writing, because the writing-field would not be visible. The artist unconsciously shows the cervical curve with convexity to the right, almost always present in dextral writers.

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[1] *American Physical Education Review,* June, 1900.

[2] Ibid., June, 1901.

[3] Norris and Oliver: "Sustem of Disease of the Eye," Vol. II.

ful to the body and eye. If ink is used, the pitch should be at least 30°, as with this inclination the ink will still flow, and only with so high a pitch is there possible a view of the writing field with the right eye and at 14 inches distance, when the paper is placed opposite the right shoulder, with the head and body erect, without elevation of the right shoulder; this insures free motion of the right arm and hand in unconstrained and normal positions. (Fig. 16.) The copyists of the middle ages found this to be true, and our school teachers of former generations, who were their direct descendants, for a time kept up this wise tradition. The desk top should be made in two independent halves, the upper or farther edges so constructed that either may be raised, thus varying the pitch from the minimum of 30° to a maximum of 45° and thus adapted to reading or writing at pleasure. Thus made, the right-hand leaf would be the only one used for writing. All pupils should, of course, have desk and chair so adapted to their height that the book or paper would be at 14 inches from the eye when looking down upon it with a visual axis at an angle or inclination not greater than 150° or 155°. The visual axis at about 150° should approximately form a right angle with the inclination of the desk leaf at about 30°. (According to the oculist's trial frame, and as figured in illustration, the desk top would be at 145° and the visual axis at 35°.)

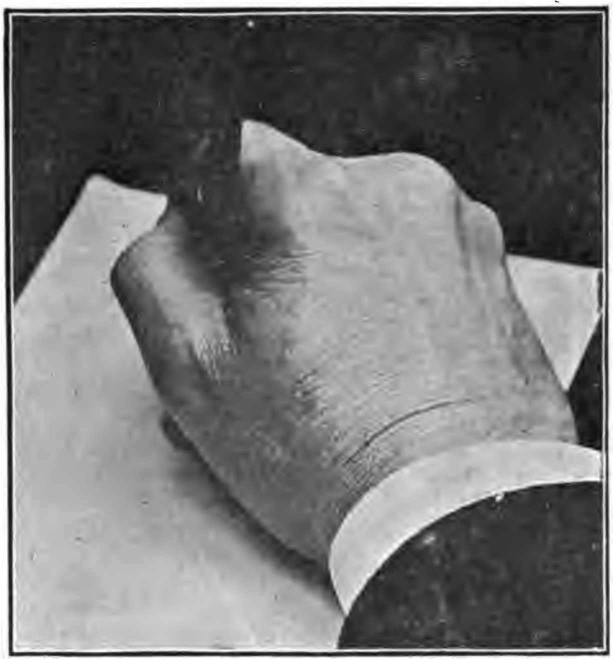


Fig. 10.—Some hygienists describe a form of malposture consisting in skewing the paper to the right and bending the body and head to the right; it is never practiced because the writing-field is still more hidden than in the posture of Fig. 3 ordered as "correct."

The Relation of Occidental and Oriental Writing Postures and Methods to Spinal Curvature.—In China and Japan the habits and methods of writing present throughout most noteworthy contrasts to those customary with us. The particulars may be briefly epitomized as follows:

1. The writing begins at the upper right-hand corner of the paper giving an evident advantage in seeing the writing field or letters which are being formed, and especially with the right or dominant eye.

2. The lines of writing are from the top to the bottom of the page, thus again securing increased visibility of the writing-field.

3. There is thus no need and no practice of skewing the paper to secure unimpeded vision of the writing-field. The writing is naturally vertical.

4. The writing brush (corresponding to our p
and holder), is grasped from two to four inches fr
the brush tip (corresponding to our pen); it is h
usually between the second and third fingers (inste
of between the thumb and first finger as with u
and either upright or slanting away from the writi
space, to the right, and not, as our children are
structed, with the holder pointing toward the rig
shoulder. (Fig. 17.) Each one of the methods
holding the brush aids decidedly, and collectiv
very powerfully, in keeping the writing space clea
in view of the vision of both eyes. It seems alm
as if all these methods were consciously design
that the writing-field might be seen.

5. In addition, Japanese and Chinese friends
me it is a habit of many to hold the paper with
left hand, in the air, and pitched at an angle of fr
30° to 50°. I did not know of this custom u
months after I had written advising a pitch of
leaf of the writing desk of 30°. A greater pitch th
this would sometimes not permit the ink to f
freely from our steel pens. The medieval cop
used a pitch of 50° or over, and our mo
draughtsmen and artists often do the same. M
artists in painting and sketching secure the
view of the field of work by setting their c
nearly vertical and by holding the brush or p
from three to ten inches from the point. Ther
more modern writers than we suspect who inc
the extent of visibility of the writing-field by h
ing the pen between the first and second fingers,
by grasping the holder two or three inches from t
pen-point, by turning the hand half upward, or
slanting the penholder to the right. But these a
devices forbidden by teachers (and writing book
who have no perception of the simple reason w
the so-called "incorrect" habits and postures a
unconsciously chosen.

6. Whether we should imitate the Oriental met
ods described above, either in part or not, is at pre
ent not my concern. Their result is our one gre
desideratum—the preservation of the erect and h
gienic posture during the writing act. There

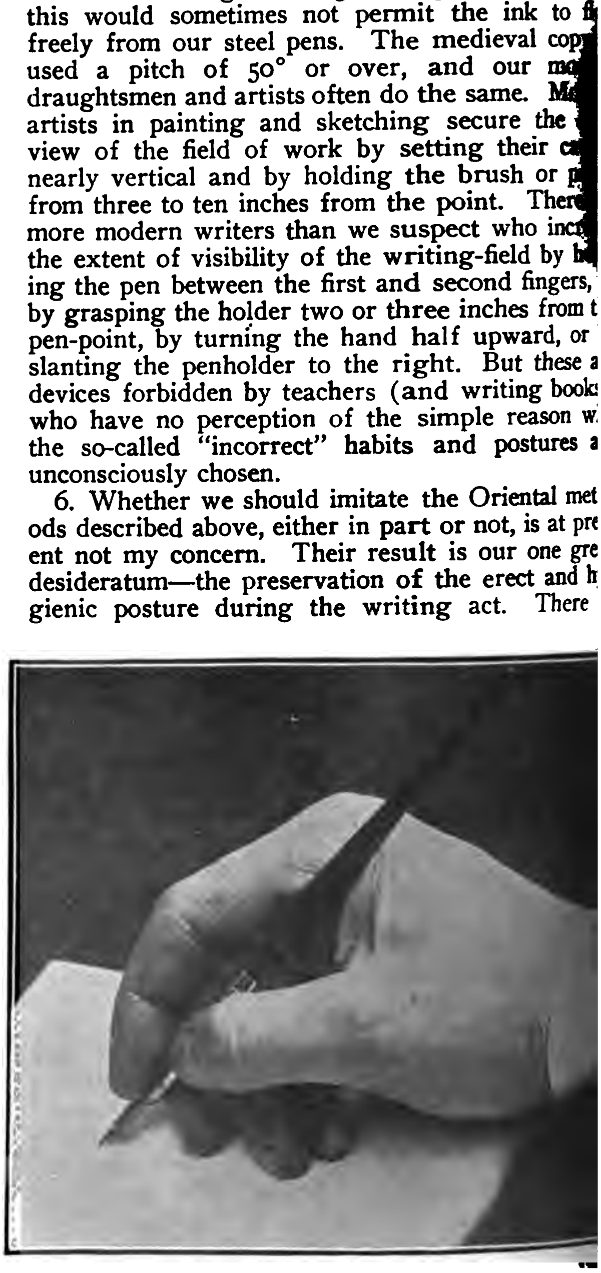
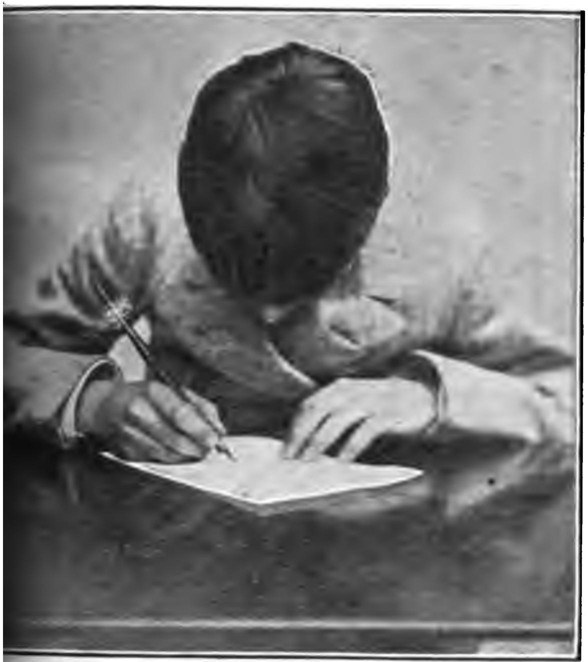


Fig. 11.—View of the writing-field as seen by the writer, with skewed paper, and body and head turned to the left

little or no bending of the head to the left. If this functional right cervical curve, habitual in the Occidental posture, is the cause of the incipient spinal curves of our school children, it follows that there will be far less than 27 per cent. of Japanese nd Chinese children showing such curves between he ages of seven and fourteen years. An orthopedic xamination of the backs of a large number of the hildren of Oriental schools would yield interesting nd critical results. A minor query would be as to



g. 12.—To gain a better view of the writing-field the pupil instead of ng to the left, sometimes bends forward until the eyes are directly e or even in advance, of the writing, lateral curvature and rotation g thus avoided.

e proportion of scoliotics among Occidental chilen blind from infancy.

That the approximation to the upright posture ot its absolute practice), lessens scoliosis, is aprently shown by the following statistics of aminations of school children:

	Slant writers per cent.	Vertical writers per cent.
Nurnberg	34	15
Zürich	32	12
unich	24	15
th	65	31
zburg	28	8

st column averages 30 per cent., the second If the slanted style is accountable for twice scoliotics as the vertical, the vertical is still, y, responsible for one-half as many as the is, therefore, evident that the vertical style insure the vertical position of the head and or that some other cause is at work. If the eason of malposition in writing had been under-, and the conception of its cure realized, the reand their suggestions would have differed and of greater value. The above great differences in different cities also exhibit an inexactitude makes no one doubt the value of the methods ed.

School Desk.—There is probably not a pupil's the world constructed upon correct physioinciples. Many approximate, but fail in one e important particulars. This is because, with the interest, study, and invention which have been put into the work, with all that has been written concerning the vertical and slanted handwriting, there has been no understanding of the physiology of dextrality and dextrocularity, no comprehension of the optic problem which controls every posture and act. The wrong to the child began with the beginnings of pedagogy. Prior to this handwriting was usually vertical, because without a powerfully dominating necessity no adults, much less the shrewd monks, would have bent themselves to the left and skewed their vellum, tablet or paper at the absurd angle now common with all writers. But when school teaching began it was, of course, in the houses or rooms of adults, and with their tables, benches, forms or stools. No one then dreamed of the peculiar child nature, not even the size of the child's body. Hence, he sat upon a bench or seat too low, or what amounts to the same thing, at a table too high for the height of his body, and at about the level of his sternum, neck, or chin. When compelled to write he could do nothing at the desk, except by placing his forearm, and even his elbow, upon the table. Let an adult try to write sitting at a flat table the height of his neck and he will realize the child's predicament. With the arm upon the table there can be no writing accomplished unless the head is canted to the left, the body also, the paper placed askew, the feet or one foot thrust out to lessen the strain and wrenching of the spine, the pen held at a related abnormal angle, and the hand gripping the holder in a distorted way. (Fig. 4.) All this, that the right eye may have an unimpeded view of the space in which the letters are being formed. Think of the millions of morbidly raised right shoulders, the millions of necks and backs thus wrenched, with all the resultant disease, and during the last 400 years! And still going on!

Most school desks are without lateral space to the right in which the paper may be placed opposite the right shoulder when the body and head are erect and squarely placed in front of the desk, and not as now in front of the face or chest. This lack of lateral space to the right has always been the unrealized need, and upon securing it the complete establishing of the vertical style of handwriting will depend, as also the rescue of the child from the bad postures and ill-health caused by the diabolic head-tilting, right-shoulder-elevating, eye-ruining, body-bending, pelvis-cramping, spine-twisting, scoliosis-provoking postures, which have come down to our times. It will be useless to demand of the child that he shall write vertically, sit vertically, place the paper squarely and not askew, and opposite the median line of the body. No human being can write in that way unless the pen holder is held with the tip directed toward the northeast, or upper rignt corner of the paper (Fig. 14), or even toward the north, all sure to produce writer's cramp, or other

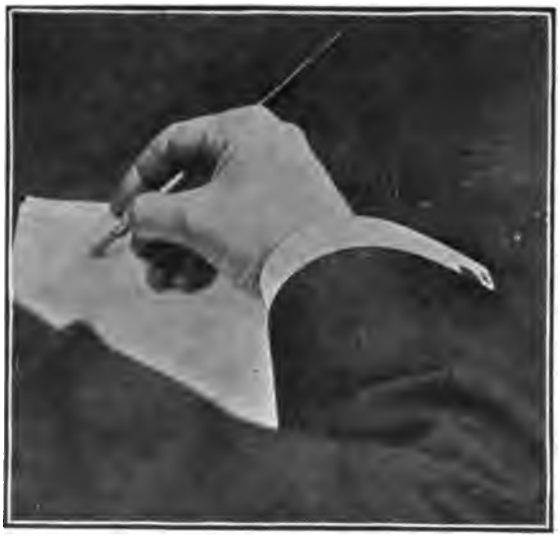


Fig. 13.—The writing-field brought into clear view by holding the penholder between the first and second finger, thus lessening the need of bending the body or head to the left. The view is as the writer sees it, his head being out of the field in order to photograph the hand.

evil results in a short time.* In former times, as we know, the children were crowded together side by side so that it was impossible to place the paper opposite the right hand side of the body and keep the body and head erect. The high desk united to compel the arm to be rested upon the desk, the right side to be turned toward it, the left side away from it, the head and body bent to the left in order to gain a clear view of the writing space of the pen-point with the dominant eye. Even the flat desk or table coöperated to produce the resultant bad posture and the slanted chirography.

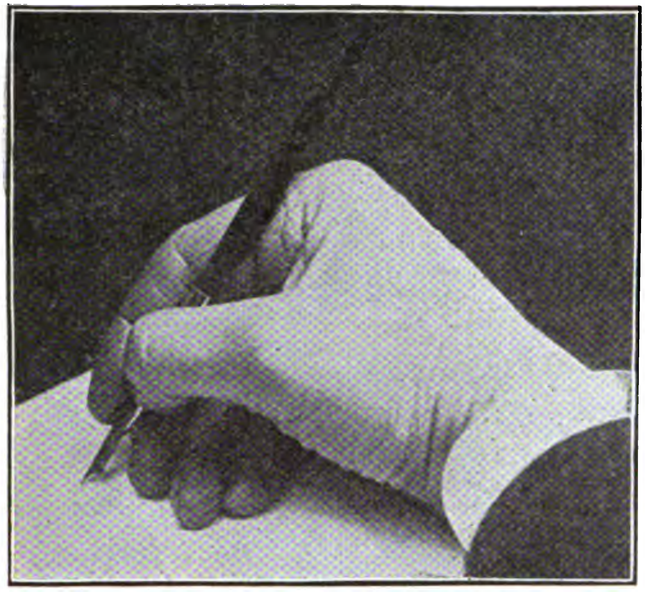


Fig. 14.—To secure a better view of the writing-field the hand is held in a straining and unnatural position the holder directed 90° to the right of the right shoulder.

In all left-handed writers the foregoing factors and results are reversed, and the writing is back handed, or slanted to the left. (Fig. 18.)

There has also been much error in the statements made as to the history of slanted handwriting. The superb *History of the Art of Writing,* by Dr. Henry Smith Williams, gives an illuminating series of examples which show that the slanted handwriting appeared much earlier than has been supposed. Despite the high-pitched slope of the desks of the professional and more learned scribes, and also notwithstanding the dictation of the original vertical engraved, etched, or painted patterns, the slanted style appears throughout the Middle Ages, as the necessary result of the writing posture consequent upon the flat table, etc. Even in A. D. 93, the letters of a Greek MS. plainly lean to the right, and in a cursive Latin imperial rescript of the Fifth Century the slope is 15°. In a grant to the Church of Ravenna of the Seventh Century, the right oblique slant is 10° or more, and even in Magna Charta all letters lean to the right somewhat. Examples of similar slanting are found in the handwriting of Michael Angelo, Macchiavelli, Ariosto, Tasso, Luther, Shakespeare, Bacon, Lope de Vega, Milton, Locke, Leibnitz, Johnson, etc. Montaigne, Spencer, Galileo, Corneille, Addison, Pope, Newton, Voltaire slanted their letters to about the same extent as is now customary. Dante, Piers, Ploughman, and others, wrote the vertical hand. Goethe leaned his letters extremely, Schiller less so, while Tennyson's were nearly vertical. Thackeray's were absolutely upright. Of the signers of the American Declaration, only one is in vertical letters. Longfellow wrote a "backhand," and in a MS. of the Tenth Century the letters also lean to the left, as do MSS. of Henry II, and Richard I. In King John's Charter the letters are generally upright, although many letters slant to the left, especially lower case *d,* and capital *D.* Of course the best writers and penmen were usually intelligent, and wrote more nearly correctly, *i.e.* vertically, while the writers of the lower and commercial classes illustrate the degeneracy which quickly overcame the cursive style of writing. In general, the older and more important styles of headings, those in capitals, etc., were upright, while the less important and the body of the writing showed the inevitable leaning that came with crowding, and cursive writing. An instance of this is our own Declaration of Independence, a few lines of which next to each other I reproduce. (Fig. 19.)

Malposture Not the Cause of Myopia.—In almost al the discussion as to school desks, especially that originating in Europe, there is much said about the influence of malposture in producing myopia, and it is largely twaddle. The tremendous gathering of statistics and the thoughtless ascription of the truly tragic increase of myopia to malposture in study and writing are essentially wide of the mark. Some accidental, incidental, and subordinate influence is, indeed, to be ascribed to the malposture criticised. Kotelmann's pages concerning myopia are, for instance, wholly misleading, and utterly ignore the real cause—which is the noncorrection of ametropia, and especially of astigmatism. In Germany, the motherland of myopia, there is no scientific correction of

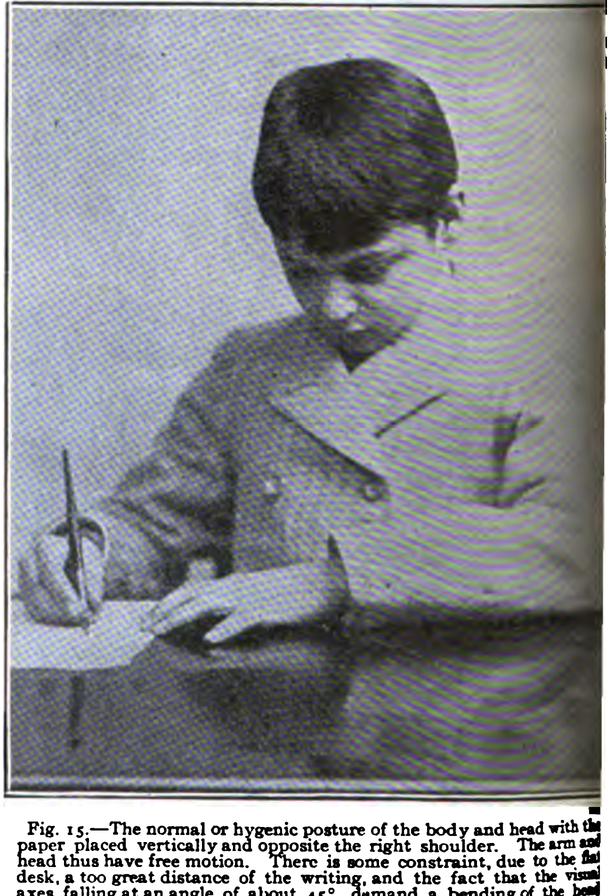


Fig. 15.—The normal or hygenic posture of the body and head with the paper placed vertically and opposite the right shoulder. The arm and head thus have free motion. There is some constraint, due to the flat desk, a too great distance of the writing, and the fact that the visual axes, falling at an angle of about 45°, demand a bending of the head forwards, or too great traction on the depressor muscles of the eyes.

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* Some time after these words were in type, a striking confirmation was found in an article published without any knowledge of my work. I quote the paragraph:

"One thing, however, has been much impressed upon me, and that is that those who are normally left-handed and are taught to write with their right hand, suffer from writer's cramp much more readily than normally right-handed individuals. It would seem as though nature were taking her revenge for an interference with her original plan, for the man is right-brained and should not be compelled to use his right hand for a work requiring so much coordination as does writing." ("Some So-called Rheumatisms," J. J. Walsh, *Medical News,* February 18, 1905.)

ametropia. The very simplest and most fundamental conditions of accuracy are wilfully or ignorantly unnoticed, and the ocular, nervous, and nutritional systems are hopelessly ruined and by wholesale. With one splendid exception our American students

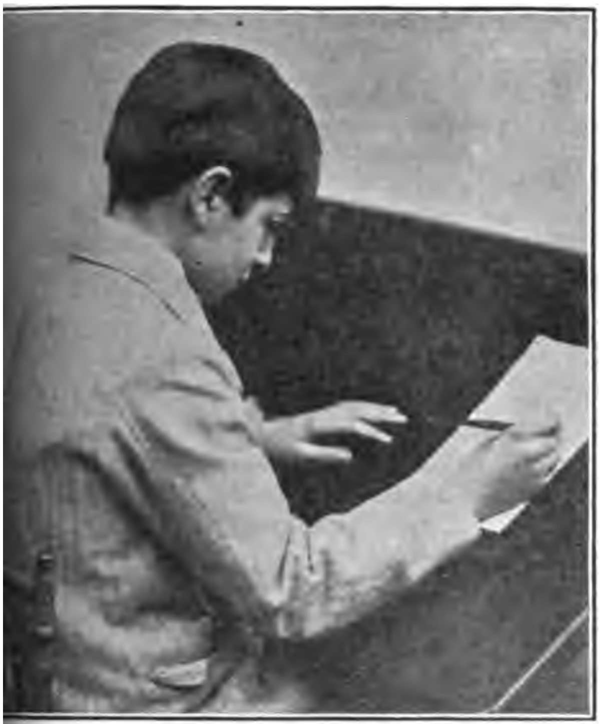


Fig. 16.—With the desk-leaf pitched at an angle of 30° or 40°, the sture is hygienically perfect and the faults of Fig. 6 are entirely voided.

of the subject have usually adopted the European blunder, and for a hundred years we shall doubtless have the empty echoings of the European nonsense as to school desks and myopia.

In an article (published in the *Klin. Monatsbl. f. Augenheilkunde,* July, 1904, and translated in the *Annals of Ophthalmology,* January, 1905), Dr. Liebreich lends his authority to the error that myopia is caused by the combined action of too strong convergence and too great an accommodation tension, quoting the investigations of Cohen, Hersing, Seggel, and others. This inversion of cause and effect does not prevent the true statement that "through the too near approach of the head to the table, the normal curvature of the spinal column is increased and by simultaneous rotation of the head and body lateral curvature ensues." Of course, all such statements and explanations miss the causes of the cause which are the action of astigmatism in producing myopia, its effect in compelling parallelism of the axes of the astigmatism and of the written lines on the paper, and the more fundamental necessity of binocular vision of the writing-field. Scholder also says that myopia is produced by getting the eyes too near the paper, because, he says, the more the head and body are depressed and thus myopia is produced. But what is the *causa causans* he never asks. Why the skewing of the paper? In Scholder's table of the increase of scoliotics in the grades of the Lausanne schools he notes in an added column the increase of myopia, as follows:

	Scoliotics per cent	Myopia per cent
First grade	8.7	[illegible]
Second grade	18.2	[illegible]
Third grade	19.2	[illegible]
Fourth grade	27.2	[illegible]
Fifth grade	28.3	[illegible]
Sixth grade	32.1	[illegible]
Seventh grade	31.	[illegible]

If the author had scrutinizingly asked himself why the increase of scoliosis is suddenly stopped and decreased at about 14 years of age, and why the rate of myopia at the same time is suddenly increased, he might have seen a suggestion of the cause of myopia. In Dr. S. D. Risley's magnificent article (Norris and Oliver: "System of Diseases of the Eye," Vol. II.) there is a clear understanding and statement of the problem of myopia. Myopia is not due to the bad desk and bad posture, but to the bad or absent spectacles. (I differ from Dr. Risley in one minor point—the astigmatism is not only "the turnstile," but the path, road, and continuance of the road itself, which leads to the bog of myopia.) If every school trustee, pedagog, physician, and hygienist would read every word of Dr. Risley's article five times a year, one of the greatest afflictions of mankind might be obviated. Unfortunately, it is buried from all but ophthalmologists, and the majority of these care too little for this revolutionizing truth.

The remarkable success of all the European investigations in not seeing the cause of myopia is a painful illustrations of the difficulties in the way of scientific and medical progress. Jaeger, Ely, and Horstmann were approaching the true explanation, in their work leading to the measurements of the anteroposterior diameter of hyperopic and myopic eyes; by Arlt and Donders, the latter emphasizing the rôle of predisposition—that easy, old and still popular word to cover ignorance of the real and active pathogenic factor. Dobrowoesky and Erisman charged the accommodation with the production of myopia, while Förster though it was due to convergence. Mauthner ascribes the leading rôle to spasm of the ciliary muscles, while Stilling threw the responsibility upon the obliques and the shape of the orbit—a view opposed by Schmidt-Rimpler and Seggel. Hasner and Weiss contended that myopia is caused by a too short optic nerve, and Schnabel and Herrnheiser by a lessened resistance of the sclerotic. It remained for an American oculist to discover the true etiology which is to-day as much ignored by European oculists and school hygienists as if it had been made this morning instead of 38 years ago. In 1867, and again in 1871, Dr. John Green of St. Louis set forth the explanation, and a few years later Dr. S. D. Risley of Philadelphia demonstrated it by studies of school childrens' eyes in epoch-making papers, which, within the next generation or two may begin to make the epoch.

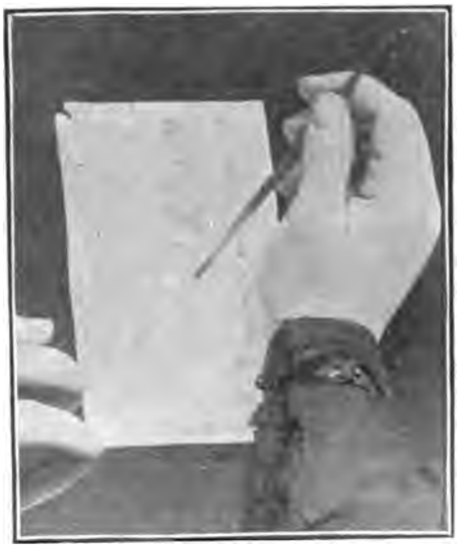


Fig. 17.—Oriental method of holding the writing brush, giving an unobstructed view of the writing-field.

The Evils of Eyestrain.—In all of the foregoing there have been considered only the children, students, and writers who had eyes so near normality as regards ametropia that they had no severe eyestrain or morbid reflexes from use of the eyes in a natural way, or even in the unnatural ways begotten by morbid postures; but unnatural posture produces unnatural ocular function, and besides this, from 25 per cent. to 50 per cent. of all civilized persons have eyestrain or hurtful use of ametropic eyes. The amount of harm done the eyes, the neurologic mechanism, the digestive and assimilative systems depends upon three things: the kind and the degree of the ametropia; the amount of reading, and especially of writing, done; the susceptibility of the patient, the general vitality, intercurrent diseases, etc. It has been found that from 50 per cent. to 64 per cent. of school children are sickly or below a desirable norm of health. I do not think it is an exaggeration to say that the ills of 50 per cent. of these hygienicly subnormal children and students are due to the morbid postures compelled by the present false methods of writing and reading. Of the remaining 50 per cent., a full half are directly caused by the eyestain of ametropic eyes. Headache, "weak eyes," migraine, anorexia, dyspepsia, and many types of denutrition, spinal curvature, insomnia, "nervousness," many cases of chorea and epilepsy, despondency and frequent psychic disorders, truancy, immorality, etc., almost any form or kind of functional disease—all these, and the denutrition that fallows the ground for the incoming of infectious and terminal diseases—all of these are, or may be, the clear consequences of eyestrain. Only proper and scientific spectacles can extinguish these evils. But without glasses they are tremendously increased and intensified by the morbidities of posture engendered by the present school desks and methods of writing and reading. A revolution is demanded by an enlightened hygiene in school furniture and methods of writing and study. It is the most profound and crying reform of the day, a matter of national and evolutional importance almost overtopping all others.

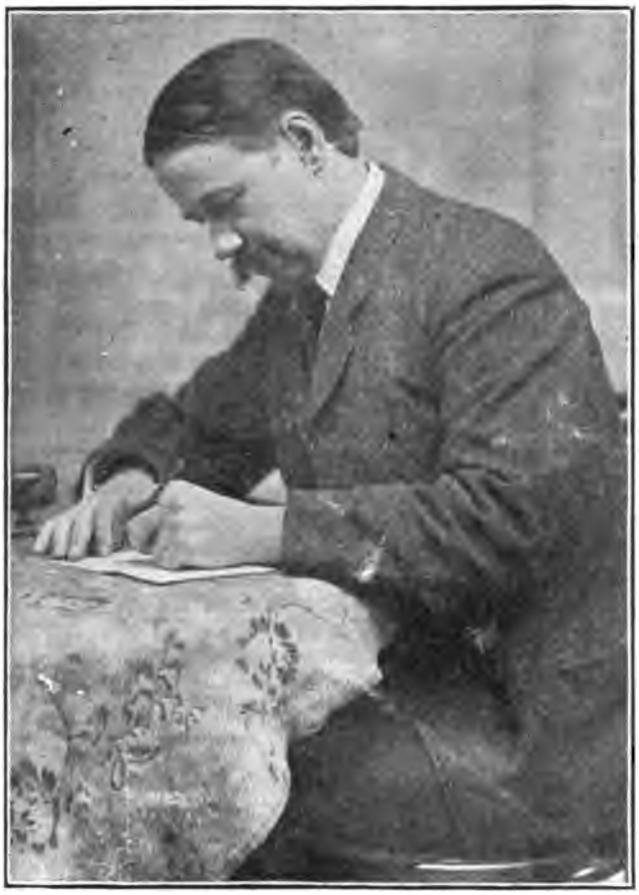
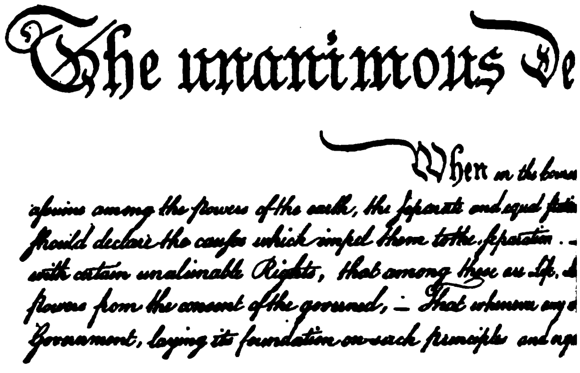


Fig. 18.—All malpostures are reversed by left-handed writers, and, this particular patient gained a better view, in his habitual writing by holding the penholder as pictured.

Read the clinical biographies of the great sufferers from eyestrain, and note how intolerable and impossible writing becomes. A thousand quotations from their biographies and letters might be made showing that suffering of the most varied and subtle kinds follows directly upon use of the eyes especially in writing, and is at once relieved with cessation of writing and reading. The abnormal and morbid postures caused by nonunderstanding of the optic problems in writing add enormously to the preexisting and attendant eyestrain.



The unanimous De

When in the

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ſhould declare the cauſes which impel them to the ſeparation . –

with certain unalienable Rights, that among theſe are Life,

powers from the consent of the governed, – That whenever any

Government, laying its foundation on such principles and

Fig. 19—The older the style of writing, the more perpendicular or vertical the letters; the later and more cursive, the more slanted become the letters, even in the same document — *e.g.* The Declaration of Independence.

SIMPLE ULCER OF THE STOMACH AND ITS SURGICAL TREATMENT.*

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SIMPLE ulcer of the stomach is not an uncommon disease. Berthold found it or unmistakable evidence of its having been present in 2.7 per cent. of his autopsies. According to v. Jaksch, in 11,888 autopsies performed in Prague there were found 164, or 1.4 per cent., with open ulcer, and 373, or 3.1 per cent., showing the cicatrices of healed ulcers, a proportion of open ulcers to healed ulcers of 1 to 2¼. Grünfeld of Copenhagen in 1,150 autopsies found ulcers in 124 bodies, or 11 per cent. of the entire number. Grünfeld's patients, however, were all over fifty years of age. Probably 5 per cent. of all people, children excluded, that come to autopsy have or have had ulcer of the stomach. Welch estimates that for every one case of open ulcer found at autopsy there are three that show scars of healed ulcers.

Ulcer of the stomach is more common among the people of some countries than those of others. It is more frequently encountered in women than men, two to one or, according to some observers, four to one. It is found most frequently between the ages of 25 and 35 years in women, and 30 and 45 in men. It is rarely met with in children under 10 years of age.

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*Read at the annual meeting of the Windom and Franklin Counties and Connecticut Valley Medical Associations, Brattleboro, Vermont, September 27, 1904.

Gastric ulcer is caused by the action of the gastric juice upon a portion of the wall of the stomach that has lost to a sufficient degree its power of resistance. The active principle in the gastric juice is the hydrochloric acid; the element of resistance in the stomach wall is the normal alkaline blood circulating in and thoroughly saturating all the tissues that are exposed to the action of the gastric juice. When the circulation ceases in death the gastric juice immediately attacks the wall of the stomach. During life gastric ulcers occur only in those parts which are exposed to the influence of the gastric juice. Very frequently there is found associated with gastric ulcer an excess of free hydrochloric acid, but that the excess of hydrochloric acid cannot of itself produce an ulcer is shown by the fact that there are many cases of persistent hyperchlorhydria without there being any such lesion formed. The additional etiological factor concerned is to be sought in the diminished power of resistance upon the part of the tissues of the stomach wall, and apparently it is always associated with a temporary or permanent diminution or cessation of the circulation in the affected area. It will also be observed in many cases that the individual ulcer corresponds to the limited area supplied by a definite vascular branch. The interference with the circulation may be due to various causes: spasmodic contraction of small arteries which may be, in turn, dependent upon nervous vasomotor influences; thrombosis or embolism of small vessels; changes in the walls of small vessels, obliterating endarteritis, etc.

A condition of marked anemia is often found associated with ulcer of the stomach, and is, no doubt, in many instances due to the repeated hemorrhages from the ulcer; in some cases, however, the anemia precedes the ulcer formation and may then be of etiological significance, in that, as a result of the anemia, the power of resistance is diminished and the tissues of the stomach thus more easily succumb to the action of the gastric juice. The quantity of hydrochloric acid is often found increased in anemic patients, and it is said that the alkalinity of the blood may be diminished.

Gastric ulcer is found only in those parts of the alimentary canal with which the gastric juice comes in contact, the lower part of the esophagus, the stomach, first part of the duodenum, and where a gastrojejunostomy has been established a typical ulcer may be developed in the attached coil of intestine. The ulcers as a rule, show but little tendency to heal and may persist for many years. The location of the ulcer varies. According to Welch's figures, the ulcer is situated upon the lesser curvature in 36.3 per cent.; the posterior wall in 29.6 per cent.; at the pylorus in 12 per cent.; upon the anterior wall in 8.7 per cent.; at the cardiac end in 6.3 per cent.; at the fundus in 3.7 per cent., and upon the greater curvature in 3.4 per cent. The great majority of all are situated in the pyloric portion of the stomach. The ulcers are usually single, in about 20 per cent. of the cases they are multiple. Rarely there may be three or four or even more present, or several may be fused together. They may be quite small, but usually they vary in size from a pea to a silver quarter or even larger up to a diameter of several inches. As a rule they are round or oval in shape, having a punched-out appearance and with edges sharply defined. They vary in depth, some extending only part way through the mucosa and others deep, through the entire thickness of the stomach wall or even into adjacent organs that have in the meantime become adherent. The deep ulcers are usually funnel-shaped, the diameter becoming progressively shorter the deeper the ulcer penetrates. The base of the ulcer is, as a rule, clean and smooth. In recent cases the margins are not indurated nor raised. Old ulcers are accompanied by a chronic plastic inflammation that affects the base of the ulcer and the immediately adjacent portion of the stomach wall with the result that the base and margins become thickened and dense and the edges everted, and the lesion may thus present a very close resemblance, macroscopically, to a malignant ulcer.

As a rule the mucous membrane of the stomach, except in immediate proximity to the ulcerated area, is found in a normal, healthy condition, and this in marked contrast to the changes that affect the entire gastric mucous membrane in cancer. Simple gastric ulcer is essentially a local lesion.

The pylorus, even if not actually involved in the ulcerative process is usually found contracted. This contraction is due to muscular spasm, is reflex in character, and is accompanied by hypertrophy of the muscular elements that make up the pyloric ring. If the pylorus is involved in the ulcerative process or is the site of a cicatrized ulcer the stenosis of the pylorus is then due to the changes in and about the ulcer as well as to the muscular spasm. As a result of the stenosis of the pylorus the stomach may gradually become dilated.

As the ulcerative process gradually extends deeper through the stomach wall a localized peritonitis is set up with the formation of adhesions between the stomach and adjacent organs, pancreas, liver, spleen, gall-bladder, colon, duodenum, or the diaphragm or anterior abdominal wall.

Hemorrhage occurs in a large proportion of the cases. The quantity of blood lost at each hemorrhage may be slight, or a profuse, fatal hemorrhage may occur as the result of erosion of one of the larger arterial or venous branches. The ulcer may heal spontaneously and may remain healed. This is the outcome in probably 75 per cent. of the cases. If the ulcer has been superficial, only part way through the mucous membrane, the healing is accomplished with reproduction of the normal mucous membrane; if the ulceration has been deep, through the entire mucous membrane or deeper, then the destroyed tissue is replaced by new connective or scar-tissue. The connective tissue found in and about the ulcer or cicatrix has a strong tendency to contract, with the result that the stomach becomes distorted. If the pylorus is affected this orifice becomes stenosed and narrowed and the stomach secondarily dilated. If the body of the stomach has been involved and the ulceration has been extensive, a condition of hour-glass contraction may be produced, the constricted portion or isthmus being so narrow as to offer serious obstruction to the proper evacuation of the stomach. Contraction of a healed ulcer about the cardiac orifice or in the lower end of the esophagus may cause obstruction in this situation and interfere with the passage of the food into the stomach.

An ulcer may reappear in the site of a previous ulcer or may attack a new area. Carcinoma may develop in an unhealed ulcer or in the scar of an ulcer that has healed. According to Talma, this direful termination or change occurs in from 6 to 13 per cent. of the cases.

The ulcer may perforate through the entire thickness of the wall of the stomach. This process may be gradual and be preceded by a circumscribed peritonitis and the formation of protecting adhesions, and as a result of the perforation we may have the formation of a circumscribed abscess. This process of gradual perforation usually affects ulcers of the posterior wall and the resulting abscess may be of the so-called subphrenic variety or the suppurative process may extend to the liver, spleen, pancreas, etc. Perforation may occur through the adherent diaphragm into the pleural cavity or pericardium or into the adjoining hollow viscera, colon, duodenum, or through the abdominal wall. If protecting adhesions are not present or are not sufficiently firm and extensive at the time that perforation takes place, then the stomach contents may escape into the free peritoneal cavity, and a general peritoneal infection may be thus set up. Ulceration into the free peritoneal cavity occurs as a rule in connection with ulcers of the anterior wall and near the cardiac end of the stomach.

Gastric ulcer may run an acute or chronic course clinically. The acute course is seen more frequently in young anemic females. Gastric ulcer may exist for a long time without giving rise to any characteristic symptoms and may thus fail to be recognized. Unmistakable signs of ulcer have been found at autopsy in patients who have not complained of any gastric symptoms during life. The first positive symptoms of the existence of a serious affection of the stomach that appear may be those of perforation or severe hemorrhage or of carcinoma. In most cases, however, characteristic symptoms pointing to the disease manifest themselves early, and these are pain, hemorrhage, and vomiting. The degree to which the general health is affected depends upon the severity of the symptoms.

The pain is the most constant symptom. It is usually described as a steady burning or gnawing pain situated in the epigastrium, or may be referred to the lower dorsal region to the left of the vertebral column. In some cases the pain is not very severe—the patients complain of a dull pain or feeling of distress. The pain comes on soon after the ingestion of food, becoming gradually more and more severe, and continues until the stomach has emptied itself either by discharging its contents into the duodenum, or else by vomiting. The pain is markedly increased by pressure in the epigastrium, or at times by pressure in the back to the left of the lower dorsal vertebra. The pain varies with the character of the food—soft or liquid food or a light diet are accompanied by less pain. Occasionally we meet patients who say that the pain is relieved temporarily by the ingestion of food—milk, eggs, etc. The food serves to neutralize the acid in the gastric juice, and in this way relieves for the time being the discomfort.

Probably every case of ulcer of the stomach is accompanied by more or less hemorrhage. The hemorrhages may be slight and only sufficient to stain the vomitus, or the blood may escape into the intestine and pass unrecognized in the feces. The hemorrhages may be oft repeated, or may only occur at long intervals. Hemorrhage may be a prominent symptom, and occur with such frequency and be so profuse as to reduce the patient to a condition of extreme anemia. Hemorrhage due to the erosion of a large arterial branch may continue uninterruptedly until the patient succumbs. Most frequently the blood is vomited. From 50 to 80 per cent. of the patients vomit blood in greater or less quantity during the course of the disease. Most frequently the hematemesis occurs after a meal. The patient complains of a feeling of discomfort, faintness, nausea, and vomits a large quantity of blood, red and nearly pure, or brownish and mixed with the food. Severe hemorrhage may occur without the blood being vomited, the blood in this case escaping from the stomach into the intestine. Under these conditions the diagnosis of hemorrhage must be made from the general signs of loss of blood. The blood which is lost in this way may be recognized in the stools by their black, tarry appearance (melena). In minute quantities blood may be detected in the feces by proper chemical tests (Boas).

Probably 3 per cent. of all patients who suffer from ulcer of the stomach die of hemorrhage. Of a series of 270 fatal cases of gastric ulcer examined post mortem, it was found that 27 (10 per cent.) had died from hemorrhage. Fenwick reports that of 112 fatal cases of gastric ulcer 16 per cent. had died from hemorrhage, and in a second series of 298 fatal cases, in 56, or nearly 19 per cent. death resulted from hemorrhage. Fatal hemorrhage is more frequently seen in the chronic cases. In the acute cases the bleeding usually ceases spontaneously. Rodman says that 8 per cent. of all patients who suffer from hematemesis die of hemorrhage. Welch estimates that hemorrhage is the cause of death in from 3 to 5 per cent. of all cases of gastric ulcer.

Vomiting is usually a prominent symptom. The vomiting is due to the irritability of the stomach, or to its inability to empty itself either on account of the pyloric stenosis, or because of a condition of hour-glass contraction. Even if the ulcer is situated at a distance from the pylorus, obstruction may be offered at this situation on account of the reflex spasm of the muscular elements that comprise the pyloric ring. Vomiting usually occurs soon after the ingestion of food, and is followed by relief of the pain and distress. Sometimes the vomiting occurs independently of meals, may be during the night or early morning, and the vomitus may then consist of almost pure gastric juice. Vomiting at long intervals and in considerable quantity is usually associated with dilated stomach. When the vomiting is a prominent feature the emaciation may become very pronounced. The material vomited often shows the presence of blood. It may be blood-stained or abundantly admixed with blood, or in the event of copious hemorrhage may even be pure blood. The material vomited usually tastes sour unless ejected immediately after being ingested, and shows excess of free hydrochloric acid in contradistinction to the vomitus of cancer.

Examination of an Ewald test breakfast will usually show the same excess of hydrochloric acid. It is not desirable to use the stomach tube in those cases where the diagnosis is patent; still if used with proper caution the employment of the stomach tube is not absolutely counterindicated.

The appetite usually remains good, but patients do not eat on account of fear of pain, etc.

Constipation is commonly found associated with gastric ulcer.

Amenorrhea is often present on account of the condition of anemia that is usually present.

Physical Examination.—If the stomach is dilated there may be observed a bulging or prominence of the abdomen corresponding to the position occupied by the dilated stomach. A circumscribed area of tenderness more marked on pressure is usually found in the epigastric region below the ensiform process. Another area of tenderness may be found in the back to the left of the lower dorsal vertebræ. If the adhesions between the stomach and adjacent parts—especially liver and abdominal wall—are dense, it may be possible by palpation to detect a tumor. As a rule no tumor can be felt; where a palpable tumor is present the condition is likely to be one of carcinoma.

Perforation of a gastric ulcer is a serious accident. If protecting adhesions have been formed there will be produced, as a result of the perforation, a circumscribed abscess; if no adhesions have been formed the escape of material from the stomach into the free peritoneal cavity will set up a general peritoneal infection which almost invariably proves fatal. Perforation may occur abruptly in patients who have complained of few or no symptoms of gastric ulcer and who have not considered themselves sufficiently ill to consult a physician. Perforation into the free peritoneal cavity is marked by a sudden sharp pain referred to the epigastrium and associated with signs of shock gradually merging into those of a general peritonitis. Perforation occurs in about 6½ per cent. of all cases of ulcer.

Among the more immediate complications of gastric ulcer may be mentioned cicatricial stenosis of the pylorus with consequent dilatation of the stomach; hour-glass contraction; perigastric adhesions; severe hemorrhage; perforation.

As more remote complications we may have a condition of pronounced anemia, pulmonary tuberculosis, or malignant changes in the ulcer or cicatrix.

The prospect of cure is certainly greater, and the likelihood of a fatal termination from hemorrhage less in those cases of gastric ulcer seen in young anemic females than in those seen in older women and in men. According to Ewald the mortality is greatest in patients between 40 and 60 years of age.

Debove and Rémond, quoted by Einhorn, estimating from a large number of cases, give but 50 per cent. of permanent cures, and Leube admits a mortality of 25 per cent. Riegel places the mortality at 8 to 10 per cent.; Lebert, 10 per cent.; Welch, 15 per cent. Fenwick says that about 4 cases out of 5 heal spontaneously according to the proportion of scars to open ulcers found at autopsy, a mortality of 20 per cent. In figuring the percentage of cures from a clinical standpoint, it should be remembered that improvement or cessation of symptoms does not necessarily mean actual cure. Some of these patients are only apparently cured, and later may die from hemorrhage, perforation, cancer.

According to the estimate of Welch for every one patient seen at autopsy with open ulcer there are three who exhibit the scars of healed ulcers. If these figures might be used they would indicate 75 per cent. of cures either spontaneous or as the result of medical treatment. Of course some of the healed ulcers might be overlooked at autopsy, or having been superficial would leave no scar, and thus the percentage of cures might be underestimated.

Death may be directly attributed to hemorrhage in 3 to 5 per cent., and to perforation, according to Welch, in 6½ per cent., and according to Debove and Rémond, in 13 per cent. Many of the patients who suffer from gastric ulcer develop cancer, tuberculosis, anemia, etc. It is said that 20 per cent. of persons who suffer from gastric ulcer develop pulmonary tuberculosis, and the number in whom the ulcer undergoes malignant changes has been placed as high as 13 per cent. Bulstrode investigated 500 cases of gastric ulcer that were admitted to the London hospital from 1897 to 1902. There were 89 deaths, a mortality of about 18 per cent., 10 per cent. dying from peritonitis due to perforation, 2½ per cent. from hemorrhage, and 5½ per cent. from other causes associated with the disease; 82 per cent. were discharged from the hospital apparently cured or greatly improved. As to the question of recurrence after apparent cure or marked improvement, Bulstrode discovered that of the 500 cases, 211, or 42 per cent., had had previous similar attacks; of these 211 cases 116 had had one previous attack, 41, two; 15, three, and 39 four or more attacks.

Treatment.—Without question the treatment of ulcer of the stomach during its early stages and in the absence of accidents and serious complications should be medical. Cases of so-called acute ulcer occurring in young anemic females are more amenable to medical treatment than those seen in older women and in men. They are not likely to die from hemorrhage, but upon the other hand the ulcers are not unlikely to perforate and set up an acute peritoneal infection.

As to the question of surgical interference as routine treatment, if it can be shown that the mortality after operative treatment of ulcer of the stomach is considerably less than when non-operative measures are employed then the warrant for operative interference is established. It is difficult to obtain figures that give the exact rate of mortality of those cases of ulcer of the stomach that are treated medically, but from the figures and facts enumerated in the preceding paragraphs it would appear to be reasonable to assume a death rate of 25 per cent. for all cases thus treated. This percentage is probably not too large, especially if we include the deaths that result from the more remote sequelæ and if we omit the acute cases that occur in young anemic females and which usually respond to internal medication, diet, etc., and for which the question of surgical interference hardly presents itself except in the event of some serious accident, for example, perforation.

As to the mortality following surgical treatment, we have the figures of Rodman, who collected 40 cases where radical operations, pylorectomy, gastrectomy, and excision of the ulcer were performed, with six deaths—a mortality of only 15 per cent. Robson collected 188 cases of chronic ulcer treated by operation, excision, pylorectomy, pyloroplasty, gastroenterostomy, etc. ,with 31 deaths, a mortality of 16.4 per cent. Of his personal cases there were 34 with six deaths, a mortality of 17.6 per cent. Heydenreich places the mortality after operation for simple ulcer at 16.2 per cent. as against 25 and 30 per cent. following non-operative treatment, and upon these figures he recommends operation as being less dangerous than the disease itself. Moullin reports 15 cases of operation for simple ulcer, with two deaths—about 13 per cent. In nearly all of Moullin's cases the operations were radical in their scope, excision of the ulcer in 12 cases. In two cases gastroenterostomy was the operation performed.

In nearly all the cases considered in the foregoing paragraphs the operations performed were of a radical nature and of themselves a severe tax upon the strength of the patients. In many instances the patients were already seriously reduced in health and vitality when operation was proposed, and in some cases the operation was performed in extreme emergency, for perforation, etc. In spite of these unfavorable conditions, however, the mortality is less than 18 per cent., really less than the death rate observed in those cases where the treatment was strictly non-operative. If we now study the mortality following gastroenterostomy for simple ulcer of the stomach we will find it to be much less than where a radical operation is performed. Robson shows a mortality after gastroenterostomy of only 4 per cent. in all cases, good and bad, malignant and simple, and Moynihan reports a series of 50 cases of gastroenterostomy for ulcer with but a single death.

Gastroenterostomy for simple ulcer is curative in its effect, and when properly performed by competent surgeons and upon patients not too greatly reduced through inanition and hemorrhage, should be almost devoid of fatalities. Let us hope that the intractable, obstinate, and persistent cases of gastric ulcer will come into the hands of the surgeon while there is still good promise of cure without undue risk of a fatal issue. Operation in these cases is undertaken with the double purpose of relieving the harassing symptoms and of preventing or forestalling the occurrence of the oft fatal complications and sequelæ.

Operation is imperatively indicated in cases of profuse and recurring hemorrhage where the ordinary non-operative measures fail to control the bleeding, especially in older females and in men (chronic ulcer); likewise in the event of perforation into the peritoneal cavity. It may become necessary to resort to operative measures for the relief of some of the more remote complications such as adhesions that fix the stomach to the abdominal walls or adjacent viscera, subphrenic abscess, etc.

Operation for gastric ulcer, aside from its complications, etc., may be either palliative or radical in its scope.

Palliative Measures.—Although the procedures considered under this head are palliative in their immediate effect, still they are indirectly curative in that they provide a sufficiently free outlet, so as to permit of the prompt evacuation of the stomach, and thus allow of longer intervals of physiological rest to the affected organ, and, further, by diverting the food current away from the raw, ulcerated areas, they relieve these parts of irritation and give them an opportunity to heal.

For Hourglass Contraction.—The hourglass stomach is caused by the contraction of the cicatricial tissue that is formed in and about an ulcer that affects the body of the organ. The stomach may thus be more or less completely divided into two or even three pouches, the pouches communicating with each other through narrow channels that may be so contracted as to barely permit the introduction of a finger. Under these circumstances the stomach contents can only be forced with difficulty from one pouch through the narrow ulcerated passage into the next pouch; thus the food stuffs are likely to remain for an unduly long period in the stomach, become stagnant and act as an almost continuous source of irritation to the ulcerated area, and in this way retard the healing process.

The remedy for this condition is to enlarge the passage or neck between the pouches—gastroplasty—or else to make an additional communication between the pouches—gastrogastrostomy—or, finally, to establish an anastomosis between the first (or proximal pouch) and the small intestine—a gastroenterostomy. Even in those cases where a gastroplasty or a gastrogastrostomy has been performed to correct the hourglass condition, it is often advantageous to establish a gastrojejunostomy in addition. As to the choice between gastroplasty and gastrogastrostomy, the former has several disadvantages as compared with the latter. In the first place, the field of operation, for incision, sutures, etc., is the thickened ulcerated area itself, and in the second place, even if an opening of sufficient size is obtained, if the ulcerative process is still active the stomach contents in passing from one pouch into the other must still come in contact with the raw surfaces and thus keep up the irritation and interfere with the healing process.

For Pyloric Stenosis.—In order to overcome the obstruction offered by a contracted ulcerated or cicatrized pylorus operation may be made directly upon the pylorus-pyloroplasty—according to the method of Heinecke-Mikulicz or of Finney. The operation of Heinecke-Mikulicz consists in simply incising and enlarging the ulcerated or cicatrized pylorus and has the disadvantage that the diseased part of the stomach is the portion where the incision is made, sutures inserted, etc. The placing of the sutures and proper apposition of the edges of the incision may also be difficult on account of the density of the ulcerated, cicatrized tissues. The operation of Finney consists in making a very capacious communication between the pyloric end of the stomach and the first part of the duodenum, and has given good results so far as it has been tried. The objection that in this operation the field corresponds to the diseased area is nullified by the fact that in most instances the ulcerated area may be excised at the same time that the new opening is established. There may be some difficulty in mobilizing the fixed, adherent duodenum, but Finney claims that even in those cases where the duodenum seems almost hopelessly fixed by adhesions, by patient efforts it can be sufficiently detached so as to permit of the junction being made between it and the stomach. This operation provides a large, commodious opening from the stomach into the first part of the duodenum—the most desirable portion of the small intestine for the purpose of a gastroenterostomy.

Gastrojejunostomy.—A new opening is established from the stomach into the intestine. The pylorus is "short-circuited." This operation fulfills all the indications for the treatment of gastric ulcer, in that it provides ample and prompt drainage of the stomach and at the same time diverts the current of gastric contents away from the diseased areas. This method of treatment surely relieves the symptoms and indirectly cures the ulcer. It relieves the distressing symptoms by placing the stomach in a condition to promptly empty itself, and thus the organ is able to enjoy sufficiently long intervals of physiological rest, free from peristalsis and contact with retained strongly acid gastric contents. In this way the healing process is favored.

As a result of gastrojejunostomy extensive indurated ulcers involving the pylorus and body of the stomach have been seen to disappear and patients with all the clinical symptoms of cancer of the stomach have been restored to the full enjoyment of complete health. Even if the ulcer does not actually involve the pylorus we still frequently have associated obstruction at the pyloric orifice due to reflex muscular spasm, and hence in these cases also the gastrojejunostomy will have its beneficial and curative effect. The prime object of the operation is simply to put the stomach in a position to promptly empty iself of its acrid, ulcer-producing contents. These contents are the determining factors that are responsible in the first place for the production of the ulcer and then, later, for its failure to heal. In properly selected cases the operation of gastrojejunostomy, *per se*, carries with it but little or no danger of a fatal issue. It would appear that this ought to be the operation of choice for all cases of simple ulcer, where operative interference is indicated, but especially is it to be preferred to the other radical measures, such as excision of the ulcerated area, pylorectomy, etc., in all those cases where the patient's condition is already reduced or adhesions to important organs, etc., render these latter operations more dangerous. There are a number of methods of performing the operation of gastrojejunostomy, and with most of these we are all familiar. A few moments, however, might well be devoted to the description of the technique of the method employed by Czerny.

Gastrojejunostomy, Czerny.—Gastrojejunostomy without the formation of a loop. The upper part of the jejunum is situated normally behind and close to the posterior wall of the stomach and in this operation this portion of the gut is the part that is anastomosed to the stomach. It is fixed to the posterior surface of the stomach, near its greater curvature with a row of continuous, non-penetrating silk sutures. These sutures secure the gut along a line transverse to its long axis and extend about half way around the circumference of the gut. After this line of suture has been introduced the needle is dropped temporarily until required later to complete the row of outside, non-penetrating sutures. An opening is made in the stomach and one in the attached gut, the incision in the gut being made transverse to the long axis of the intestine. The edges of the openings in the stomach and jejunum are stitched together with a continuous, penetrating catgut suture. The needle, still carrying the silk thread with which the first half of the outside non-penetrating suture was introduced, is then again taken in hand and the second superficial half of this line of suture inserted, thus completing the operation. The anastomosis may also be made very expeditiously with the Murphy button.

It is claimed for this method of gastrojejunostomy that the phenomena that make up the so-called "vicious circle," and which are responsible for a considerable number of the deaths following the operation, are entirely obviated.

Radical Operations for Ulcer.—Under this heading are included those operations that aim to eradicate the ulcerated area.

Infolding of Ulcerated Area.—This plan may be practiced when the location of the ulcer, etc., are favorable. The ulcerated area is disposed of by infolding it into the lumen of the stomach and it is retained thus with one or two rows of sutures. The infolded area by this procedure is thrown out of activity and gradually disappears by a process of atrophy. It would probably be advisable in these cases also to establish a gastrojejunostomy in addition to infolding the ulcerated area of the stomach wall.

Excision of Ulcerated Area.—This operation might be employed in certain exceptional cases where the ulcer is accessible, especially if it is limited to the anterior wall, and if the character of adhesions does not preclude the possibility of its successful performance. The defect that is left in the wall of the stomach after the ulcer has been excised is closed with a continuous penetrating catgut suture, which is reinforced and buried by a continuous, non-penetrating silk suture. If the ulcer occupies the posterior wall of the stomach it may be excised through an incision in the anterior wall. The opening that is left in the posterior wall of the stomach after the ulcer has been excised is closed with a continuous penetrating catgut suture, which is applied from within the stomach, through the opening in its anterior wall, and this line of suture then reinforced and buried by a non-penetrating silk suture, which is applied to the wall of the stomach from without, the surgeon working through an opening which is made for the purpose in the gastrocolic ligament or in the transverse mesocolon.

Pylorectomy.—If the pyloric portion of the stomach is the part involved in the ulcerative process, then pylorectomy is the preferable operation for immediate radical cure. The pyloric portion of the stomach may be resected according to any of the usual methods (Billroth, Kocher, Hartmann), the continuity of the gastrointestinal canal being restored afterwards by either a gastroduodenostomy, according to Kocher or Billroth, or a gastrojejunostomy, anterior or posterior.

For Accidents.—It may be necessary to operate for the purpose of controlling hemorrhage, or in the event of perforation.

For Hemorrhage.—Surgical measures for the control of hemorrhage from gastric ulcer should be undertaken just as soon as it becomes evident that the bleeding cannot be controlled by the usual non-operative measures, or if the hemorrhage is very profuse, showing that a large vessel has been eroded or if the hemorrhage is repeated after a short interval. Hemorrhage occurring in young anemic women is less likely to terminate fatally than in older women or in men.

The stomach should be exposed and opened and an effort made to locate the bleeding point. If a single individual vessel, the attempt should be made to clamp and ligate or to cauterize it or the ulcerated area may be excised. If unable to secure the bleeding point a gastrojejunostomy should be performed. If this operation is done the bleeding will usually cease spontaneously, and the gastrojejunostomy continues to work indirectly to effect a radical cure of the lesion itself.

For Perforation.—Perforation of an ulcer into the free peritoneal cavity is almost invariably fatal unless the opening in the stomach is quickly closed and the abdomen cleansed of escaped stomach contents. There may be more than one perforation.

The opening in the stomach is closed with suture, or if this cannot be done a piece of gut or omentum may be sutured against it, to shut off the cavity of the stomach from the peritoneal cavity. After the opening in the stomach has been closed the abdominal cavity should be cleansed, either with moist aseptic wipes or else by flushing with normal salt solution.

For Remote Sequelæ.—Of the remote sequelæ that call for operative interference, we have perigastric adhesions and subphrenic abscess.

Perigastric adhesion may remain after a gastric ulcer has healed and may be so annoying as to call for operative interference. The adhesions should be separated or divided, gastrolysis. When operating for gastric ulcer, adhesions, if present, should be disposed of at the same time. Robson relates a case of old healed ulcer, where adhesions had persisted afterward, and continuing to cause symptoms required to be divided. The bleeding surfaces left after separation or division of adhesions may be covered over with omentum in order to prevent reformation of the adhesions.

Subphrenic Abscess.—This condition may call for incision and drainage independently of the gastric ulcer, which was the primary cause of its existence.

ERYSIPELAS WITH AN EXCESSIVE PRODUCTION OF FIBRIN.

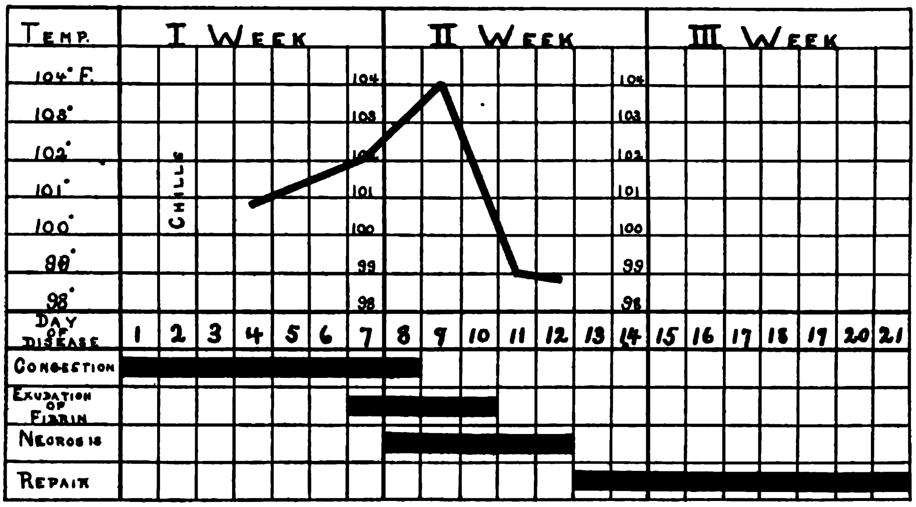
By ROLFE FLOYD, M.D.,
NEW YORK.

In erysipelas the essential inflammatory changes are confined to the skin, and consist of (1) congestion of the blood vessels; (2) exudation of serum, of blood cells, especially leucocytes, and of fibrin, the latter usually in small amount; together with (3) an increase of small round cells. These changes are associated with the growth of streptococci, chiefly in the lymph channels. The lymph nodes corresponding to the inflamed region are apt to be also inflamed.

The anatomical type of the inflammation may be modified by (1) the degeneration of the epidermis with the formation of larger or smaller vesicles or blebs, which contain serum or a serofibrinous fluid that forms crusts on drying; (2) the death of certain areas of the derma; (3) the extension of the inflammation to the subcutaneous cellular tissue in which small or large collections of pus are then apt to appear.

It is the object of this paper to report a case which, although presenting all the above features except the enlarged lympathic nodes, exhibited, in addition, an exudate of fibrin, so excessive and so disposed, as to constitute a croupous inflammation, that is, an inflammation of the skin presenting the same essential characters as a croupous colitis or a croupous inflammation of the throat.

On May 15, 1904, the patient, a coachman, thirty-eight years old, noticed that the back of his right hand was red and swollen. The next day the swelling increased, and became very painful; he had chills and felt feverish. He came under observation on the third day, when the chills had stopped, and the hand was less painful than the day before. The man was only a little sick. There was a typical erysipelas of the whole dorsum of the right hand. The skin was bright red and shiny, the margins of the inflamed area were sharply defined. A wet aluminum acetate dressing was applied.



On the fourth day the conditions remained unchanged.

On the fifth day the whole forearm was edematous, but not red. No enlarged lymph nodes could be found.

On the sixth day the erysipelas was spreading up the edematous forearm.

On the seventh day the man was sicker. The whole forearm was involved and vesicles began to appear on the dorsum of the hand.

On the eighth day these vesicles had changed into large confluent bullæ all over the dorsum of the hand and lower half of the forearm. On puncture a clear gelatinous fluid exuded. Removal of their epidermal covering revealed a layer of fibrin, practically continuous over the area occupied by the bullæ. This fibrinous false membrane varied in thickness from 3/8 in. (1 cm.), at the roots of the fingers, to 1/8 in. and less on the forearm. Where it was removed, as could be rather easily done, the exposed derma was roughened and reddish, except in the middle of the back of the hand and wrist, where it was blackish and necrotic. The advancing margin of the erysipelas had by this time (the eighth day), extended from the elbow half way to the axilla, along the inner side of the arm. A strap of adhesive plaster was put around the limb above the inflamed area with the result that the erysipelas never transgressed this barrier. Dr. Rundquist, who saw the case with me, and at whose suggestion the strap was put on, found no evidence of invasion of the subcutaneous cellular tissue at this time.

On the ninth day the man was at his sickest, being moderately delirious with high fever and looking thoroughly poisoned. The fibrin was still coming out on the derma and the necrotic area was a little larger and blacker.

On the tenth day the man was better, with no further delirium. The exudation of fibrin had almost stopped. The other local conditions were as on the day before.

On the eleventh day the man was still better. The erysipelas of the upper forearm and arm, which had never exhibited vesicles or other unusual features, except an associated phlebitis of the basilic vein, was beginning to fade. The derma of the dorsum of the hand and lower forearm, was afloat on pus which oozed through holes in the necrotic area. Incisions were made through the derma to let the pus out.

On the thirteenth day the erysipelas was practically over, though there was some tendency to form pus pockets under the overhanging edges of the large and irregular ulcer which was left on the back of the hand and wrist by the separation and removal of the necrotic area of derma. On the base of this ulcer could be seen the extensor tendons, not quite exposed.

On the fourteenth day the wound was fairly beginning to clean, and the tendons were protected by a thin layer of healthy granulations.

The ulcer proved most difficult to heal. For two months pus pockets kept appearing under its edges and the healed skin beyond its margins would break down in small areas to form additional points of ulceration. The skin edges advanced but feebly, the base never cleaned up nicely and there was always such a profuse purulent discharge as to make skin-grafting out of the question. No treatment, except keeping it clean, proved of real value.

Four months from the beginning of his illness the man went back to work, and the function of the arm and hand returned completely, except for a slight stiffness of the wrist joint.

There is still (February, 1905), an ulcer 2 in. by 1 in. on the back of his wrist, surrounded by skin of poor vitality.

The relative duration of the stage of congestion, the period of the exudation of the fibrin, and the period of necrosis, together with the temperature curve, are shown in the accompanying chart. The correspondence of the period of exudation of fibrin with the period of maximum temperature is interesting.

It is to be regretted that no attempt was made to determine what micro organisms were present.

12 West Thirty-second Street.

AN UNUSUAL CASE OF BRADYCARDIA.

By JULIUS H. COMROE, A.B., M.D.,
LECTURER ON THERAPEUTICS, TEMPLE COLLEGE, PHILADELPHIA.

Mrs. H. K. of Mahanoy City, Pa., aged 54, married, white. The family history was absolutely negative. Menstruation began at the age of 14, has always been regular and there has been no dysmenorrhea. She has had two miscarriages and six children, all of whom died in early childhood. Does not use alcohol and takes tea and coffee in moderation. Excepting measles and two attacks of mumps, she has never been confined to bed for illness.

The present condition dates back over a period of three years. At that time, following an injury to the right breast, the patient was greatly annoyed by a burning sensation and severe itching at the seat of traumatism. This never disappeared. Shortly afterward, she noticed a "fullness" in the right mamma, particularly confined to the upper outer quadrant. She consulted a physician, but no relief followed. This fullness soon developed into a distinct nodule, or "lump," which could be easily palpated. There was never any pain in this region. The tumor slowly but persistently increased in size and the same subjective symptoms continued to be present. It may be mentioned that the appearance of the tumor and the menopause were at approximately the same time.

The patient was referred to me for examination and treatment. I found her to be a well nourished white woman of good proportions, looking younger than the age implied. The pupils were moderately dilated, equal and presented normal reactions, conjunctival, nasal and buccal mucous membranes were of good color. Tongue clear, was protruded in the median line and was not tremulous. There was no thyroid enlargement and no superficial glandular enlargements. Pulses were equal, regular and of good quality. Rate 76 per minute. Thorax was of good proportions, expansion 2¼ inches. Pulmonary resonance and breath sounds were good. The heart was not enlarged, with sounds exceedingly clear, the muscular element being very good. Some accentuation of second pulmonic sound was noted. There were no murmurs or thrill.

The right breast was slightly larger than left, nipple not retracted and skin freely movable everywhere. The upper outer quadrant presented, on palpation, a distinct, hard mass, about the size of a hen's egg, and dipping toward the axilla. This was freely movable everywhere. There was slight pain on manipulation. No pectoral axillary or clavicular glandular enlargement. The liver extended from the fifth rib to the costal margin and was not tender. The spleen was not palpable. No tumors were present in the abdomen. The diagnosis was made of fibroadenoma, possibly undergoing scirrhous changes and complete removal was advised.

The anesthetic was given by Dr. Sidney Feldstein, with the patient in good condition and pulse of 90. A crescentic incision about four inches long was made and the tumor found to be about twice as large as a hen's egg and firmly enveloped in its capsule. Complete removal of the tumor down to the thoracic wall was carried out and a skin dissection of the flap made. I also cleaned out the axilla as far as possible. Silkworm gut through and through sutures and tube drainage were employed. The operation lasted one hour and five minutes. During the operation the pulse fluctuated between 80 and 96.

First day after operation the patient had little pain at seat of operation and voided urine (℥xxiv). Temperature 99.4, pulse 64.

Second Day.—The patient felt very well. Two grains of calomel were given with effect. The dressing was removed, and the wound edges found in healthy condition. There were no signs of infection and the tube was removed. Temperature 99.2, pulse 52.

Third Day.—The patient had had a few heat flashes during the night, and complained of severe itching in the wound. Temperature 100, pulse 46.

Fourth Day.—The wound was redressed and found to be healing by first intention and without tenderness. The patient was very hungry. Temperature 98.6, pulse 40.

The sutures were removed on the seventh day, leaving a clear, healthy wound. During the first week after the operation the pulse fluctuated between 40 and 64, and on the tenth day it was only 35 per minute. In every other respect the patient felt very well. The urine was negative.

1617 North Tenth Street.

ACUTE POSTERIOR PERIURETHRAL ABSCESS.

By FERDINAND C. WALSH,
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INSTRUCTOR IN GENITO-URINARY SURGERY MEDICAL DEPARTMENT OF GEORGETOWN UNIVERSITY.

Among the gravest complications met with in the treatment of gonorrhea is that of pus formation in the tissues surrounding the posterior urethra, due to infection of the deep urethral follicles. It is in these cases, in which expectant treatment alone has been carried out, that we so often meet with resulting infection of the seminal vesicles, prostatitis, chronic cystitis, and ascending infection of the genital tract, possibly leading to pus formation in the kidney, the most deplorable of all gonorrheal sequelæ.

On account of the close relationship of the structures surrounding the deep urethra, it is, except in sharply defined cases, practically impossible to define with exactness the pus location—that is to say, whether the abscess is situated anteriorly, posteriorly or laterally to the urethral canal; but a careful examination, both by digital exploration through the rectum and by external palpation of the perineum, will demonstrate approximately the seat of the trouble. In these cases instrumentation through the urethra by means of the cystoscope or urethroscope is worse than useless.

Abscess of the urethra of gonorrheal origin presents certain constant symptoms which are positively diagnostic. The patient gives a history of gonorrhea, and complains of pain, generally of an intense character, located deep in the perineum. Cystitis is almost invariably present, urination taking place every few minutes and followed by pain, due to the increase of tension caused by contraction of the muscular structure of the urethra. The bowels are constipated and defecation is painful. The recumbent position is the most comfortable. The urethral discharge is generally slight, but always contains gonococci. The temperature is of the usual septic character. There is an extreme condition of restlessness and anxiety, and rectal and perineal palpation always elicits localized pain.

These symptoms call for immediate action on the part of the surgeon if he would avoid dangerous sequelæ, for palliative measures, while relieving pain temporarily, only allow the destructive process to continue, the perineum becoming more deeply involved.

The patient being prepared as for an ordinary external urethrotomy, an incision is made in the perineal raphe down to the urethra, evacuating in this way any pus met with en route. The urethra is then freely opened and an exploration is made with the index finger which readily detects the presence of pus cavities and easily curettes them. After exploring as far back as the bladder, and evacuating all cavities, this viscus should be thoroughly flushed with hot boric acid solution, and a full-sized fenestrated rubber catheter inserted and secured in position through the urethral opening.

Subsequent treatment should consist in washing the bladder twice daily (with the same solution) through the catheter, which should first be removed, cleansed, and then reinserted. The penile urethra should be irrigated with an antiseptic solution whose strength should depend on the condition of the urethra. The bowels should be kept freely open, abundant water given, a urinary antiseptic employed, and a light diet instituted. On the third day, in favorable cases, when pus formation has not been extensive, the drainage-tube may be removed from the urethral wound, and a catheter inserted through the penis and held in to promote continuous drainage, allowing the posterior urethra to regain its continuity. Through this catheter, which likewise should be daily withdrawn and washed, the bladder should be irrigated, some of the fluid returning between it and the urethral walls, when distension of the bladder occurs. By the sixth day the catheter may be removed permanently, and the urethral incision will be found practically closed.

In cases in which extensive suppuration has taken place, the surgeon should be guided by circumstances in determining the time when drainage through the urethral wound may be discontinued. Sounds should not be employed until the sixth day, after which they may be passed every third day until the surgeon is satisfied that the urethral lumen is restored.

I have recently met with several cases in which the foregoing treatment has been instituted, and all of the patients have been able to leave the hospital within ten days, returning to the office for subsequent treatment.

THE ALBANY.

Eclampsia.—Allen, who believes that this condition is due to a maternal toxin, probably having its origin in the liver, summarizes the treatment as follows: (1) Treat premonitory symptoms until in spite of the treatment they get worse, then empty the uterus, as in some cases this is the only method of stopping the progress of the disease. (2) Deliver as quickly as possible, consistent with cleanliness and preservation of soft parts; bleed, removing from 300-700 c.c., as the case may indicate; infuse, giving from 500-1000 c.c. of salt solution, depending upon the amount of blood withdrawn and character of pulse; this may be repeated later; morphia gr. ¼, hypodermatically to relax the muscular system; croton oil gtt. 1—gtts. 11 in olive oil ʒi ʒii, followed by magnes. sulphate ℥ss in saturated solution until effectual as purgative. (3) Milk and water diet. (4) Other conditions treated symptomatically.—*American Journal of Obstetrics.*

REPORT OF AN INTERESTING CASE.

By E. B. VAN ARSDEL, M.D.,

ALAMOGORDO, N. MEX.

On Sunday, December 18, 1904, at 1 o'clock P. M., I was called to a labor case in a Mexican, aged twenty years, a primipara, woman very small, weight about eighty-five pounds. The sanitary surroundings were of the poorest. A very close hut, bed linen scanty, badly soiled, and much the worse for wear. She had been in labor since 4 A. M., and inspection of abdomen showed a deformity which led me to suspect a transverse presentation. Upon palpation my suspicions were strengthened and a digital examination confirmed the diagnosis—a left cephaloiliac, or dorso-posterior position. The vaginal orifice was patent, moist, and free from obstruction; the pelvis was normal, the os thoroughly dilated, membranes unruptured; the left hand was presenting rather high. This examination was made with the left hand. After I had made external manipulation for a few minutes only, without any perceptible result, my associate was sent for and arrived one-half hour later. Before administering chloroform, he made an examination with the right hand, and found both feet presenting. Upon reexamination, I found both hands and feet presenting, which is extremely rare. The head in left cornu, and breech in right. Chloroform was administered, the membranes were ruptured, and podalic version by combined external and internal manipulation was done; the feet were brought down, and in twenty minutes a live male child was delivered without injury.

After waiting the usual time, Credé's method failed to deliver the placenta. It had to be dissected away with finger-tip, and it came away readily, though the membranes were very adherent in the right coru of the uterus, which was afterwards found to be bicornate of the most marked kind. The mother made an uneventful recovery.

Another feature of interest in this case is that when attention was directed to the child a penile hypospadias was discovered with no visible meatus, and none could be detected until next morning, when the mother complained of the child's inability to void urine. The child was placed in a bowl of warm water, a narrow, triangular, pin-point opening was noticed at the penoscrotal fold, which emitted the urine in a pin-point stream, very forcibly. The penis was undeveloped, clitoris-like, and curved downward; the prepuce was deformed, being well developed on top, and entirely absent on the under surface and toward the frenum.

A hard ridge alone marked the course of the normal urethra from the abnormal meatus to the apex of the glans. The scrotum was distinctly divided into two halves by a furrow (apparently cicatricial) and hung not unlike the labia of a female child. The scrotum, well developed, was simply a wrinkled mass, the testicles, of course, having not yet descended.

In all, we considered it a very interesting case. Transverse presentation, one in about two hundred and fifty; both hands and feet presenting, extremely rare; obstinate adherence of membranes, marked bicornate uterus, and a penile hypospadias, Chaussier found, among 23,293 new-born at the Maternité of Paris, one hundred and thirty-two malformations, two of which were hypospadias. Some claim this an entirely too low proportion, and the statistics vary much; but of its infrequency there can be no doubt.

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M D., EDITOR.

PUBLISHERS
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New York, April 22, 1905.

TYPHOID FEVER IN CAMPS.

THE "Report on the Origin and Spread of Typhoid Fever in the United States Military Camps during the Spanish War of 1898," has been issued from the Government Printing Office.[*] It was prepared in accordance with act of Congress, under the direction of the Surgeon-General, and is the result of the joint labors of Dr. Victor C. Vaughan, Dr. Walter Reed, and Dr. Edward O. Shakespeare, who constituted the board of army surgeons which investigated the matter in 1898 and subsequently. In the meantime Drs. Reed and Shakespeare having died, the whole labor of collecting and arranging the data and preparing the publication of this monument of professional skill and learning, fell upon the shoulders of Dr. Vaughan. The detailed data, text, and the conclusions of the board are in the first volume—a quarto of about 700 pages—while the 96 maps and charts are in the second volume—a folio. Together they furnish material for earnest thought upon the numerous problems of the prevention of typhoid fever, which are constantly presented to both civil and military sanitarians. The medical profession and, indeed, the whole nation, owes a debt of gratitude to the authors and particularly to Dr. Vaughan, for their labors.

Still, the publication at this time, or rather republication, for the conclusions were announced in 1899, causes a feeling of almost sadness, since there is scarcely anything elicited which was not previously known by the profession. It is doubly sad that the dark history now revealed in all its ghastly details might have been prevented, and one naturally wonders whether it will happen again. The faults appear to be largely those of organization and to a great extent inseparable from military systems. Nevertheless it can be prevented or it would be a confession of incompetency in the Army administration to admit that it is powerless to control its soldiers and their health in camp. The nation is patiently waiting to learn of the steps being taken for the future, trusting to the hard common sense of our representatives when they are brought face to face with a serious problem. So far they have done nothing, and the only thing for physicians to do is to convince them that it is a serious problem. In the meantime if we will take to heart the lesson that typhoid infection exists in every part of this country at all times, and is sure to appear in 98 per cent. of all regiments, Vaughan, Reed, and Shakespeare will have conferred a blessing equal in importance to the discovery of the methods of avoiding malaria and yellow fever.

The lesson which seems to have been learned by the Government, if not by all of its officers, at least by those who think, is that stupid interference with sanitation is a serious matter warranting dismissal of the offending officials, and this course of action by the President in the Panama case has received the sanction of the press. The time is now ripe for the passage of a law that any officer who obstructs sanitation or ignores the advice of his sanitary officers, shall be dismissed. The army must purge itself of dangerous men to avoid a repetition of the awful typhoid record of the Spanish War, and the necessity of this new law is self-evident. If not demanded now by thinking people, it surely will be in the course of time.

HIGH ALTITUDES FOR CONSUMPTIVES.

THE question as to where to send sufferers from pulmonary tuberculosis is one on which there is no unanimity of opinion among the members of the medical profession. There are many physicians who now assert that the importance of climate in the treatment of consumption has been greatly overestimated, and that much benefit may be derived from an outdoor carefully regulated existence even in a moist climate. On the whole, however, the belief is general that, other things being equal, a dry climate with plenty of sun affords the most favorable conditions for the consumptive.

In the *Journal of the Association of Military Surgeons* for February, 1905, is an article by Dr. Paul M. Carrington of the United States Public Health and Marine Hospital Service, treating of altitude with special reference to the treatment of consumption. The writer, like many others, is convinced that sending consumptives to high altitudes indiscriminately and without carefully considering the individual indication for such treatment has shortened the lives of many, and doubtless caused the early death of some, whose disease under more judicious management, might have become arrested or cured.

It has been observed clinically in the case of consumptives in the Fort Stanton Sanatorium, which is situated at an altitude of 6,150 feet, that there is an immediate and rapid increase in the hemoglobin following their arrival. This is due to the thinness of the inspired air, and to an effort of nature to readjust the individual to his new environment and provide for a greater assimilation of oxygen.

Dr. Carrington treats at length of thoracic expansion, defining it clearly, and showing under what circumstances expansion and vital capacity are affected. As to why expansion should govern in determining the proper altitude for a consumptive patient, the writer explains in the following words: "It stands to reason that Case I, with two inches of expansion representing one hundred and twenty cubic inches of vital capacity, and barely able, at sea-level, to appropriate sufficient oxygen to maintain an ordinary metabolism should not do so well at an altitude of over six thousand feet as Case II, with an expansion of four inches, representing a vital capacity of three hundred and forty cubic inches, and consequent appropriation of twice the volume of oxygen. The blood of Case I. being insufficiently oxygenated fails to perform its functions completely and the patient suffers from dyspnea and perhaps from cyanosis with increased cough and expectoration and extension of tuberculous areas, nature striving, without avail, to increase the hemoglobin with sufficient rapidity to supply the essential oxygen And on the other hand, Case II, with a moderate increase of hemogloblin, is amply supplied with oxygen, all the symptoms abate, and at the first examination, three months after admission, there is usually found a marked diminution of lung-tissue involved. In the two cases it is supposed that the percentage of lung-tissue compromised is the same."

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[*] Report on the Origin and Spread of Typhoid Fever in U. S. Military Camps during the Spanish War of 1898, by Walter Reed, Major and Surgeon, U. S. Army; Victor C. Vaughan, Major and Division Surgeon, U. S. Volunteers, and Edward O. Shakespeare, Major and Brigade Surgeon, U. S. Volunteers. Prepared in accordance with act of Congress under direction of Surgeon-General Robert M. O'Reilly, United States Army. Vol. I., Text; Vol. II., Maps and Charts. Washington: Government Printing Office, 1904.

Dr. Carrington concludes by reiterating his views as to the inadvisability of indiscriminately sending consumptives to the high altitudes of the arid Southwest. He says that he has long held the opinion that in cases otherwise suitable, the patients may under preliminary home treatment have their vital capacity so increased as to render them fit subjects for residence in high altitudes, or they may be sent with profit to the lower altitudes of the same general region, where any desired altitude from 14,000 feet above sea level to an actual depression below sea level can be had.

Epidemic of Diphtheria in the Willard State Hospital.

For several years diphtheria has prevailed at the above institution. A report of the epidemic by Dr. William L. Russell, medical inspector of institutions for the insane, State of New York, and Dr. Thomas W. Salmon, Assistant Surgeon U. S. Public Health and Marine Hospital Service, has been issued recently. The careful investigations made with regard to the disease from the time of its first outbreak in June, 1899, to January 1, 1903, cannot but be of great scientific interest and value. The mortality has been very low. The chief means of treatment has been by antitoxin. Hydrogen dioxide was occasionally used with success for the removal of necrotic membrane. The spread of the infection from the first two cases in 1899, the writers say, affords an interesting illustration of the natural history of an epidemic of contagious disease and of the limits of our ability to trace the paths of infection as they branch and rebranch with the widening of the infected area. It also demonstrates the importance of immediate thorough isolation of the first cases and their environment from the rest of an institution or other community. Besides contact with the sick, the direct means of spread of diphtheria at Willard, so far as can be demonstrated, were: (1) Contact with recovered cases; (2) contact with unsuspected clinical cases, especially those in which there was no pseudomembrane, and mild nasal cases; (3) contact with well persons infected with diphtheria bacilli, and (4) in six instances, contact with infected articles or rooms. The importance of the early employment of antitoxin was amply demonstrated, while the epidemic has afforded additional proof that the bacteriological diagnosis of diphtheria is one of the most reliable applications of a laboratory test to a clinical condition that we have. In the laryngeal cases, however, where the importance to the patient of an early diagnosis is greatest, the bacteriological test often fails. Since the close of the period covered by the above report, December 31, 1902, to September 30, 1904, the number of cases of diphtheria at Willard has been thirty-two. The history of the epidemic for the past three years indicates that, with the exception of sporadic cases, the disease has been practically confined to the main hospital building and the two infirmaries. Improved sanitary conditions in these buildings and strenuous efforts to limit the spread of infection should new cases appear will probably be followed by complete suppression of the epidemic in the near future.

Problem of Immigration.

Dr. Allan McLaughlin, in the *Popular Science Monthly* for April, again attacks the problem of immigration. Among other arguments he brings forward, is that foreign skilled labor is no longer needed in the United States; not only is such labor not required but its exponents are undesirable immigrants. Foreign skilled laborers are town dwellers and of poor physique and their advent tends to intensify further the present unsanitary conditions of tenement districts in large American cities. Dr. McLaughlin suggests three remedies for the exclusion of undesirable immigrants: (1) The imposition of a head tax; (2) an illiteracy test; (3) a definite standard of physique. The imposition of a head tax is a last resort, and need not as yet be seriously considered. An illiteracy test would cut both ways, for while it would bar many undesirables, it would also shut out many persons greatly needed in this country. Strong, lusty laborers must be had to do the rough manual labor here, for the supply of this class in the United States is not nearly equal to the demand. The majority of imported laborers are, in the nature of things, more or less illiterate. Dr. McLaughlin thinks that the standard of physique should be definitely prescribed by law and every male immigrant should be required to pass a physical test. Each family should be required to possess at least one male, supposedly the bread winner, who could come up to certain prescribed requirements. The great difficulty met with in the endeavor to solve the immigration problem successfully is the tendency of immigrants, and especially those of Italian nationality, to flock to the great cities. If they would spread over an extended area their presence would be a boon rather than it frequently is now a bane to the country. Agricultural districts would welcome the strong, hard-working foreigner and a rural life would be better in every respect for all concerned. Under existing conditions the poorer sections of the large centers of population are rendered more and more unhealthy by reason of the overcrowding engendered by the too gregarious habits of ignorant foreigners.

Sanitary Rules for White Men in the Tropics.

The greatest cause of sickness among white men in the tropics is ignorance of sanitary laws. It is generally agreed that if the Caucasian, who makes a tropical country his home, will only live in a manner best befitting the climate in the majority of cases he will retain his health, at least for a considerable period. Major P. G. Ivers of Royal Army Medical Corps is contributing to the *Journal* of that corps some sanitary notes for recruits. In the issue for February, 1905, he recommends certain precautions to be taken by newcomers in tropical regions. He points out that the greatest care should be taken to ensure a pure water supply, and repeats the common statement that there is no safer method known for purifying water than that of simple boiling. The importance of wearing a flannel belt is also insisted upon, as by this means an equal temperature or heat of the body is kept up and the danger of sudden chills avoided. The writer lays special stress upon the necessity for temperance, and states that temperance both in conduct and at the table is a *sine qua non*, if the individual is desirous of preserving his health in the tropics. We fear the writer is more theoretical than practical in his recommendations. No one will find fault with his not particularly novel suggestion to boil the water, nor with his praise of temperance—which need not necessarily mean teetotalism. But his insistence upon the hot, sticky, and uncomfortable flannel belly band sounds like a voice from the past. A wet compress worn constantly over the abdomen and loins is not to be recommended as a means of preserving from sudden chill.

A LAW TO CHECK ADULTERATION.

AN act has been introduced into the New York State Assembly, by Mr. Fish, to amend section one hundred and sixty-five of the agricultural law. This section deals with the question of food adulteration, and of the offering for sale of food unfit for human consumption. The new matter in the act refers to slaughtered game, animal or poultry, and provides that the carcasses of such slaughtered game, animal or poultry, shall be divested of the lung tissues, entire digestive and intestinal tracts, gall receptacle, craw, and gizzard lining within forty-eight hours after slaughter. Any law which aims at preserving food from adulteration is in these days worthy of the highest commendation, and should be supported by public opinion. The amendment to the law to which attention has been called seems to be a reasonable and needful one and is another step in the direction of ensuring to the people good and pure food.

News of the Week.

The National Anti-Tuberculosis Meeting.—The plans for the annual meeting of the National Association for the Study and Prevention of Tuberculosis to be held in Washington, May 18 and 19, under the presidency of Dr. Edward L. Trudeau, are now rapidly approaching completion. At the general meeting of the association to be held on the morning of the 18th, addresses will be made by the president and by the two vice-presidents, Drs. William Osler of Baltimore, and Hermann M. Biggs of New York. At a general meeting to be held on the evening of the 18th, an address will be made by Mr. Talcott Williams, of Philadelphia, to be followed by the business meeting of the association. The afternoon of the 18th, and the morning and afternoon of the 19th, will be given up to meetings of the Sociological, Clinical and Climatological, and Pathological and Bacteriological sections. Invitations have been sent to the various anti-tuberculosis organizations in the United States to be represented by delegates at this meeting and a large attendance is expected.

Association of American Medical Colleges.—The fifteenth annual meeting was held in Chicago, April 10, 1905. The Association has adopted a new Constitution and By-Laws, so that now the annual dues are raised to $25.00. The minimum entrance requirement was made a diploma from an accredited high school, normal school, or academy requiring for admission evidence of the completion of an eight-year course in primary and intermediate grades, and for graduation not less than four years of study, embracing not less than two years (4 points), of foreign languages, of which one must be Latin; two years (4 points), of mathematics; two years (4 points), of English; one year (2 points), of history; two years (4 points), of laboratory science, and six years (12 points), of further credit in language, literature, history, or science. The applicant is required to take an examination in prescribed subjects, equaling a credit of 30 points, or he must present certificates from reputable instructors recognized by the Superintendent of Public Instruction in the city or State in which the college is located, or by any State board of medical examiners duly authorized by law, which might be accepted in lieu of any part of this examination. Provision is made for a four-year course of study in four calendar years, each annual course to have been not less than 30 teaching weeks, including examinations, duration, and at least ten months intervening between the beginning of any course, and the beginning of the preceding course. Credit may be given to the holder of a Bachelor's degree for any work in the medical branches which he has successfully completed in his college course, only so far as it is the full equivalent of corresponding work in the medical curriculum. The holder of such degree may also be given time credits of not exceeding more than one year; provided he has had at least forty hours in physics, 144 hours in chemistry, 24 hours in osteology, 292 hours in human or comparative anatomy, 124 hours in histology, 85 hours in embryology, 145 hours in physiology, and 46 hours in materia medica, provided that the applicant satisfies the professors of the Chairs in the medical school as to his proficiency in these first year medical studies. Every student is obliged to attend eighty per cent. of the exercises in every annual course of study for which he seeks credit, and no credit shall be given unless he attains a grade of at least 70 per cent. or its equivalent in any other marking system. No student can be graduated unless he attains a passing grade in each and all subjects of the required curriculum. Dr. Samuel C. James, of Kansas City, Mo., was elected *President;* Dr. Fred C. Zapffe, of Chicago, *Secretary-Treasurer.* The next meeting will be held in Pittsburg, in 1906.

Pennsylvania Society for the Prevention of Tuberculosis.—At the thirteenth annual meeting, held April 12, the retiring President, Dr. Howard S. Anders, criticised severely the action of Governor Pennypacker in vetoing the bill passed by the Legislature for the establishment of tuberculosis camps in the Forestry Reserve of the State. He further pointed out the danger of alcoholism as an etiological factor in lowering the resistance to tubercle-bacilli, and he recommended effectual legislation against the marriage of tuberculous individuals. He made a plea that greater consideration be given to the prevention of tuberculosis among children. He dwelt on the dangers from the use of common drinking cups in public places, schools, etc. He suggested that children in the schools should be taught, in the course of hygiene, the fundamental principles concerning tuberculosis, such as proper modes of living especially antagonistic to the development of the disease, cleanliness in the home, and the like. The following officers were elected for the ensuing year: *President* Dr. Joseph Walsh; *Vice-Presidents,* Dr. M. P. Ravenel, Dr. Benjamin Lee, Mr. Talcott Williams, Dr. A. B. Craig, Dr. Howard S. Anders, Mr. Samuel Castner, Dr. Samuel G. Dixon, Dr. L. F. Fick, Dr. Samuel Scoville, Jr., Dr. Seneca Egbert; *Secretary,* Dr. Ward Brinton.

War Against the Peripatetic Quack.—The physicians of Lebanon, Ohio, are pretty thoroughly organized for business and protection. One of their latest contests was against the patent medicine fakir. One of that sort of street vendor entered the town not long ago and was as promptly arrested as the evidence against him could be secured. He claimed to be from Virginia, to have studied medicine in Louisville, Ky. Of course, the local doctors were accused of jealousy. In a newspaper paragraph written by himself the "doctor" claimed that he was persecuted and was perfectly innocent of violating the law, but as his business affairs needed his attention he said he would plead guilty and leave the town. The minimum fine was assessed and the man seemed to be glad to get away.

San Diego County, Cal., Medical Society.—The annual election of officers of this society on April 7, resulted in the choice of Dr. James M. French, President, and Dr. Willard N. Smart, Vice-President. Dr. Thomas L. Magee was reelected to serve his fourteenth consecutive year as Secretary and Treasurer. After the election, the society adjourned to the Hotel Brewster and enjoyed an elaborate dinner provided by the retiring President, Dr. P. J. Parker. This was followed by a valedictory address on professional unity, that awakened a most enjoyable discussion and did much to strengthen the friendly feeling advocated in the address.

New Hospital Island to Be Built.—The contract for the construction of a new island to be part of the Ellis Island immigrant station in New York Bay, has been awarded to a building company, which is to forfeit $25 for each day the work remains uncompleted after the expiration of 230 working days. On the new island is to be erected a hospital for minor contagious diseases. The contract price for the work is $119,000.

New York County Medical Association.—At the meeting of this association, held April 17, the following officers were elected: *President,* Dr. Francis J. Quinlan; *Vice-Presidents,* Drs. John A. Bodine and H. H. Seabrook; *Recording Secretary,* Dr. W. R. Stone; *Corresponding Secretary,* Dr. C. G. Childs; *Treasurer,* Dr. Charles E. Denison; *Member of Executive Committee,* Dr. H. A. Dodin; *Member of Nominating Committee,* Dr. Wisner R. Townsend.

Formalin War.—According to the weekly bulletin of the Chicago Health Bureau, the war waged against formalin in milk during the last five years has been successful to a gratifying degree. In the samples examined in 1904 there were 93.6 per cent fewer cases of formalin adulteration than were found in 1900. The report also says: "In 1900, the under-five-years-of-age population of Chicago by the United States census was 190,355, and the total deaths were 8,283, or 43.5 in every 1,000 of the under-five population. In the succeeding four years the proportions have been 38.9 in 1901; 40.9 in 1902; 41.7 in 1903, and 34.7 in 1904, a reduction of 1/5 (20.1 per cent.), in 1904, from the proportion in 1900."

An International Medical Association Against War.—It is stated in *The Lancet* that more than two hundred medical men met on March 21, at the house of Dr. Rivière, in Paris, the object being to establish an association of medical men for the purpose of doing all in their power to abolish war. It was decided to found an International Medical Association against War and it was proposed to hold a congress on the subject in two years' time. Those present were constituted the committee of the movement and officers were elected as follows: *President,* Dr. Rivière; *Vice-Presidents,* Drs. Philippeau, Suarez de Mendoza, and Th. Mende Ernst; *General Secretary,* Dr. Mazery; *Secretaries,* Drs. Pokinotoff, Antonelli, Cree, de Torres Mendiola, de Castro Soffia, and Cogrel; *Treasurer,* Dr. Marechal; *Delegated Secretaries,* Drs. Mazery, Cree, and Cogrel. Dr. Rivière, who opened the proceedings in an able discourse, reminded his hearers of the horrors of war; he pointed out how the North Sea incident showed very well what arbitration could do and argued that medical men who were so intimately acquainted with human misery, both physical and moral, were by that very fact the most fitted of the community to collaborate in the great work of substituting arbitration for war.

Physician Sued.—Because he failed to change his clothing when he visited a patient, a physician of Millstadt, Ill., has been sued for $2,500 damages. The plaintiff claimed that the defendant while treating the former's wife for pneumonia, was also treating several persons afflicted with smallpox, and that he went directly to the bedside of the patient with pneumonia, after attending to the smallpox cases without changing his clothing or taking other precautions to prevent infection. As a result of this carelessness it is claimed that the plaintiff's wife and his five children contracted the smallpox and were ill for several weeks.

Sanitary Condition of the Joliet (Illinois) Penitentiary.—A report on the sanitary condition of this istitution was recently presented by the Secretary of the State Board of Health, Dr. Jas. A. Egan, at a quarterly meeting of that body. The report pointed out the absolute necessity for increased facilities if the health of the 1,400 inmates is to be maintained unimpaired. According to the report, there is inadequate air space and lack of light in the present cell arrangement. No great increase in the death rate, however, has been demonstrated. A supplementary report on the air condition in the present cell houses is forthcoming by Prof. John H. Long, chemist; and Dr. Robert Zeit, bacteriologist.

The St. Louis College of Physicians and Surgeons held commencement exercises on April 14 and fifty-four graduates received diplomas. The faculty address was delivered by Prof. Wm. F. Francis, and the class valedictory by Marvin C. Prentz.

Wistar Institute Committee.—The board of ten anatomists appointed as advisors to the Wistar Institute of Anatomy of the University of Pennsylvania, has selected a committee of five to cooperate with the committee on cerebral study of the international academies. The object of the movement is to appoint representatives at points throughout the world for the purpose of collecting and preserving material for the study of the anatomy of the brain and of comparative anatomy and embryology in general. A general line of research has been laid down of which the ultimate object is the collection and study of the brains of men of distinguished character and ability.

Coroner's Bill Passes.—The bill introduced by Senator Elsberg to abolish the office of coroner in New York City and to substitute therefor medical examiners, was passed by the Senate after little opposition. If the bill is enacted the work of the coroner's office will be divided between the Police and Health Departments.

Medical Association of the District of Columbia.—The following officers for the ensuing year were elected at the recent semiannual meeting: *President,* Clifton Mayfield, M.D.; *Vice-Presidents,* D. Olin Leech, M.D., and G. Brown Miller, M.D.; *Secretary,* D. W. Prentiss, M.D.; *Treasurer,* Frank Leech, M.D.; *Counselors:* Standing Committee, G. Wythe Cook, M.D.; George N. Acker, M. D.; H. T. A. Lemon, M.D.; John S. McLain, M.D.; T. N McLaughlin, M.D.; E. L. Morgan, M.D.; James Dudley Morgan, M.D.; George C. Ober, M.D.;

William M. Spriggs, M.D.; *Censors,* L. K. Beatty, M.D.; Sothoran Key, M.D.; Louis Mackall, Jr., M.D.; *Delegate to the American Medical Association,* George M. Kober, M.D.

Metallic Ferments in Meningitis.—It is reported from Paris that Dr. Albert Robin, who, a short time ago described good results in the treatment of pneumonia by the intravenous injection of metallic silver and manganese in the colloidal state, to which preparations he has given the name of metallic ferments, has been treating meningitis by the same method in the Hopital Beaujon. The injections are said to be followed by a decrease in the temperature and improvement in the general condition.

Abbeville County, S. C., Medical Society.—This society has been organized with the following officers: *President,* Dr. J. W. Wideman; *Secretary,* and *Treasurer,* Dr. C. C. Gambrell; *Delegate to the State Association,* Dr. Jesse R. Bell.

New London County, Conn., Medical Society.—At the last meeting of this society, held at Norwich, the election of officers resulted as follows: *President,* Dr. J. G. Stanton, New London; *Vice-President,* Dr. C. E. Brayton, Stonington; *Clerk,* Dr. M. E. Fox, Montville.

Seizure of Patent Medicine in Maine.—The Prohibitionists of Maine are passing through one of their periodical endeavors to reform both the spirit and the letter of the liquor law in that State. They recently made a raid on the grocery store of a firm headed by the Governor and seized a large quantity of a popular and much advertised patent medicine, the claim being made that it contained an illegal amount of alcohol. A clean sweep will now be made of this and other proprietary medicines, alcoholically charged, throughout the drug and grocery stores of the State.

Deaths by Illuminating Gas.—The Gas Investigating Committee recently called upon the Coroner's office for statistics of gas poisoning in this city during the past three years. The compilation shows that the number of deaths, both accidental and suicidal, is increasing. The records show that in 1902 there were sixty-three accidental and sixty-eight suicidal deaths; in 1903, 123 accidental, and 93 suicidal, and in 1904 the figures were 130 and 133 respectively.

Cocaine Habituation Among Negroes.—In his charge to the March Grand Jury at Rolling Fork, Miss., Judge Oliver Catchings called special attention to the allegation that druggists all over the Mississippi delta were selling cocaine promiscuously to negroes. The evils attendant upon the use of the drug, according to Judge Catchings, cover the whole catalogue of crime, and he insisted that the Grand Jury should show no mercy in dealing with druggists who are found to have violated the law.

Salicylic Acid in Baked Beans.—Analytical tests made by the chemists of the Boston Board of Health and of the State Board have revealed the presence of salicylic acid in certain canned baked beans, sulphuric acid in hamburger steak, and boric acid in butter offered in the public markets of Boston.

"The American Journal of Surgery" is the title which was assumed with the April number of the *American Journal of Surgery and Gynecology.* The transformed and renamed journal is edited by Dr. Walter M. Brickner of this city and published by Dr. Joseph MacDonald, Jr., formerly manager of the *International Journal of Surgery.*

The California State Board of Health, at the annual election, held in Sacramento, April 1, reelected Dr. Martin Regensburger president, and Dr. N. K. Foster secretary, Dr. W. A. Briggs being chosen for vice-president. Dr. Foster was elected also delegate to the annual meeting of the State and Provincial Health Boards to meet at Washington, D. C., in May.

The Medical and Chirurgical Faculty of Maryland.—The one hundred and seventh annual meeting of this society will be held in the convention hall of the Hotel Stafford, Baltimore, on April 25-27, 1905, under the presidency of Dr. Edward N. Brush. The secretary is Dr. John Ruhräh.

The Hickman County, Tenn., Medical Society.—At the recent annual meeting of this society, the following officers were elected. *President,* Dr. A. Norris, of Centerville; *Vice-President,* Dr. J. S. Burley of Pinewood; *Secretary and Treasurer,* Dr. C. C. Stephenson of Centerville.

Dartmouth Medical School.—Plans have been made to reorganize the medical school of this college which dates from 1798, when Dr. Nathan Smith was made professor of medicine. The first step will be the erection of a building of large and handsome proportions facing the south, adjoining the present one. The proposed cost of the new building is $30,000, a large proportion of which has already been raised among the alumni.

Obituary Notes.—Dr. G. W. Phillips died at his home in La Junta, Colo., on March 23, at the age of eighty-three years. He was born in Berkshire County, Mass., and was graduated from the Indiana Medical College, La Porte, Ind., in 1846. In 1850 he went to California, but later went to Dixon, Ill. He served during the Civil War as surgeon of an Illinois regiment. In 1877 he removed to Colorado, where he continued to reside until his death.

Dr. William B. Small died at his home in Lewiston, Me., on April 13, at the age of forty-one years. He was a graduate of the Bellevue Hospital Medical School in 1888.

Dr. Milton Jay of Chicago, died March 31. He was dean and professor of surgery at the Bennett Medical College, and for many years was surgeon-in-chief of the Chicago and East Indiana Railway.

Dr. John W. Hamilton of Lampasas, Texas, died March 30, at the age of forty-five years. He was a graduate of the Medical Department of the Tulam University in the class of 1887.

Dr. Samuel D. Drewry died at his home in Centralia, Va., on April 2, at the age of seventy-three years. He was a graduate of the Medical College of Virginia in the class of 1854.

Dr. Albert K. Hadel of Baltimore died April 4, of pneumonia. He was a graduate of the University of Maryland School of Medicine in the class of 1889.

Dr. Herbert W. Cardwell of Portland, Ore., died April 3, of typhoid fever, at the age of forty-four years. He was a graduate of the Medical Department of Willamette University in the class of 1887 and of the College of Physicians and Surgeons, New York, the following year. After graduation he served on the house staff of the Methodist Episcopal Hospital, Brooklyn. During the Spanish War he was surgeon to the Second Oregon Volunteers and served three years in the Philippines.

Dr. John W. H. Baker died at his home in Davenport, Iowa, on April 7, at the age of eighty-four years. He was a graduate of the Dartmouth Medical School in 1843. He was an ex-president of the Iowa State Medical Society.

Dr. Samuel N. Bemis died at his home near Brattleboro, Vt., on April 8, of pneumonia, at the age of eighty-two years. He was graduated from the Woodstock Medical College in the class of 1848.

Correspondence.

SECOND ANNUAL MEETING OF THE PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

(From Our Special Correspondent.)

HEALTH SUPERVISION OVER PROSTITUTES—TRIALS OF THE HEALTH DEPARTMENT—HOSPITAL AND PRISON SERVICE—AMEBIC DYSENTERY—CLIMATE OF MANILA—MEDICAL LABORATORY WORK—CHINESE MEDICINE—RELAPSING FEVER—HISTORY OF PLAGUE IN THE PHILIPPINES—ELECTION OF OFFICERS.

MANILA, March 15, 1905.

THE third session of the association took place promptly at 4 P.M., March 3. The first paper read was by Dr. E. C. Shattuck of the Board of Health, upon "The Treatment of the Venereal Diseases at the Sampoloc Hospital." It has been the custom to exercise supervision over the prostitutes ever since the American occupation. Regular examinations are made by a medical officer, and any prostitute who is found to have gonorrhea or syphilis is sent at once to the hospital, where she is detained and treated until she is no longer a source of danger to her patrons. In the case of gonorrhea this is determined by the examination of slides made from the secretions of the cervix and urethra. These slides are examined by independent observers at the laboratory, and whenever they are reported as being negative upon two examinations in succession, made on different days, the patient is discharged. He said that the average number of days in hospital was being gradually reduced. This was attributed to the fact that the cases probably now came under observation earlier and therefore yielded more readily to the treatment.

The next paper, "Measles," by Rudecendo Cuervo, M.D., was read in Spanish. It was an exhaustive study of the history of the disease and was very favorably commented upon.

The above was followed by an "Address in State Medicine," by Major E. C. Carter, U.S. Army, Commissioner of Public Health. He prefaced his remarks by stating that the result of his three years' work in the Philippine Islands, in connection with the Health Department, was one of the greatest disappointments of his life. It seemed to him that it had been one series of failures. It was his intention, he said, to begin with a brief summary of the conditions that confronted the Board of Health in the summer of 1902, and to end as best he might by leaving the questions suggested rather than raised by his paper, to be discussed both by the members of the association and perhaps by the writer himself, at some future time, when he might command more leisure and be at a happy distance from the scene of his trials, disappointments, and failures. If the scientific aspect and purpose of the work were considered alone, justice could not be done to the devoted men who have given their best to sustain the Commissioner of Public Health in his endeavors to meet emergencies and to pursue the golden mean, albeit a compromise between the right and the expedient. It was not to be denied that this so-called mean has been nearer to the expedient than to the scientific; and that which has been accomplished has been brought about along the lines of least resistance, rather than along the lines of scientific accuracy. For it has been demonstrated here, as elsewhere, that state medicine or prophylactic sanitation must be largely influenced by the habits, customs, etc., of the particular people whose condition it is desired to improve. A knowledge of the sentiments of a strange people is not obtained from books nor from observation alone, and from the lack of such knowledge he often found himself in deep water, from which he had not always escaped unscathed. It was hoped that, by formulating in advance a clear, concise, and definite plan, the people could themselves be persuaded, led, and finally attracted toward the good. He said that if the history of the Teutons and of the Latins taught anything it taught that the systems of life are a growth and development, and do not spring admirable and complete from the brain of some genius, as Athene sprang from the forehead of Zeus. The effect of epidemics and the violation of sanitary laws has been more disastrous upon nations and peoples than war. The plague at Athens destroyed Greek culture and civilization as much as did the Peloponnesian War or the loss of the Athenian fleet before Syracuse. The insanitary condition of the Roman Compagna broke the power of Rome as much as did the Goths and Huns. He said a nation's worth is gauged by its sanitation, the people's efficiency by their life hygiene, and that doom is predicted by dirt and destruction by filthiness. He spoke of the satisfactory result of vaccination in the city of Manila, and pointed out that there were only 27 deaths during 1904 from smallpox, 10 of which occurred among Europeans and Americans who had neglected or avoided vaccination, and that the latter number was out of all proportion to the number of natives affected. Referring to the cholera epidemic, he said that he had felt compelled to write to his chief at Washington that all precautions against the spread of the epidemic were doomed to failure and that its end might be expected only when the vulnerable material was exhausted. The epidemic had taught the following lessons: 1. Recognize cholera at the beginning; this is not difficult clinically and microscopically. 2. Acknowledge it frankly and control it in its incipiency by heroic measures if necessary. 3. Provide stores and comforts for the sick. 4. No method of treatment is satisfactory save, perhaps, serum. 5. Cholera is a disease that may be controlled and confined. The worst condition that confronted the Board of Health in the epidemic of 1902 was the partly active and the partly passive hostility of the medical profession.

The next paper was read by Dr. R. E. L. Newberne, on "San Juan de Dios Hospital." This was an interesting history of a Manila hospital, which is located in the walled city and was built in the year 1595. It has always been under the direction of the Catholic church, being first in the hands of the Brotherhood of Santa Misericordia, and finally was jointly under the management of the Brotherhood of San Juan de Dios and the Sisters of Saint Vincent de Paul.

The next paper, "The Medical Department of Bilibid Prison, and Some of the Interesting Diseases Among the Prisoners," was by Dr. W. L. Moulden, the prison physician. He gave a description of the manner in which the work is done. A separate building, situated in another part of the city, is used exclusively for the tuberculous cases. The insane are confined at the San Lazaro Hospital. All other cases are treated in the prison hospital. Beriberi is a common disease, but is usually only found among the new arrivals from the provincial jails. A great many surgical operations are done, particularly for hernia. With the exception of beriberi, the diseases encountered resemble very closely those found in similar institutions in the United States.

"The Metropolitan Police Medical Service," by Dr. A. T. Short, police surgeon, was the title of a paper, which gave a brief description of the medical aspects of the Manila police force.

The last paper read at this session was by Dr. W. E. Musgrave, the assistant director of the Biological Laboratory, entitled "Symptoms, Diagnosis, and Prognosis of Uncomplicated Intestinal Amebiasis (Amebic Dysentery) in the Tropics." The clinical symptoms were not at all characteristic, and might vary from practically none to all those found in gastrointestinal disturbances. A trustworthy diagnosis was not possible unless confirmed microscopically. The writer stated that all cases in which the ameba was found in the stools should be regarded as dysentery, and treated as such, regardless of the fact as to whether there were symptoms present or not. No one could at present state whether a given ameba was pathogenic or non-pathogenic. He said he knew of several individuals who frequently had amebæ present in the stools over long periods of time and no clinical symptoms had manifested themselves, yet these should be regarded as rare exceptions. It might be that these cases had small ulcers which it was impossible to detect, and that such cases might give rise to liver abscess. The prognosis of all cases seen early was excellent. In over 200 cases seen by him, only three were considered sufficiently grave to be sent to the United States for climatic reasons.

At the fourth and last session, Dr. W. S. Washburn delivered an "Address in Climatology." This was a most learned dissertation upon the theory and causes of climate. Many comparisons were made between the climate of the Philippine Islands and other tropical and sub-tropical countries. He proved by statistics that the climate of Manila was one of the most desirable of all tropical countries and more particularly that the white race could live here just as long as anywhere else in the world. He said that the death rate here among the whites was as low as any given for the most healthful cities of Europe or the United States.

The next paper, "The Care of the Aged and Infirm," by M. Gomez, secretary of the Board of Health, was read in Spanish.

"Evolution of the Medical Laboratory Work in the Philippine Islands, and Opportunities Now Offered for Future Work," by R. P. Strong, director of the Biological Laboratory, was a brief history of what has been accomplished since this work began. He stated that the work had had a great economic value, in that many of the serums, vaccines, etc., were made by them, and that chemical analysis, protography, and microphotography, assaying, etc., were done for the entire Insular government. He desired to invite particular attention to the fact that free laboratory facilities were now at the disposal of any reliable person from any part of the world. Space would be cheerfully given, chemicals and materials provided, and all necessary experimental animals supplied. The only condition imposed was that the result of such work should be published in their laboratory bulletin. There would be no objection to the publishing of the results elsewhere in addition. He called attention to the wealth of material from which to choose, mentioning particularly plague, dysentery, surra, rinderpest, glanders, malaria, dengue, etc.

The next paper, "Chinese Medicine," by Tee Han Kee, easily attracted more attention and excited more interest than any other paper read at the meeting this year. He said that the history of Chinese medicine dates back as far as 3000 B.C., and may be divided into three periods. (1) The dark age, which dates from the time of Emperor Sin Long, down to Confucius, a period of about 2280 years. (2) The progressive age, which dates to the time of Emperor Shun Ti of the present dynasty, a period of about 1,800 years. (3) The retrograding age, which dates from Emperor Shun Ti to the present time, a period of 268 years. The first period is renowned for the discovery and use of many different drugs, and also for the first medical book ever written. The first man in China who ever understood medicine was Emperor Sin Long. He was an inventor, agriculturist, philosopher, and particularly a physician. He wrote the first work upon therapeutics. For many years his works were the standard textbooks for the succeeding generations. The second period was celebrated for its many famous physicians and surgeons. Cases of amputation at the shoulder-joint are recorded. A case that particularly attracts attention is the operation performed by Wah To on the Chinese general, Kwang Hu Choo, who was advised to have the operation performed with an *anesthetic*, but he preferred to divert his mind with a game of chess while the operation was being performed. Inoculation for smallpox was practised by wearing the clothes of a person who had died of the disease, by placing fluid from the pustules in the nose, by blowing pulverized scabs directly through the nostrils, or by inserting with them moist cotton and keeping them in position for five days. During the third period, or retrograding age, the physicians became selfish, and allowed their knowledge to die with them. The practice of Chinese medicine is not conducted upon a scientific basis at present. It is either learned by apprenticeship, in which case the master does not teach all he knows for fear of competition, or a few medical books are obtained and the person starts into practice. The therapeutic value of drugs is pure guesswork. No autopsies are performed upon human beings, the meager knowledge of anatomy being derived from animals. Disease is classified as either a hot disease or a cold disease. Hot diseases require cooling drinks and cold ones require hot drinks. This permits the layman to argue with the doctor upon an equal footing. Diagnoses are made by feeling the pulse, which is sometimes an operation of several hours' duration. The radial artery is always used for this purpose and the wrist is divided into three parts, the pulse of each of which corresponds to particular organs of the body. The study of the pulse is made from a book, which is called the book of eighty-one difficulties. Anatomical descriptions are vague and indefinite. Organs are described as consisting of blood and air; the heart, for instance, is said to be in front of the fifth vertebra, is attached to the trachea, and contains more air than blood and is the seat of hearing and taste. The gall bladder contains more blood than air and controls the will power. He expressed the opinion that modern medicine would gradually force its way into China. Already the great relief which is obtained from many of the surgical operations has made a great impression upon the Chinese.

Dr. Koch of Hong Kong read some notes on four cases of "Relapsing Fever," discovered in Hong Kong during the month of January last. These cases were found among some smallpox suspects, but as the fever went out, and no eruption appeared, it was decided to examine the blood, whereupon the characteristic spirilla of Obermeier were found. These are the first cases ever reported in Hong Kong. They occurred among some Chinese sailors who had recently come from India. Dr. Koch said that the disease is transmitted by mosquitos or possibly bedbugs. Experiments upon monkeys are now being conducted, the result of which will be published later. His office boy, who had been detailed to keep the mosquitos from the patients but who did not come in contact with the patients nearly so closely nor for as long periods as the nurses, contracted the disease. The incubation period in this case was three days. Quinine, large doses of carbolic acid, and various treatments were tried but none of them seemed to have any effect upon the disease. One of the patients died. Blood specimens taken from the spleen and at a number of other places did not show the presence of the spirilla.

"Disinfection of Ships," by Dr. J. D. Long of the Public Health and Marine Hospital Service, was read by title only, owing to lack of time. "The Military Medical Service in the Philippines," by Maj. Charles Richards, Medical Department, U. S. Army, was also only read by title. These two papers are to be read at the next meeting of the Manila Medical Society. "Infant Mortality," by Dr. Luis de Castro, was read by title only.

"A History of Plague in the Philippine Islands," by Maximilian Herzog, pathologist of the Bureau of Laboratories, was the next and last paper read at the meeting. The first plague which occurred in the Philippine Islands of which there is any record was reported in Manila, December 26, 1899. The author was of the opinion that the disease must have been present before that date, but that it was not recognized. He referred to the greater susceptibility of the Chinese to the disease; next came the Filipinos, the least susceptible being the whites. There has, however, been a steady decline in the percentage of cases among the Chinese; this he ascribed to natural causes rather than to any measures that were taken.

At the close of the scientific session a business meeting was called. Among other routine business transacted was the passage of a resolution authorizing the standing committee to name the time and place of the next annual meeting. At the election of officers, the following were chosen: *President,* Maj. E. C. Carter, U. S. A.; *Vice-presidents,* Dr. Victor G. Heiser, Public Health and Marine-Hospital Service, and Dr. Rudecendo Cuervo; *Secretary-treasurer,* Dr. R. E. L. Newberne; *Councillor,* Dr. R. P. Strong. The meeting then adjourned *sine die.*

At 8 P. M. a banquet was given at the Army and Navy Club. It was well attended. Among the guests were the Governor-General, Luke E. Wright, and other prominent officials of the Insular Government, the Army, and the Navy. Many witty speeches were made and the evening was spent in a very agreeable manner.

The second annual meeting was a success in every way. The attendance exceeded all expectations, averaging over one hundred for each meeting. The papers were of a high character, many of them being read by men who are acknowledged to be among the leaders of the American medical profession not only in the Philippine Islands, but in the United States as well.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S FUND—PROTEST AGAINST SIR MICHAEL FOSTER'S OPINIONS—MILK SUPPLY AND STERILIZATION—INFANT FEEDING—EDUCATIONISTS AND DEGENERACY—BISMUTH—QUEEN'S JUBILEE HOSPITAL—VARIA.

LONDON, March 31, 1905.

THE Prince of Wales presided on Wednesday at the annual meeting of the King's Hospital Fund, and gave a lengthy address which contains a lucid exposition of the position and needs of the fund. He touched on the various questions that have had to be considered during the year, such as economies in hospital administration, the relations of hospitals and schools, the amalgamation of small or special institutions, and so on. He announced that he was authorized to express the King's entire satisfaction at the results achieved during the year. The income of the year was £85,200, but of this £4,000 is accounted for by the unexpected increase in the sum received from the League of Mercy, viz., £14,000, against £10,000 in 1903. The Prince expressed gratitude to the workers in that valuable auxiliary which gathers up small sums for the fund. For the future he hopes eventually to realize the £150,000 a year—the income which the King from the first hoped would be reached, although the last year's total receipts only amounted to £84,000. Still £80,000 has been distributed, and considering the depression that has prevailed and the numerous claims on the benevolent, that is a noble sum to have been raised.

Sir Michael Foster has shocked the profession and gone far to forfeit authority as a physiologist or scientific thinker. Can it be that having entered parliament he has so soon degenerated into a mere partisan politician? At any rate he has drawn upon himself a reproof for his "distortion of scientific reasoning," "misuse of physiological expressions of facts," "false assumption," "sophistry," "misleading reference," "grave error," "confusion of ideas," and so forth. These expressions and others as emphatic are contained in a protest signed by Sir W. Broadbent, Sir T. Barlow, Sir Victor Horsley, Mr. P. Gould, and half a dozen other eminent leaders, against a memorandum by Sir M. Foster issued by the Board of Education. You will remember that some time since a petition was presented to that board, signed by nearly 15,000 practitioners, in favor of teaching elementary hygiene and temperance in Board schools. A deputation of leading medical men waited on the president of the Board to urge that the petition should be granted, and a general impression prevailed that this must be the case. Now, however, the Board has issued a document containing an adverse memorandum by Sir M. Foster and the Board's remarks thereon. Sir Michael's memorandum is devoted to criticising certain syllabuses which have been to some extent used in schools, and he unquestionably makes statements which well deserve the condemnation so vigorously administered. For instance, he says that if alcohol is to be spoken of as a poison so should be oxygen and water. Could anything be more misleading or more puzzling to school children? He speaks of the effect of "water applied directly to the nerves," as if such a physiological experiment on an exposed nerve has anything to do with the effects of water or alcohol taken into the stomach. Is it too severe to say that by such sophistry "scientific truth is perverted and the issue completely confused?" Sir Michael has evidently confused and misled the Board, for in their remarks they complain that "oxygen in the syllabuses is regarded as an essential of life. No mention is made of any dangerous properties." One would have supposed that the Board would have been able to raise enough common sense among them to laugh at the pretentious nonsense of oxygen and water being poisonous, and knowledge enough to tell their advisor that without this oxygen in the atmosphere we should all perish, and that the effects of a pressure of five or six atmospheres is quite "another story." One more sample: Sir Michael refers to intoxicants and intoxicating, using the words in the technical sense, and so says both tea and alcohol produce intoxication. Fancy telling the school children this, and when they ask the meaning of the word are told drunkenness, what would be their idea of the teacher's truthfulness.

The signatories of the protest followed it up by calling a conference of medical men, which was held on Friday in the Examination Hall, on the Embankment. There was a large attendance, and the leaders of the profession were numerously represented. Sir Wm. Broadbent presided, and speeches were made by Sir T. Barlow, Sir V. Horsley, Dr. Wm. Collier, Dr. Robt. Jones, Dr. F. W. Mott, Mr. McAdam Eccles, Mr. Pearce Gould, Professor Sims Woodhead, Dr. Hyslop, Dr. Harford, Dr. Symes Thompson, and Dr. Ridge, and the meeting showed strong disapproval of Sir M. Foster's contention. The chairman insisted that the physical degeneration of which so much has been said, depended largely on ignorance and vice, and should be counteracted early in life. Sir Victor Horsley said that the teachers had been misinformed as to the object of the profession, which was to secure attention to hygiene, and surely bodily health and healthy homes deserve as much attention as geography or history. Dr. Robt. Jones, of the County Asylum, showed the evil effects of drink, as shown in the report of the Committee on Deterioration, which states that the evidence convinces them "that the abuse of alcoholic stimulants is the most potent and deadly agent of physical deterioration." Sir T. Barlow referred to the great change of opinion as to the place of alcohol during the last fifty years, and said that its value was still greatly overestimated by many. It was no longer thought necessary as an article of diet, but further observation showed that those who took it more easily fell victims to cholera, pneumonia, and other diseases. Mr. Eccles urged that the dissemination of sound knowledge on the subject was to be encouraged in every way, and that in view of the many questions they would have to meet, medical students should receive the fullest instruction thereon.

Sir Shirley Murphy presided over a meeting of the Royal Sanitary Institute on Saturday, when a discussion on municipal milk depots and milk sterilization was opened by Dr. G. F. McCleary. He said there was no necessary connection between depots and sterilization, and no need to limit the operations to a single costly method of supply. Yet milk specially prepared for infants was the only kind supplied in the ten municipalities which had established depots. The object was to reduce the heavy infantile mortality resulting from improper feeding. Mothers' milk was immeasurably better than anything else, but unfortunately the natural food was not always available. He described the methods adopted in Rochester, U. S. A., and expressed the opinion that municipal depots should supply, not sterilized, but clean, milk from their own cows, strictest aseptic conditions being insisted on in all departments. Dr. Groves declared women should not be allowed to have children unless they gave the State a guarantee to nurse them(!) He did not say how that could be accomplished. Dr. Cooper Patten was a trifle more practical. He said the discussion was only a heresy that should be extirpated, and mothers encouraged to develop lacteal secretion, but he did not say how. Dr. Robertson, of Birmingham, greatly preferred natural to sterilized milk. Dr. Walford, of Cardiff, protested against the waste of ratepayers' money in undertakings which were only carried on at a loss, and said the proper course was to place all dairies under medical control. Dr. Manchester said the municipal depots did not deserve all the credit they claimed. Dr. Sykes pointed out that they could not teach young girls all the details of nursing, but they might instruct mothers in all classes. Several other medical officers of health spoke, and a vote of thanks was passed to Dr. McCleary, who in the afternoon received the visitors at the Battersea depot, and afterwards entertained them at the Town Hall.

On Wednesday, Dr. W. G. McDowell, lecturing at the Institute of Hygiene, said that the common ideas as to feeding infants in their first year were quite wrong. There was a craze for superfatting their milk, and though the infants at first grew plump they early developed obstinate constipation, and finally suffered from convulsions, for the extra fat was not digested. They recovered when the fat was reduced by skimming the milk, but too often the opposite plan was tried—more cream was added, and the child lost. Teething was constantly blamed, but if the mother thought first of the stomach, of fresh air, or heredity, she would be more likely to consult her doctor before it was too late. The lecturer further protested against preservatives being permitted. To let the dairyman substitute boric acid for cleanliness and thoroughness was iniquity. He quoted the record of experiments with boric acid on cats from the September issue of the *American Journal of Medical Science*, to show the work of repeated doses on young children.

The degeneration of the race, according to some faddists, has reached such a pitch that the nation is in danger of extinction in the coming generation. Between feeble-minded, underfed and unfit children, what is to be expected, ask the educationists, unless their warnings arouse the people to insist on free instruction from the lowest school up to the highest university position, with free food, free clothing, and free housing for all who ask for it? But where is the money to come from? says one; throw it on the rates, reply the fanatics. It is not surprising that a continental lady visiting a school, and asking all children who are hungry to hold up their hands, should be deceived by the response. But we might have expected Sir J. Gorst and Mr. Macnamara to have displayed a little common sense and not to have rushed off with the lady to protest to the Board of Guardians that they had failed in their duty, and that the children of their district were starving! But in spite of refutation, the fanatical educationists pursue their one notion in and out of parliament, and provide sensation papers with shocking warnings of the decay of physical and mental power. A proposal to drill the school children might have been supposed to meet their approval, but Sir John Gorst declares the military system "totally unsuited to the tender and delicate muscles of young boys and girls." The poor law as now administered provides for every destitute person, and parents who cannot feed their children can always have relief. But politicians of the caliber of Sir J. Gorst and Mr. Macnamara say that would lead to the poor parents being disfranchised—as if hungry men and women were more anxious to vote for these gentlemen than to get a good meal.

The matter has been before parliament in various forms. Sir J. Gorst produced a little sensation by reading a letter from a lady describing the children in a northern town as unwashed, in rags, and half starved, but often kept from school to exercise the well-groomed, well-fed dogs of their fathers. And yet he did not seem to see that such fathers should be compelled to do their duty, rather than that honest rate-payers should be mulcted to supply their deficiencies. The government declined to introduce a bill on the subject, but a private member has used his fortune in the ballot to do so.

Dr. H. A. Caley lately contributed some interesting observations on bismuth to the Therapeutical Society. The local action on the stomach he regarded as the most important, and the carbonate as the salt most generally useful and to be preferred as a gastric sedative. As to the action in intestinal disorders, Dr. Caley advanced some experimental evidence as to the antiseptic action of the salts of bismuth. He found the subnitrate had a distinct germicidal action on cultures of the bacillus coli; the salicylate had a similar effect, but much weaker; the carbonate was inert in this respect. Under laboratory conditions the antiseptic action was destroyed by alkalies, though clinically this cannot be, for alkaline media are quite effective. It may be inferred that the chief action in the intestines is local on the mucous membrane, and the indications for its use catarrhal inflammation. In large doses, bismuth may replace direct intestinal antiseptics, astringents, and opiates. For this purpose subnitrate is the preferable salt, and if a stronger astringent is desired catechu may be added, and this combination is better than the subgallate.

The annual meeting of the Queen's Jubilee Hospital was chiefly occupied with an attempted explanation of the dispute which led to the resignation of the staff and the withdrawal of the promise made by the Princess Louise Augusta of Schleswig-Holstein to lay the foundation stone of an extension. It was said that one of the staff informed the Princess that the extension was only to be an addition to the ground floor. The committee passed a vote of censure for this, and the whole staff resigned, and a still larger staff was appointed by the committee in the course of a few days. Of course the old staff do not join in the so-called explanation, and I hear of other causes of dissatisfaction which they might have anticipated when they joined, and which the new men who rush into the vacancies may perhaps experience.

The Lincoln epidemic of typhoid is declining. The notifications for the week ending the 24th numbered 32, as against 46 in the previous week.

The Medical Society has awarded its Fothergillian prize for 1905 to Sir F. Treves.

A deputation from the London and Liverpool schools of Tropical Medicine waited on the Colonial Secretary on the 22d inst., in reference to beriberi and sleeping sickness.

The army council has given up the plan of providing soldiers with artificial teeth.

The government is sending a scientific expedition to India, to investigate the origin and cause of plague. They have wisely entrusted the direction and arrangements to the Royal Society and the Lister Institute.

A meeting is to be held at the Royal College of Physicians, on the 10th proximo, to consider the question of the amalgamation of the societies. The president has promised to take the chair. The question has been discussed at intervals for about a century, so there ought not to be need of much further talk about it.

Mr. Beit has increased his donation to the proposed Institute of Medical Sciences of the University, to £25,000.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

MORTALITY STATISTICS IN PRUSSIA IN 1903—TWENTY-SIXTH ANNUAL MEETING OF THE BALNEOLOGICAL SOCIETY—ANTI-STREPTOCOCCUS SERUM—CARDIAC WOUNDS AND THEIR TREATMENT—APPENDICITIS—ELECTION OF OFFICERS FOR THE VIRCHOW HOSPITAL.

Berlin, March 30, 1905.

The greatest triumph for medical science is the decrease in mortality. The mortality statistics of Prussia for 1903, with the causes of death, have just been published. Of 707,950 deceased, 14 died of smallpox, one—the Berlin physician who contracted the disease during his experimental researches—of plague. Anthrax was the cause of 12 deaths, glanders of 3, insanity of 8. Of 10,000 people, 28.08 died of digestive disorders; of old age, 20.92; of tuberculosis, 19.70; of pneumonia, 15.25; of diseases of the nervous system, 12.21; or cancer and other neoplasms, 6.59; of diphtheria, 4.9; of whooping-cough, 3.28; of measles, 2.73; in childbed, 2.28; 0.86 of erysipelas and other wound infections; 0.87 of typhus. The data as compared with those of other years are very instructive. A striking fact is the remarkable decrease in the number of deaths from wound infections, as well as from typhoid fever and the other so-called contagious diseases. This is without question the best proof that modern hygienic measures are scientific. In this relation it must not be forgotten that animal experimentation is most important in revealing the secrets of contagious diseases.

The twenty-sixth annual meeting of the Balneological Society was held in Berlin from March 9 to 13. I shall refer briefly to a few of the many papers that were read at that time. Heubner said that from experimental investigations his conclusion was that salt baths increase the process of decomposition of albumin in the body; that these baths are weakening to children; and that sea-bathing must be controlled by physicians in the future. Burwinkel (Nauheim) advocated periodical bleedings in arteriosclerosis in connection with the iodine and digitalis treatment. Grawitz (Berlin) preferred in the treatment of anemia the use of inorganic iron and an abundant vegetarian diet. Winternitz (Vienna) did not believe in the short cold baths in fever, recommending rather the longer baths of moderate temperature, especially in typhoid fever. Eulenburg thought that the treatment of functional and organic diseases should differ—that only the former could be cured by balneotherapy. Sea-bathing was for patients who were not too much weakened by disease. Koblauck advocated the use of cold baths in functional diseases of the female sexual organs.

F. Meyer's paper, entitled "Ueber die klinische Bedeutung des Streptococcenserums," aroused great interest, because it afforded the opportunity of listening to the discoverers of the serums—Meyer, Aronson, and Marmoreck. Meyer does not believe that it is justifiable to use his serum in any but cases which are otherwise hopeless. He advises a dilution of the serum in proportion to the effect which is looked for. The serum protects the organism in angina, erysipelas, and scarlatina. It cures cases of sepsis. It takes only from 12 to 20 hours for the effect to be noticed. For 24 hours there is a violent reaction, and then the disease begins to give way. The injections are indicated in ulcerating processes of the serous membranes, in tuberculosis, and in rheumatoid polyarthritis. Cutaneous inflammations and albuminuria are seldom noticed. Aronson advocates the use of his serum in those cases which are not suitable for Meyer's serum, and rejects the dilution of the serum. Marmoreck has used his serum since 1896, and has seen no ill effects from it, especially no rise in temperature. He thinks it can be used without limitation. He attributes the good results to the method of production of the serum and to the use of small quantities.

The great number of cases reported by Borchardt in his paper on cardiac wounds, which was read before the medical society, made the address of great importance. In one group of cases are those in which death occurs at once from the great force of the projectile, which causes a rupture or divulsion of the heart. In the second group of cases death occurs from hemorrhage—sometimes from the pressure of the blood which collects in the pericardium. After the diagnosis is made the heart must be exposed and the wound, as well as the pericardium, sutured. In some cases a small drain is introduced. Of 61 patients treated in this manner 24 recovered—39 per cent. Karewsky's paper on appendicitis was read at a meeting of the Society for Internal Medicine. He differentiates between appendicitis, *i.e.* inflammation of the appendix, and the perityphlitic attack. Foreign bodies seldom enter into the etiology. The most frequent cause of the disease is an enterocolitis. The prophylactic treatment consists in careful attention to the condition of obstipation and gastroenteritis. On account of the distribution of the nerve supply of this region, the pain may be felt in various localities. The most significant symptoms are the pain and tenderness on pressure in the ileocecal region and the extreme gaseous inflation of the cecum. The chronic type should be treated by rest. The expectant treatment should not last longer than from four to six weeks. The writer believes the best remedy to be operation.

Three officers have been elected for the new Virchow Hospital. Goldscheider is chief of the internes, while Hermes holds the same position over the externes. Both of these men have until now been in the Moabit Hospital. The chief is Ohlmüller, who till now has been in the Reichsgesundheitsamt. This is the first time in Berlin that a physician has been appointed chief of the department of administration in a hospital.

THE OSTEOPATHIC BILL IN THE NEW YORK LEGISLATURE.

To the Editor of the Medical Record:

Sir: The latest report I have seen in the daily press as to the status of the Osteopathic bill, now before the Legislature at Albany, was to the effect that it had been advanced and that the opposition to it seemed to have fallen off. Is it possible that the medical profession of this pivotal State of the Union is indifferent to the persistent efforts of this aggressive aggregation of masseurs to compel unqualified legal recognition in this State? Have we taken the pains to state the case fairly and frankly to the members of the Senate and Assembly, so that they can vote understandingly on this or any other similar bill? Perhaps all has been and is being done that can be done in the matter, but it seems to the writer that it is due to the honorable legislators that our attitude as a dignified profession should be clearly stated, together with a truthful picture of the results on the welfare of the community which will inevitably follow the passage of the proposed bill. Perhaps this can be done in no more effective way than by a candid analysis of the character and claims of those who demand this legislative recognition.

The founder of this "school," whose shrewdness, assurance, and power to influence his followers are too much in evidence to be disputed, claims that his "system" of modernized massage is based on an anatomical astuteness and exactness that leaves Gray floundering in the shadows of antiquarian amateurishness. His now quite numerous and steadily multiplying disciples, we must admit, are presumed to be drilled with more than ordinary thoroughness in regional and relational anatomy, and in a strenuous but by no means new system of manipulations and special massage.

The leaders of this new craft lack the necessary groundwork of thorough rudimentary education, and perspicuously display their want of that general grasp of science which keeps men out of the ruts of intellectual narrowness and petty prejudice, and enables them to compel the respect and confidence of the world. They are asking for special privileges and class legislation. What they need is class education. When they make themselves and their pupils competent to safeguard human lives and to diagnose accurately diseased conditions and to comprehend their import they will have no difficulty in passing the most exacting Boards of Examiners throughout the country and will not be obliged to ask any favors at the hands of any of the established schools of medicine. Nor will they be restricted to any line of therapeutic practice. They will be perfectly free to use any method or material, manipulation, or process that suits their fancy. Every legalized practitioner has this unquestioned right, and they would then compel recognition of themselves as legalized practitioners. To ask to be recognized without this substantial and necessary knowledge of the human system and of the natural, chemical, physiological, and psychic laws that affect and control human life is entirely unreasonable. For any legislature to yield to their sophistical reasoning and their persistent importunities is not only unjust to those who have made themselves thus competent, but it is tampering with human life, menacing the safety of the community.

It may be added in behalf of the younger followers, many of whom are not too full of conceit and self-satisfaction to realize that in order to win permanently they must begin at the foundation, acquire a solid education in all the collateral branches of medical and surgical science, and thus become competent to hold their own with the most eminent practitioners of any school, instead of being content to be looked upon as merely expert masseurs, that substantial accomplishments never long go begging for substantial acknowledgment, and when these aspirants for public favor and patronage genuinely "get down to business" on this basis they will no longer need to fight for legal recognition.

Our legislators are called upon to see that the laws favor no special class, that all are placed on an equality, and held to the same substantial requirements, which is neither more nor less than

FAIR PLAY.

Progress of Medical Science.

Boston Medical and Surgical Journal, April 13, 1905.

Cancer in and about the Mouth.—F. C. Cobb insists on the importance of early diagnosis of malignant disease in this general region. Lesions are of two classes: (1) those which, benign in themselves, may undergo a degeneration into malignancy, such as leukoplakia, warts, ulcerations, fissures, and tubercles, and (2) those in which clinical manifestations are already evident. Special attention is given by the author to leukoplakia, which so often degenerates into epithelioma. The process may be prolonged for twenty years before actual cancer forms. Great care should be exercised in determining the cause of buccal ulcerations, especially those around the edges of leukoplakia areas. Lupus and tuberculous ulcers can be diagnosticated by the wide shallow appearance of the area involved, with its undermined, irregular edges, and lack of induration. In cases which may suggest syphilis, the therapeutic test may be employed, and in a week we are generally able to determine whether the diagnosis of specific disease is correct or not. If it is decided that the process is a malignant one, a radical operation should be undertaken, a small wedge being removed at the time of operation and examined by a competent pathologist before proceeding further with the operation. If, on the other hand, any reasonable doubt exists as to the nature of the growth, the same procedure —namely, excision of a small wedge-shaped piece—may be practiced under cocaine, taking care to cut wide of the lesion into healthy tissue, both to avoid any danger of starting metastases by the incision and also to afford the pathologist a comparison between the healthy and diseased tissue. The edges of the wound are brought together by suture and unite very quickly. No time should be lost in examination of the piece so removed, and if malignant, radical operation should follow as soon as possible.

The Use of the X-Ray in Post-Operative Treatment of Cancer in the Mouth.—This topic is discussed by E. A. Codman, who gives his experience in several instances. These have been in a general way discouraging, yet the author states that he feels like saying to an inoperable, hopeless patient that the measure is worth trying. Treatment of operable cancers in the mouth by this means the author regards as unjustifiable unless the circumstances are extraordinary.

New York Medical Journal, April 15, 1905.

Cases of Enteroptosis and Cardioptosis, with Return to the Normal.—The details of six cases are given by Max Einhorn. They illustrate the fact that a complete return of prolapsed organs to the normal is possible, and also the fact that an increased bodily weight conduces to a better position of the organs. It is somewhat difficult to explain the latter fact. It may be that it is due to increased deposit about the viscera, especially the heart and kidneys. The former viscus is the first organ to return to its normal position. A return to the normal seems to be more frequent in cardioptosis than in ptosis of the other viscera. The treatment in all these cases consists mainly in the wearing of a properly fitted abdominal belt, and ample feeding. The latter is the more important of the two. Even if the organs do not return in every instance to the normal position, subjective symptoms are generally relieved by the routine above indicated.

Erythema and Urticaria, with a Condition Resembling Angioneurotic Edema, Caused only by Exposure to the Sun's Rays.—The patient of S. B. Ward was an American single woman, aged 27 years, who suffered from an eruption every time she was exposed to the sun's rays. On one occasion she exposed her shoulders, chest, and arms to oblige the physician, who was at hand to note the immediate effects. After sitting five minutes in the direct rays of the sun, the areas above enumerated were of a uniform brilliant scarlet color as if the subject of scarlet fever. The skin was swollen to such an extent that there was some impediment to flexion at the elbow joint. The hairs all stood up straight, in marked contrast to the other arm, and the sensation of burning was complained of as intense. The condition was manifestly one of erythema. On parts of the arm, and especially on the front of the chest, there were present also about a dozen white, round wheals, like those of urticaria, varying in size from a large pin's head to a silver dime, accompanied by marked itching. These conditions of redness and wheals extended in a less degree downwards below the line of actual exposure, under one layer of thin linen. Fifteen minutes later, the redness of the arm and burning sensation had markedly diminished, but the swelling was about the same, and the depressed orifice of every sweat duct was perfectly visible. On the front of the chest the redness had disappeared, the wheals had run together, and one large white patch, irregular in shape, some five inches long and two inches wide, showed the pores most plainly. The face, neck, and hands were of an almost uniform red color, somewhat blotchy, save that the neck showed a band of normal skin about two inches wide which had been protected by the shadow of the head; in other words, the parts of the skin usually exposed did not show the changes nearly as plainly as those that were usually covered. Tactile sensation and the perception of heat and cold were perfect. The conjunctiva of the left eye was injected, the small vessels becoming visible. After the lapse of an hour the skin everywhere resumed its normal appearance, except that on the front of the arm the capillaries remained dilated, but the sensations of burning and itching were all gone. These changes are referable to a vasomotor disturbance. If the exposure was short an erythema would appear; if longer, urticarial wheals, and if still longer, an angioneurotic edema.

Medical News, April 15, 1905.

Intracranial Traumatic Hemorrhage.—The subject is considered in a systematic way by J. S. Wight. The cases may be divided into epidural, pial, and cortical. Epidural hemorrhage may come from the diploic vessels, and is usually scanty. It may come from the dural vessel, espeally the branches of the middle meningeal artery, and is generally profuse and alarming. An osseous fragment may injure the dural sinuses, but the coagula are less abundant here, since the fragment causing the injury often closes it until disturbed by intervention. Pial hemorrhages may appear as punctate extravasations, but more often as a thin sheet over the vertex. If abundant, they may break into the arachnoid space. Cortical hemorrhages may result from wounding of the brain substance, which may be superficial or subcortical. If no cortical lesion can be discovered following an injury, a given hemorrhage may be due to a coincident traumatic apoplexy, or one following shortly after or long after. Hemiplegia as a symptom of the general condition may be, to be of value as a diagnostic symptom, well-marked, slight, or temporary. Monoplegia or paralysis more marked in one limb than in the other is a very rare condition, as the area of hemorrhage generally extends over the entire motor field, causing a diffuse pressure. General paralysis is another rare condition which may be explained by a very large clot, *e.g.* on the left side, rapidly effused and making pressure through the left side of the brain upon the right as well, or by coexisting extravasation into the brain itself. Absence of any paralysis is due to the effused blood finding its way through a fracture in the skull beneath the scalp. Limbs rigid, convulsed, or twitching is probably due to contusion of the brain substance at more spots than one. Clinical reports are given illustrating the various types of cases.

The Significance of Epigastric Pain.—A. M. Pond gives a general view of the symptoms of the common affections of the stomach with special reference to pain. The pain of ulcer gives a history of long duration, is usually in women under thirty, is frequently associated with vomiting of blood, or the passage of blood in the stools; the pain can be located by pressure, and the nervous symptoms are pronounced. The pain is almost continuous, and extends over a long period of time, is increased by taking anything acid or saccharine into the stomach, and is relieved by taking bland food, or sometimes water, during the pain occurring between meals. In disturbances of impaired motility, the age is not so conspicuous a symptom. The pain is not so constant, there being intervals when comparative good health is enjoyed; it is dull and oppressive, more than acute. There is no history of nausea, in fact, vomiting is very hard to accomplish. The vomitus never contains blood or bloody streaks, but consists of yeasty ferments, a large amount of dark fluid, and undigested material. In carcinoma the pain is continuous; there is a rapid loss in weight, early cachexia, vomiting of bloody discharge, presence of a tumor, and rapid decline. In gall-bladder disease the pain is of a severe colicky nature, and, as a rule, is spasmodic.

American Medicine, April 15, 1905.

Hysterectomy for Fibroids of the Uterus, With a Report of 250 Operations.—John B. Deaver says his experience with uterine fibroids has led him to hold the following opinions: Fibroids of the uterus do not require removal unless they are productive of symptoms, but that when they do become symptom-producing, they should be removed promptly, before the patient has been weakened by toxemia, hemorrhage, or sepsis. Abdominal supravaginal hysterectomy is the operation to be preferred in the vast majority of cases. Myomectomy is applicable only to younger women in whom the tumors are few in number and superitoneal in character. Panhysterectomy is to be employed only when intraligamentary growths, whether uterine or ovarian, render the performance of supravaginal amputation difficult or dangerous. The ovaries, or a part of one ovary, should be preserved in every woman who has not reached the age of menopause, unless they are distinctly and indisputably diseased or unless their retention would needlessly prolong and complicate the operation.

Paratyphoid Fever.—John Norman Henry says there are two varieties of paratyphoid fever produced by organisms which differ from each other only in minor cultural peculiarities. These two forms are difficult to distinguish either from one another or from typhoid fever. Of diagnostic importance in paratyphoid fever is the more abrupt onset and the earlier arrival of the acme of the disease as compared with typhoid. Otherwise the symptoms and course of these two affections may be similar, though the course of paratyphoid is usually shorter. Spots, splenic enlargement, nose bleed; hemorrhages, and a large number of complications may be present in these allied infections. The question of the possibility of a double infection of typhoid fever and paratyphoid has been raised by the presence in some cases of a double agglutination reaction of about the same degree of positiveness. Before this may be assumed as a certainty, however, it is necessary either to recover simultaneously both organisms from the blood of the patient suspected of being the subject of a double infection, or to saturate out the specific and group agglutinins of one infection and demonstrate the presence of the others. As yet these double infections have not been proved, though the saturation tests have not been applied to any great extent in these diseases. The pathology differs widely from that of typhoid fever, the autopsy findings being largely those of a septicemia. In some cases ulceration of the intestine has been found, but the ulcers have been of dysenteric type and Peyer's patches have altogether escaped. The mortality has been placed at about 6 per cent., being somewhat less than that of typhoid. Dr. Henry reports six cases.

Chronic Eczema as a Complication of the Senile Degenerations.—Medwin Leale says this skin lesion having its initial onset during old age can usually be attributed to the circulatory changes, and their consequent degenerations. Usually it is an eczema erythematosum. The pathological changes in the skin are due to deficient nutrition, resulting in an alteration in the epithelial layers associated with a dekeratinization in the upper layers, edema, and an immigration of exuded cells. After considering the symptoms and clinical picture of the disease, which he regards as purely a local manifestation of the circulatory and other changes, he states that although these cases often prove very resistant to treatment, yet in the majority of cases a more or less permanent cure, and in all cases a great amelioration of the symptoms can be effected by care and perseverance in a rational line of treatment. He lays great stress on making a careful general physical examination, determining accurately the condition of the heart and blood vessels, the lungs, kidneys, etc., and meeting any pathological condition by its appropriate treatment. The circulation should be properly maintained and the emunctory carefully watched. Water should be taken freely, but in small quantities at a time, to secure rather a constant flushing, than an overdistention of the heart and blood-vessels. Moderate exercise is advantageous. The local treatment should have for its object stimulating and thereby improving the peripheral circulation of the blood and lymphatics. Carefully regulated and systematic rubbings and frictions best meet these conditions. Using the greatest amount of surface of the palms of the hands and fingers as can be well adapted to the affected surface, he adopts a combination of effleurage and massage a friction, the strokes of the hands following as nearly as possible the course of the veins and lymphatics. For lubrication a fine quality of olive oil is used, and with this for medication a pure finely powdered zinc oxide. Each application lasting from twenty to forty minutes, given every night, preferably just before retiring to secure sleep. Where more stimulation is necessary a strong tincture of pix liquida is used. Every second night before the application the patient is given a bath at 94° F., using a pure olive oil soap. Under these methods of procedure, if carefully followed, one may expect in most cases within from two to eight weeks a more or less permanent cure. He cites an illustrative case.

Pathology of Sciatica.—J. Ramsay Hunt records a typical case of sciatica with careful histological study of the affected nerve. To the naked eye the nerve trunk below the sciatic natch and in the popliteal space was swollen and distinctly enlarged. The swelling due to an accumulation in the perminol alveolar tissues of the translucent substance having the consistency of gelatine. A careful histological examination of the nerve by modern laboratory methods failed to reveal any structural changes of an inflammatory or degenerative nature. Hunt concludes that the so-called sciatica or, more properly speaking, sciatic perineuritis, is not an inflammatory condition in the usual acceptation of the term. That the underlying change consists of a structureless transudate into the lymph spaces of the nerve sheath of obscure nature and origin, but probably dependent upon or closely allied to the gouty and rheumatic diathesis.

Journal of the American Medical Association, April 15, 1905.

Abdoninal Tuberculosis.—W. J. Mayo finds that tuberculous peritonitis is much more frequent in females than in males, and that the explanation of this fact may be found in the frequency of tubal infection. He has verified Murphy's observation of the patency and thickening of the tubes on one or both sides in these cases. In nearly all the peritoneal involvement was greatest near the infected tube, and this he attributes to proximity and not to gravity, as has generally been done. He explains the curative effect of laparotomy in these cases as acting in two ways: (1) by the mechanical separation of the fimbriated extremity of the tube from the surrounding tissue; and (2) after removal of the fluid, contact and adhesions with neighboring structures may wall off the infection from the general peritoneal cavity and enable nature to exert itself on a limited focus and to produce a cure. In some cases he has found appendiceal and not tubal infection as the cause. In the majority of cases, however, the localized focus of lupus of the tubal mucosa was the cause. He holds that the failure of laparotomy and evacuation of fluid in tuberculous peritonitis is due to reinfection from local lesions not removed, and in the mucosa of the fallopian tube, appendix or intestinal tract. In nearly every case the peritonitis has its origin in a local focus, primary or secondary, and, if the former, radical operation will largely increase the chances of its cure.

Relation of School Methods to School Diseases.—W. J. Herdman and J. H. McBride reported for the committee appointed at the New Orleans session of the American Medical Association. They gave an account of what has been done here and abroad in the way of school inspection and isolation of diseased children, and general sanitation of school buildings, the special care of backward children, etc. The report approves of the thorough psychological examinations made in the Chicago schools as the high-water mark in school inspection in this country and elsewhere. It finds the work satisfactorily done in a few places, though as yet inspection methods are far from complete in most communities, and in some they have never been tried. The report recommends that the American Medical Association put itself on record as urging complete and systematic medical inspection of school and school children; "(1) in the interests of the public, since it is a potent means for detecting and preventing the spread of contagious and infectious diseases; (2) for the purpose of securing to the child, while in attendance on school, the most favorable hygienic and sanitary conditions: (3) for the purpose of securing exact knowledge regarding the physical and mental capacities of each child, in order that the methods of instruction may be intelligently directed to meet individual needs."

Appendicitis.—Channing W. Barrett has analyzed the vital statistics of Chicago for the last fourteen years with special reference to appendicitis. He finds that it causes about 1 per cent. of the mortality from all causes. The first consideration is an early diagnosis. All troublesome appendices should be removed without waiting for an acute attack, and all acute cases should be operated on without waiting for pus, rupture, adhesions or a possible interval. Perforation or gangrene with localized abscess should be operated on with drainage or removal of the appendix, according to the judgment of the operator, and operation is the more necessary if there is no walling off of the abscess. Acute appendicitis should be operated on whenever the patient's condition permits, unless he is clearly convalescing. In that case wait till the acute symptoms are over. Healthy appendices should be left alone. The above counsel does not contraindicate rest, stomach lavage or the withholding of food, and of which measures can be employed as needed with or without operation. Lastly, life is not the only question; time and after-conditions are also important. Adhesions may be temporarily life-saving and later deadly. The waiting treatment favors them. After operation the patient is usually up in from ten days to three weeks. The rest treatment takes a much longer period of time.

The Lancet, April 8, 1905.

Esophageal Pouch Successfully Treated by Excision.—A. B. Barrow and J. Cunning report the case of a woman of 55 years, who had had dysphagia for eight years. Later she began to regurgitate but not vomit food. A diagnosis of malignant disease had been made. On examination of the neck no swelling or enlargement of the glands could be detected, but on bilateral pressure over the esophagus just below the level of the cricoid cartilage, a certain amount of gas could be squeezed up into the mouth. On swallowing two or three times gas could again be squeezed up. A medium sized bougie stopped eight inches from the teeth and could be felt to the left of the trachea. A small bougie could be passed into the stomach. A diagnosis of esophageal pouch was made and an operation done. On exposure of the gullet there was seen lying to the left of it and behind it a white fibrous-coated pouch and one and a half inches long with the bougie in it. On tracing the pouch upwards its neck was discovered to be in the lowest part of the posterior wall of the pharynx. The bougie was now removed, and the fibrous coat of the neck of the pouch was divided and turned back as a cuff. The mucous membrane was then ligatured and cut through and the fibrous coat was stitched up over it. A few stitches were put in to bring the muscular coat together over the site of the neck of the pouch. The patient was fed by nutrient enemata for seven days and was then able to swallow milk. At the end of a fortnight she was discharged with the wound healed, and was able to swallow any kind of food.

Purpura as a Late Complication in a Case of Scarlet Fever.—The patient of J. W. Miller, a boy of 4 years, ran through the usual scarlet fever course—the temperature not subsiding to normal until some two weeks after the initial symptoms. Three days later it began to rise, and next day enlargement of the glands on both sides of the neck was noted, with much tenderness on pressure. About a week later hemorrhage was noticed about the tissues of the left eye, and bleeding occurred from both nares. Gradually purpuric areas appeared over various portions of the body. Uremia supervened and the patient died on the twenty-eighth day from the onset of the original disease.

British Medical Journal, April 8, 1905.

Obliterative Arteritis.—E. Michels and F. Parkes Weber described about two years ago two cases of obliterative arteritis in young men, leading to gangrene of the extremities. They were both poor East End London Jews. The patient whose case they now report belongs to the same class and nationality. He is a cigarette maker, 39 years of age. The trouble began when he was 23 years old, with pain in the right extremity. It came on after he had walked for a few minutes, and was a kind of "intermittent claudication." The foot was quite red at that time. On account of his sufferings, the right lower extremity was amputated below the knee joint. Later on, he began to suffer with the left extremity in the same way he had suffered with the right. He had been accustomed to smoke at least ten cigarettes a day, and had also taken a great deal of strong tea. Examination revealed nothing abnormal in the urine. The nervous system showed no signs of disease. The arteries and nutrition of the upper extremities seemed to be natural. Pulsation was hardly, if at all, perceptible in the left popliteal artery. First of all, the left big toe was removed on account of gangrene. The wound did not heal properly, and intolerable pain in the foot continued, so that amputation was again practised, this time below the knee. There was scarcely any bleeding from the cut vessels, and the lumen of the popliteal artery was found to be completely obliterated at the site of amputation. Recovery was uneventful. Examination of the popliteal artery showed its lumen to be obliterated by fairly dense connective tissue containing a great number of newly-formed blood-vessels and a certain amount of pigment granules. Part of the connective tissue was probably the result of organization of a thrombus. The condition of the anterior tibial artery was similar to that of the popliteal. The dorsalis pedic artery showed an extreme degree of endarteritis proliferans. The muscle fibers throughout showed complete absence of transverse striation and the presence of very marked fibrillation. There seemed to be an excess of nuclei in some of the connective tissue. The writers believe that in this case there can be practically no doubt that the occlusion of the larger arteries was due to thrombosis. The disease occurs almost exclusively in the male sex. The writers' cases seem to have been free from alcoholism, syphilis, and premature senility. They believe that tobacco might help to induce this affection in predisposed individuals, although it would not do so in most ordinary persons. They think also that it is possible that both poor or unwholesome food and racial factors may play a part in the etiology.

The Lowering of the Body Temperature in Hyperpyrexia by Means of Rapid Evaporation of Water.—Louis Henry describes a scheme which he has improvised for the lowering of body temperature as follows: The patient's bed is covered with some waterproof, over which is placed a sheet of toweling. This toweling, the sides of which are cut in a slant, is braided with jaconet. The patient reclines on the sheet, and if necessary has a warm bottle at his feet. Over the whole of his trunk another piece of toweling is placed in one or two layers, hemmed and bound along its sides with jaconet. A cradle is placed over the bed, to the dome of which is attached a small electric revolving fan surrounded by a wire cage. Affixed to the cradle is a small rose, through which water slowly sprays in fine driplets on to the toweling covering the patient. The fan, revolving more or less rapidly, affects the evaporation of water so that the degree of cold can be regulated to a nicety. After taking the patient's temperature, the electric installation is switched on. A rapid evaporation of moisture lowers the temperature. If there is any surplus of water, it will run down the jaconet drains into a receiver at the foot of the bed. A. few large fans in the ward would keep the air pure and cool the atmosphere.

Protective Power of Vaccination.—H. J. Neilson reports the case of a mother, aged 37 years, who was attacked with smallpox, and was taken to the hospital with her seven-months-old baby, which she was nursing. The infant had been successfully vaccinated fourteen days previously. The baby was not weaned, but was nursed by the mother throughout her illness (confluent smallpox) and was handled daily by about fifty other patients in various stages of smallpox. The child left the hospital in perfect health.

A Rare Form of Dislocation of the Ankle.—Thomas Eastes reports this case. The patient, in descending some stone steps, missed his footing and twisted his foot out under him as he fell. When the writer saw him he was in great pain and was lying flat on his back. The patella of each knee looked straight upward. The right foot was pointing straight upward, but the left was lying transverse and flat on its outer side, dislocated at the ankle joint by being rotated exactly a right angle outward on its vertical axis. It was neither too far forward or backward, but simply rotated. The tibia was unbroken, and the internal malleolus projected considerably. The anterior surface of the lower end of the tibia was still more prominent. The fibula was broken by an oblique fracture extending downward and inward in its middle third. The external malleolus was twisted outward and backward, with the outer side of the astragalus so that the two malleoli were separated behind by only three-quarters of a circle in front. The astragalus, though still in contact with the articular surface of the tibia, was at a right angle to its normal position. The tendo Achillis and the heel looked practically normal. The inner side of the tibia was very prominent and the skin was stretched over it like a corkscrew. The two most striking features were the peculiar transverse position of the foot and the strange appearance of the anterior face of the lower end of the tibia. The foot was not at all averted or inverted on its longitudinal axis, but rotated a quarter of a circle on its vertical axis. Under an anesthetic, the foot was replaced with slight extension and internal rotation. It went into its normal position with a snap.

Berliner klinische Wochenschrift, March 27, 1905.

The Nature of Malignant Growths.—Hansemann, although he says he has no fundamental objection to the parasitic theory, after analyzing all the arguments advanced by the advocates of this view, comes to the conclusion that they have not proved their case, and that it is not likely that they ever will. No unimpeachable instances of inoculation from man to animals have ever been recorded, and the cases in which a positive result has been alleged by transference from one animal to another of the same species are simply transplantations and not inoculations. The theories in which heredity and trauma play the important rôle are likewise not to be credited, for careful inquiry into cases detailed as evidence in favor of these standpoints usually reveals fallacies in the line of reasoning. The apparent increase in carcinoma is due to the fact that a greater number of people nowadays live to the age at which malignant disease occurs, and to better education of physicians in making diagnoses. The figures of de Bovis, for example, show that if the statistics are analyzed it will be found that the number of external carcinomata, *i.e.* those of the skin, breast, and uterus, has not grown, the increase being entirely in the internal growths only accessible to the improved diagnostic methods of today. The tendency to disseminate among the laity alarmist notions as to a great increase in the occurrence of malignant disease, and especially claims as to its infectious origin, are extremely ill-advised and tend to render the lot of the unfortunate patient still more wretched by causing him to be regarded as a source of danger to others. The author's own view is a very generalized one, which assumes that the causation of malignant tumors depends on the interrelation between irritation and irritability, using the terms in the broad sense of Virchow, which underlies all pathological processes. Some persons are by nature more susceptible to irritation than others, and in these some slight irritation may be enough to incite tumor formation. The probability is that it is wrong to attempt to find a single etiological factor for all types of tumors, and it is possible that we shall find separate causes for the different groups.

Münchener medizinische Wochenschrift, March 28, 1905.

The Alternating and Pseudoalternating Pulse.—Volhard analyzes the cardiograms and pulse tracings of two cases of each of these conditions, and arrives at the following conclusions. True cardiac alternation can occur, consisting of rhythmic alternations of strong and weak systoles of the auricles as well as of the ventricles. A disorder of rhythm is to be noted only at the pulse and not at the heart, the smaller pulse wave being retarded. This retardation is not the result of changes in conductivity, but is due to the less active contraction of the smaller systole and the higher pressure in the aorta. The occurrence of an extra systole may reinforce the alternation to such a degree that intermittence of the smaller pulse may be caused. There is only one form of alternating pulse, that in which there is a retarded small wave. If the latter appears at the correct interval or even ahead of time the condition is one of pseudoalternation, simulated by extra systoles. The retardation in true alternation destroys the regularity and simulates arythemia, while in pseudoalternation the irregularity is compensated and regularity is simulated.

Renal Injuries.—Habs reports four cases of subcutaneous rupture of the kidneys. Three forms of the injury are to be recognized. (1) Superficial contusions of the renal substances. (2) Deep tears and destruction of tissue reaching to the renal pelvis. (3) Tearing of the renal vessels or ureter, or of the entire hilus. Three of the author's cases belonged in the second class. One case recovered without operation; both the others were nephrectomized to check the hemorrhage. One of these patients died of peritonitis on the tenth day in consequence of the sloughing of the colon, the other recovered. The fourth case was remarkable in that no blood or albumen at any time appeared in the urine, although the persistent oliguria, pain, etc., left no doubt that the injury belonged in the first class. The patient recovered under non-operative treatment. The treatment comprises morphine, rest, and lowering of the head for shock, and ice locally, and injections of ergotin or gelatin for the bleeding. Cardiac stimulants must be avoided. Küster has shown that nephrectomy, long regarded as the proper measure for stopping the loss of blood, is better replaced by tamponade and suture of the damaged organ.

Deutsche medizinische Wochenschrift, March 16 and 23, 1905.

Quinine Sulphate as Oxytocic.—Bäcker says that inasmuch as we are still without any absolutely certain means of insuring sterility of the hands, and as practitioners must constantly come in contact with extremely infectious material, any method which permits the conduct of labor with a minimum of personal manipulation of the patient deserves recognition. The use of quinine as an oxytocic he says has not yet received the degree of consideration it merits, and he recounts the very gratifying results he has obtained by its employment in many cases which would otherwise have required instrumental delivery. Although its effect is not absolutely to be depended on, it is effectual in so many instances that its routine use in suitable cases is to be recommended. Its action is particularly marked in strengthening already existing pains, and it is superior to ergot preparations in that it calls forth strong contractions of the normal sort, with intervals of repose. Large doses are required, best given in amounts of 0.5 g. repeated two or three times at short intervals. The first dose is often ineffectual, while the second or third may be promptly followed by strong contractions. No disagreeable symptoms have attended its use in this way. The manner in which the drug affects the uterus is still undetermined, but it seems likely that its action is a central one.

Aceton Celloidin Imbedding.—Scholtz describes a technique by means of which it is possible to obtain satisfactory celloidin blocks of tissue for sectioning within twenty-four hours. The material, which must not exceed 3 mm. in thickness, is placed directly in pure aceton, either in the fresh state or after preliminary fixation in formalin or alcohol. The receptacle is kept in a warm place, and at the end of one-half to one hour the specimens will be sufficiently dehydrated. It is not absolutely necessary to change the fluid during this time. They are then placed in thin celloidin, curettings, etc., being first washed off with alcohol and ether to remove small remnants of the aceton which might otherwise remain in the fissures of the specimen. The celloidin is kept at a temperature of 37-40° C. for four to five hours, at the end of which time thick celloidin is added, and in two or three hours more they are put into just enough thick celloidin to cover them. Hardening is hastened by placing the specimens under a glass cover with an open vessel of chloroform. After twelve to fourteen hours the blocks are placed for a few hours in dilute alcohol to finish the hardening, and are then ready for cutting. An essential for success is to use only the best anhydrous celloidin and to employ only absolute alcohol in making the solutions. One advantage of the method is that it permits the making of sections of fatty tissues hardened in Flemming's solution, without dissolving the fat.

Clinical Observations and Experiences with Pneumococcus Serum in Croupous Pneumonia.—Knauth says that the results obtained in the eye department of the Würtzburg University Clinic by means of pneumococcus serum in the treatment of corneal ulcers due to the pneumococcus, were so very encouraging that he extended its use to seven cases of lobal pneumonia. The serum employed was a polyvalent one, obtained from different animals by immunizing them with different varieties of the organism. In no case were any disagreeable effects noted, the site of injection showed no reaction, and no inflammatory or erysipelatous redness resulted. No skin rashes or nephritis were observed, and the albuminuria present was purely febrile, as it subsided as soon as the temperature came down. Shortly after the injection the pulse, respiration, and temperature, the character of the expectoration, and especially the general subjective condition, greatly improved. Patients who had been groaning and complaining, or apathetic, appeared transformed, conversed with their neighbors and took an interest in their surroundings. A sudden critical drop in temperature was observed but once, ordinarily the patients perspired but little, the fever diminished gradually, and convalescence ran a normal course. In a case in which the injection was given early it appeared as if the attack were aborted, but the author admits that this may have been a mere coincidence.

A Contribution to the Question of Pressure Narcosis.—Engelken reports a number of improvements made in his anesthetizing chamber for intrathoracic operations. It now consists of a hexagonal cabinet constructed of iron, with glass sides, and sufficiently large to contain the anesthetist and the head of the patient introduced through an opening level with the top of the operating table. By suitable pumps the atmospheric pressure within the cabinet can be raised to any desired degree, and provision is also made for abstracting the free chloroform fumes and admitting fresh air. The apparatus has been used in four operations, three upon the same patient for a metastatic tumor of the lung, and the other for empyema. In each instance the anesthesia was easily maintained without inconvenience to either the patient or anesthetist, and opening of the pleural cavity was not followed by collapse of the lung. Whether this principle is preferable to that of enclosing the patient's body and operator with his assistants in a larger cabinet in which negative pressure exists, can be determined only by further comparisons of the two methods.

French and Italian Journals.

Meningitis with Insidious Evolution a Cause of Mental Alienation.—L. Marchand demonstrates that meningitis of insidious type gives rise to mental troubles. It is difficult to tell just the nature of the lesions. He concludes that the same kind of cerebral lesion can provoke different mental syndromes. The nature, the intensity, the localization, and the extent of the lesion, and the age at which the disease occurs all have to be taken into account. There is a type of insidious meningitis which gives rise in the adult to mental troubles only. In the child it often provokes epilepsy. There are two special types of this form of meningitis, with numerous intermediary varieties. In one type the meningeal lesion is of such a kind that the inflammation is evident; in the other the meningeal lesion is arrested in its evolution. These forms of meningitis bring about alterations in the superficial layer of the cortex, without degeneration in the pyramidal fibers or in the olivary body. To the first type of meningitis there corresponds a dementia with progressive but slow course; in the meningitis which is arrested in its evolution the mental syndromes remain stationary during many years. It is difficult to distinguish between the nature of the forms of meningitis which are arrested in their evolution and those which have a slow evolution.—*Gazette des Hôpitaux Civils et Militaires,* April 6, 1905.

Ascites in a Woman 22 Years of Age.—Chauffard describes the case of a woman 22 years of age whose illness began with a feeling of fatigue. The personal history was negative. The appetite failed, emaciation progressed, and constipation developed. The menses at first became more abundant, but were finally completely suppressed. The patient's mother, two years before, had been operated on for uterine fibroma. A tumor was detected in the right iliac fossa of the patient, and the physician consulted diagnosed the condition as that of pregnancy. At this time the presence of ascites was detected. Pleural effusion, which was also noted, increased until a thoracentesis on the right side was performed. Eight and one-half liters of deep yellow liquid were drawn off after a puncture was made in the ascitic region. The cervix was firm, and over the body of the uterus were felt two bosselated tumors, separated by a deep groove. Fever developed, followed by phlebitis, and the patient died ten months after the beginning of the illness. Autopsy revealed two large tumors, one developing from each ovary. There were no adhesions. The structure of the tumors was diverse. In places was seen the tissue of fasiculated sarcoma, or myxoid sarcoma, while in other parts the growth was distinctly epitheliomatous. Metastases were observed. The writer states that ascites is observed in all cases of malignant growths of the ovaries. Cancer cells were noted in the pleural liquid which was examined. It is difficult to say if an operation in the early stages of the disease would have been successful. Cancer of the ovary has always a grave prognosis, especially in a young woman.—*Journal des Praticiens,* March 25, 1905.

Cerebrospinal Meningitis with Relapses.—Letulle and Lemierre report a case of cerebrospinal meningitis due to the organism of Weichselbaum, in which there is a history of relapses. The first attack, which was serious, lasted twenty days, at the end of which defervescence took place brusquely. For a month it seemed as if the patient had entirely recovered; but suddenly the symptoms of meningitis reappeared, accompanied by severe general symptoms. Five days later the course of the disease followed the same order as in the first attack. Twelve days later there was a second relapse, which ended in definite recovery. However, the patient still has stiffness and trouble in walking. The cephalorhachidian liquid which was withdrawn at the beginning of each attack was distinctly purulent. At the time of recovery in each instance it had become serofibrinous. The presence of the meningococcus was determined in the cephalorhachidian liquid during the first two attacks. During the second relapse it could not be found. The organism did not prove virulent for a mouse, into the peritoneum of which it was injected.—*Le Bulletin Médical,* March 15, 1905.

Tumor of the Cecum; Transplantation of the Ileum into the Transverse Colon; Recovery.—Le Bec had under his care a patient afflicted with chronic obstruction due to a tumor of the cecum with multiple adhesions. He first made an iliac anus. The small intestine being found, he transplanted the ileum, after sectioning it, into the transverse colon. The transplantation was made into a longitudinal incision of the colon. Two sutures passed into the small intestine were afterwards passed into the colon. In drawing tight the ends of the sutures, so placed, the operator invaginated the small intestine into the colon, and terminated the operation by placing a triple row of seroserous sutures.—*La Presse Médicale,* March 29, 1905.

Mitosis in the Corpora Lutea.—Giovanni Paladino has made careful researches as to the formation of the corpora lutea in the bitch. He believes that great errors have been made in regarding it as a new formation of epithelial origin, and as to its function. He has shown that it is a new formation of connective tissue. His conclusions are as follows: (1) Mitosis is a form of multiplication largely represented in the formation of the corpora lutea, as well in the lutein cells as in the vessels, and can be demonstrated as well in the preparatory stage as in the fully formed follicle. (2) The place of genesis of the corpus luteum is the theca folliculi, with participation to differing degrees of the internal and external layers, at the expense of the elements near by as well as those which come by migration. (3) The nature of the corpus luteum is undoubtedly connective tissue. (4) Its significance is so formulated by him, that it serves at first to prepare and produce the rupture of the follicle, and afterwards to produce repair and cicatrization of the ruptured sac.—*Archivio di Ostetricia e Ginecologia,* February, 1905.

Tabes in Youth.—Augusto Clannelli reports a case of tabes not of syphilitic origin, in a young girl. Such cases have been rarely reported, there being records of only forty cases, 30 of which, when examined, prove to be other forms of tabes, only 10 being pure non-syphilitic tabes of youth. The patient was a girl of 17, who had no specific history; after a sea bath, taken at the time of menstruation, she began to have lancinating pains in the limbs, with cephalalgia and hemicrania. At 22 she had Argyll-Robertson pupil and Westphal's symptom. She had hyperesthesia of the thorax and along the inner border of the arm, and abolition of the knee and Achilles tendon reflexes. Pure tabes in children is very rare, and most cases have a syphilitic taint. This case was improved by treatment. It is certain that adult cases are also sometimes improved under treatment, hence this need not throw any shadow on the diagnosis of this case.—*La Riforma Medica,* March 25, 1905.

Scapular Hypophonesis and the Sign of the Scapula.—Signorelli considers the scapula as a large osseous pleximeter, applied against the posterior superior part of the thorax. The sound that it gives on percussion is not entirely due to the osseous vibrations, but also to the vibration of the adjacent parts, and so adjacent is one-half of the thorax that it may be said that the scapular sound will change with the changes that go on in the thorax behind it. It also is affected by the conditions present in the entire thorax. The author has studied systematically the changes which take place in the scapular resonance, in healthy as well as diseased persons, having pulmonary lesions, and gives us his conclusions. Whenever on percussion at the median extremity of the spine of the scapula there is a hyperresonance, and this cannot be attributed to an assymmetrical position of the scapula, or a deformity of the spine, it indicates alterations of the thoracic organs in the region covered by the scapula. One especial form of hypophonesis is that produced by effusion into the pleural sac, reaching up to the angle of the scapula. The author calls this hypophonesis the scapular sign of pleural effusion, because only in this is it obtained, and it is absent in the hepatization of pneumonia, when limited to the lower lobe of the lung.—*La Riforma Medica,* March 25, 1905.

Criminal Abortion.—Puppe in the course of his medicolegal work had occasion to investigate twenty-eight cases of criminal abortion in Berlin and northern Prussia. In sixteen of the cases the result was obtained by mechanical means, of which two comprised puncture of the membranes, and fourteen the injection of fluids into the genitals. In many of the cases, in addition to the manipulations, the internal administration of vegetable infusions, decoctions of unroasted coffee beans, hot baths, and applications to the genitals, etc., were resorted to as adjuvants. An interesting point is that the operative procedure was rarely undertaken with the patient in a horizontal position, but usually the abortionist knelt before the patient, who was seated on the edge of the chair or between two chairs. In this way the cervix becomes more easily accessible and shorter instruments than are usually supposed necessary suffice to enter the uterine cavity.—*Monatschrift f. Geburtshülfe u. Gynäkologie.*

Medicated Ointments in the Nose.—A. W. MacCoy has made a series of observations on the therapeutic value of medicated ointments in certain affections of the nasal chambers, and offers the following conclusions: (1) Notwithstanding our bent of mind towards surgical procedures for the relief of diseases of the nasal chambers, the rational employment of drugs must still occupy our attention. (2) Our constant and persistent use of nasal washes, especially during the winter season in our climate, tends to harmful results. (3) By the employment of curative medicaments in the form of soft ointments in the nasal chambers, we can avoid certain risks following the use of washes, etc., and at the same time further the advancement of our patients toward a speedier cure. (4) The availability, convenience, and adaptability of medicated unguents in the therapeutics of the nasal chambers appeal in a rational manner for their employment. (5) Ointments prescribed should be dispensed in collapsible tin tubes as a protection from contamination, and because this form of dispensing renders them most convenient for use at all times and in all places.—*The Laryngoscope.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held March 23, 1905.

Dr. CHAS. F. ADAMS IN THE CHAIR.

Adenocarcinoma of the Uterus.—Dr. ARNOLD STURMDORF presented this specimen which represented an early stage of adenocarcinoma of the uterus, and, historically, belonged to a subject of recent date. It was removed from a patient, 57 years of age, who had always been regular in menstruation. She had given birth to fourteen children normally and enjoyed perfect health until two years ago, when menorrhagia set in, which was at first controlled by the usual methods, but after a few months recurred. Two months ago it became uncontrollable. When he first saw the patient he found a stout lady with some myocardial degeneration. The uterus was enlarged and somewhat hard. Just within the cervix he could feel a little ovoid round hard mass. He said there was an appearance or condition about these cases which impressed one at once with their malignancy, and he could not tell why. In the early stage of these growths they suggested nothing more than what was found in early fibroids, yet the general condition, appearance and symptoms were such that one who had much experience with these cases could almost instinctively suspect the condition. The doctor who referred the case to him objected to the diagnosis of malignancy and insisted upon curettage being carried out. Dr. Sturmdorf refused and said that unless permitted to do a hysterectomy he would withdraw from the case. At last he obtained the consent and did a hysterectomy. He sent specimens of the tumor to three different laboratories of this city and the diagnosis from one was simple cystic adenoma, from the other two adenocarcinoma of the uterus. A cystic adenoma of the uterus was almost known. At present it looked more like a simple fibroid. There was a distinct demarcation line, and some of the cavities were filled with a colloid material. In these cases he said one could not be too careful in diagnosis or too radical in treatment.

Essential Metrorrhagia; Hysterectomy.—Dr. Sturmdorf presented this specimen which in a way was a counterpart of the first one presented. The two together represented one of the many obscure symptoms, namely irregular bleedings in the early and late stages of menstruation. In women from 17 to 30 years old, but more often in the earlier stages, one could not account for the severe conditions of uterine bleeding, which, in some conditions, appear regularly, and in others appear irregularly. There could not be found any heart, kidney, circulatory, or other trouble to account for it, and no anemia except what would naturally be caused by the hemorrhages. These women might go from doctor to doctor, and finally sone one would be compelled to do a hysterectomy. This patient was a single woman, 28 years old, and she had been bleeding for seventeen years. Her menses started early. She did not come from a family of bleeders. He saw her first ten years ago. She had been curetted about 30 times by men who knew how to curette. At last the amount of hemoglobin got below 30. When the uterus was examined nothing wrong could be made out, so far as the naked eye was concerned. Dr. Sturmdorf said that in a recent study of fibroid tumors he brought out certain facts regarding metrorrhagia occurring in old people. Some had varicose veins in the broad ligament, and degenerated myometrium. He said he had demonstrated some years ago that an unimpregnated uterus presented rhythmical contractions, same as an impregnated one, and that this contraction of the uterine muscle had much to do with the return circulation in the broad ligament. The studies of certain men had shown that in some cases there was no degeneration in the uterus after the menopause, especially in old women who had metrorrhagia, without some pathological changes; yet any muscular degeneration might represent muscular insufficiency, and this had something to do with the metrorrhagic condition found in these cases. Dr. Sturmdorf said he could not tell why these women bled.

Displaced Pyonephrotic Kidney; Nephrectomy.—Dr. Sturmdorf also presented this specimen. It was a mass of a pyonephrotic kidney with a calculus. The patient was a woman, 28 years old, who complained of pyuria. She never had had any pain. This pyuria began three years ago. She first passed pure blood and then pus. All that could be felt was a semifluctuating mass in the right pelvis; it could be felt over the right vaginal fornix. The cystoscope demonstrated the escape of pure pus from the right ureter. No lesion of the bladder could be seen. After cutting down and severing the agglutinated intestines he found a large retroperitoneal mass; he therefore closed the laparotomy wound and went down extraperitoneally and dug out the kidney that he presented. It was riddled with abscesses. He left the capsule behind, and the woman made a rapid recovery. The peculiar anomaly about it was the existence of two pelves. The kidney was displaced. Nature had tried to cure this kidney by fixing it. Some of these kidneys were displaced congenitally. In this case there was a pyonephrosis, or a calculus blocking one of the pelves; the other pelvis was free. Dr. Sturmdorf said it was not usually known that displaced kidneys were subjected to the same diseases that non-displaced kidneys were.

Dr. EGBERT H. GRANDIN, referring to the first specimen presented, said there was no doubt that adenocarcinoma of the uterus was relatively common, and yet they were not able to make a diagnosis as quickly as Dr. Sturmdorf did without resorting to curettage. As a rule it seemed to him wise to curette these cases and submit the scrapings to at least two pathologists before resorting to hysterectomy, the only operation to be done in these cases.

With regard to the second specimen presented he said the main reason for his attending the meeting was to learn what Dr. Sturmdorf meant by "essential" metrorrhagia. These cases must be of extreme rarity. He said he had been called upon to operate for uncontrollable metrorrhagia, but he confessed that he had never seen a uterus removed for such a condition that did not show some pathological change, or cause for the bleeding. Five or six years ago, he said, he presented to the Obstetrical Society a uterus of the same type as that just presented; this woman had been curetted by competent men, and notwithstanding this she reached an almost exsanguinated condition. He again curetted her, and then told his assistant that the only thing to do was a hysterectomy, which he did per vaginam. Opening the uterus he found a small nodule, exceedingly vascular, at one horn where the curette could not reach.

With regard to the third specimen presented, he said he had met with some instances. At times no diagnosis of kidney lesion had been made prior to operation, but only during operation. In one case he found the right broad ligament cystic, and continuous, and adherent to another mass. After attending to the broad ligament he removed the mass extraperitoneally, completing the operation through the median incision.

Dr. BROOKS H. WELLS had removed several uteri for metrorrhagia, but always had been able to find some pathological change to account for the bleeding.

Dr. Sturmdorf said that the simple fact of curetting the growth would produce added injury. In the case reported the scrapings would undoubtedly have been normal endometrium. He wanted to bring out how little one could rely upon the diagnosis made by prominent pathologists, and how little help they would have been in diagnosing the condition found in his patient. If deep scrapings had been taken he said it would have been very difficult to differentiate a carcinomatous from normal glandular arrangement. It was the clinical course of the tumor that differentiated it from benign growths. It should be differentiated by the presence of the carcinomatous cells, the typical arrangement of the stroma; when these conditions appeared then one could be absolutely sure of the diagnosis of carcinoma. In the majority of the cases of "essential" metrorrhagia (Martin's classification), there was to be found some pathological substrata; in some cases this pathological substrata could not be found.

Vaginal Hysterectomy for Chronic Inflammatory Conditions of the Pelvic Organs.—Dr. Herman J. Boldt presented these eleven specimens of uteri, removed from patients who had been treated for several years without being relieved of their symptoms. In all instances the myometrium was increased and resembled the condition which had usually been termed fibroid degeneration. The condition was one of chronic metritis. The endometrium likewise showed inflammatory changes. The adnexa in some instances showed very serious pathological changes. He said it was a very serious matter to be confronted with a question of such grave importance as the removal of the pelvic organs for non-malignant disease, one that should in each instance be most carefully considered. If there was any method of treatment that offered any hope of relief without resorting to such radical procedure, he believed that it should first be tried. In the instances in which the specimens were presented every conceivable plan of treatment had been used from two to five years without success. In all cases the pelvic pains were unbearable and dyspareunia was so intense that coitus caused the most excruciating suffering. He said that it had been one year since the last of these patients had been operated upon, and in all instances the former distressing symptoms had been relieved. The ages of the patients varied from 32 to 43 years. They were all multiparœ, and during their last confinements were said to have had blood poisoning. The symptoms of the forced menopause were present in a more or less marked degree after operation for from one to three years. It was maintained that in such cases the operation was not only justifiable, but that it was strongly indicated. He presented one specimen which showed complete obliteration of the cervical canal, and one centimeter from the uterine cavity, the myometrium had another small cavity of glandular lining. If a myofibroma developed in such a uterus it would be of the type known as adenomyoma, and in such instances we might have a primary carcinomatous degeneration of the neoplasm. The cause of the obliteration of the cervical canal in this instance was ascribed to repeated curettings and local treatments with caustics. The symptoms for which the operation was performed was constant pelvic pain, which was due to salpingo oorphoritis. Since the operation the patient had been free from pain. He also showed a myofibromatous uterus removed per vaginam because of pelvic pain and menorrhagia which could not be controlled by other methods of treatment. Also a specimen of carcinoma of the portio vaginalis uterus removed by vaginal hysterectomy. In this instance a high amputation of the cervix would have in all probability been sufficient, yet preference was given to the radical operation because of the age of the patient, 46 years, besides it was uncertain whether an independent carcinomatous nodule might not have been in the body of the uterus. Another specimen was a carcinoma of the uterus proper, removed by vaginal hysterectomy. The patient, who was 42 years old, had slight bleeding every time after intercourse; there were no other symptoms present. Another specimen was that of diffuse adenocarcinoma of the body of the uterus. The woman had been frequently curetted because of atypical bleeding during the previous three years, but the scrapings had previously shown only an adenomatous endometritis. Still another specimen showed circumscribed carcinoma of the body of the uterus. A vaginal hysterectomy was done and the patient made a good recovery. There was also a specimen of bilateral ovarian carcinomatous tumors which occurred in a patient 25 years old. She said that she had been feeling well until two weeks previous to the time of consultation when she began to have pain in the right lower abdomen, and a swelling manifested itself which rapidly increased in size. There was ascites, which with the nodular feeling on the surface of the tumor, and the rapid growth of the neoplasm indicated the presence of malignant disease. The operation had been performed in the morning of the day upon which the speaker presented the specimen. The ascitic fluid was bloody, and numerous metastases were present. The right broad ligament was removed, and some pelvic glands on the right side, as well as several metastases in the omentum. After having removed these it was thought possible to remove a metastatic nodule between the bladder and the cervix, but this being found impossible the uterus was extirpated. A large tumor, probably also malignant, in the lower part of the sigmoid at the junction with the rectum, necessitated resection of the bowel. The anastomosis was made with sutures and thus far the patient seemed to be doing well.

Dr. Egbert H. Grandin did not believe many men would favor operating in these cases unless forced to do so. Columbus Hospital seemed to be quite prolific of the type of cases Dr. Boldt referred to, and when operation was decided upon he did not do a partial operation but a total hysterectomy.

Dr. Robert T. Morris asked Dr. Boldt if he had ever performed hysterectomy for endometritis due to the colon bacillus. These cases at times were exceedingly intractable and recurrences were frequent.

Dr. Boldt replied that he had not had an opportunity of seeing such a case.

Dr. Brooks H. Wells thought the second cavity might have been congenital and due possibly to the failure of the duct of Müller to unite. He said he had seen several cases of double uteri.

Dr. Boldt, in conclusion, said it was not impossible to diagnose carcinoma from ordinary inflammatory conditions of the endometrium, as had been claimed by some. He would not care to resort to radical procedures unless the diagnosis was firmly established, and this could always be made by examination of the scrapings; if carcinoma was present characteristic changes took place in the endometrium which enabled one to make a positive diagnosis.

Morbid Processes in the Right Abdominal and Pelvic Regions of the Female, and their Differentiation.—Dr. J. A. Schmitt read this, the paper of the evening. He considered only those abdominal and pelvic diseases which might be mistaken for one another, and he divided them, for convenience sake, into acute and chronic, although any sharp distinction could not be drawn between them. When a woman was attacked by pain in the right inguinal region, fever, vomiting, etc., it might point to an appendicitis, an ascending pelvic peritonitis or cellulitis, or an ileocolic invagination, or calculus through or impacted in the ureter. Still these conditions differed sufficiently in their history and symptoms to allow of an accurate diagnosis. An ascending pelvic peritonitis might be mistaken for an abdominal exudate due to appendicitis, but only on superficial examination, because the history would point to a gonorrheal or puerperal infection. The exudate in the inguinal region would be found to be continuous with that in the small pelvis, and a thickened tube or ovary could be usually found on the right side of the uterus, or both sides might be diseased. Much more difficult was the differentiation from inflammatory residues which had remained in the right inguinal region after the inflammatory products in the pelvis had been absorbed. We thus occasionally found inflammatory cysts in the lower right abdominal region that had been rounded by the dragging and rolling movements of the intestines. They were adherent to their surroundings, and therefore immovable and only slightly tender. They might be taken for a cystic appendix or for an ovarian cyst, though the latter was movable and connected to the uterus by a palpable pedicle. Tuberculous peritonitis was apt to produce similar cysts, containing serum or pus. Whenever we met cysts of obscure origin in the right abdominal and inguinal region we should seek for further signs of tuberculosis, as lard swellings, ascites, a rolled up and retracted omentum which usually lay in the epigastrium, as an oblong or square plate-like indurated mass. Intestinal disturbances, referable to the colon, atrophy of the walls of the viscus, stercoral ulcers, local tympanites of the ascending colon, and irritation of the adjacent peritoneum, were conditions which occurred more frequently than we were inclined to believe. They were confounded with slight attacks of appendicitis, from which they were difficult to differentiate. A retrococcal exudate started in intimate relation with the cecum and colon, it involved the same, and made the impression of a columnar mass upon which the soft intestine rested. The exudation which had become isolated might rest on the iliac fossa, but its shape was more flat, expanded, and irregular. The history pointed in the one case to intestinal, and, in the other, to pelvic derangement. Those cases were of great interest in which the patient, after a sudden and acute attack of pain in the right lower abdominal region, passed into a state of collapse. Here we might have perforation of the appendix, acute intestinal obstruction, rupture of a tubal pregnancy, or of a pus sac, or strangulation of an ovarian cyst. The history sometimes assisted us, but very often it was unsatisfactory. All diseases in which the abdominal cavity was suddenly flooded with infectious material presented identical symptoms. We had a rapid, weak, and irregular pulse, clammy perspiration, sunken eyes, yellowish conjunctiva, cold extremities, rapid and superficial respiration, and frequently subnormal temperature. In strangulation of an ovarian cyst or bursting of a pelvic abscess we could always detect a tumor or infiltration into the pelvis with local tenderness. Even though the ovarian cyst had encroached upon the right inguinal region, its connection with the pelvis could always be ascertained. In a perforating appendicitis such a massive exudation did not develop in so short a time nor had it such a regular rounded form. When the uterus was freely movable, and the pelvis free from inflammatory swelling or growths, we were justified in considering the abdomen as the seat of the disease. In perforating appendicitis the pain spread rapidly over the entire abdomen, while in acute intestinal strangulation it remained severe and constant at the same point. Incessant vomiting, absolute constipation, excessive tympanites with local pain and tenderness were the chief symptoms of acute intestinal strangulation. The collapse in the beginning was not so marked. Some of the discriminating points of extrauterine pregnancy were the deadly pallor of the face, the blue lips, repeated attacks of syncope, and dimness of vision. The patient takes a deep breath now and then; she gasps for air. The dyspnea in the other conditions was different. The original agonizing pain subsided and the patient complained of heaviness and fullness in the pelvis. The mental faculties remain clear, while in resorption of infectious material the patient became apathetic. The discovery of fluid blood in Douglas' pouch was in most cases impossible. In acute rupture with dangerous internal hemorrhage German gynecologists advised prompt surgical interference; in tubal abortion with slow and gradual loss of blood and the formation of a retrouterine hematocele, they advocated expectant treatment. The writer thought that in many instances such a standpoint was fallacious, because hemorrhages after acute rupture might also occur gradually and give rise to bulging of the posterior vaginal vault. A serofibrinous pelviperitonitis with a retrouterine hematocele might develop rapidly, again tubal abortion might be followed by a dangerous loss of blood or the contact of the tube and abdominal cavity might become infected, and even without infection it might be several months before absorption of the blood could be accomplished. The appendix might become involved with the pelvic viscera in three ways: (1) The adnexa might be the primary seat of inflammatory changes, the appendix being passively involved and bound by adhesions to the surrounding parts. Inflammatory action was principally manifested by thickening of the peritoneum and the tubal wall. (2) The appendix might be primarily involved; the changes in the adnexa might be of secondary nature. (3) In the course of a chronic salpingoovaritis with pelvoperitonitis a genuine appendicitis might develop. He said that primary affections of the uterine adnexa could usually be recognized. Fortunately, if there might be some difficulty in differentiating these conidtions, the one plan of treatment was applicable to all, removal of the diseased organs by operation. He considered tumors of the kidney and ovary as more important though the possibility of the occurrence of tumors of all kinds should be borne in mind. It was not difficult to differentiate between these two kinds of tumors; if any doubt existed the cystoscope could be relied upon to settle the question. He described how these conditions could be distinguished from one another by palpation. To eliminate errors in diagnosis the *x*-ray and ureteral catheterization had been advised. One of the most interesting points in differential diagnosis referred to inguinal pains. Where the line connecting the anterior spine crossed the external borders of the recti muscles, tenderness and pain were often experienced by women, they were of rarer occurrence on the left than on the right side. This pain might be very obstinate and seem to justify operation on ovaries and appendices. Errors could be made in this way, but they could as well be made by pronouncing a patient hysterical or neurasthenic, while a chronic appendicitis or ovaritis really existed. He called attention to the diagnostic points in the various pelvic conditions that might give rise to the same class of symptoms as those shown in hysterical conditions.

Dr. Brooks H. Wells told of the difficulties encountered in making a diagnosis. For instance, in appendicitis we were supposed to have a rapid pulse, elevation of temperature and pain, and yet in many cases none of these would be present. Again, rigidity was often given as a sign, but this was not present unless peritonitis developed. The importance of an early diagnosis was dwelt upon. He believed that every case of peritonitis of acute form, unless localized, required an abdominal section. Hysterical conditions with pain were diagnosed quite readily; the pain was apt to be superficial, and if the integument were pinchced it would excite more pain than would deep pressure. In true inflammatory conditions deep pressure would cause pain; in hysterical conditions a steady relaxation of the deep pressure would cause pain.

Dr. Robert T. Morris said that fewer mistakes were made in diagnosis in cases that went to operation than were made by the internist; he doubted if more than 1 per cent. of the cases that went to operation were wrongly diagnosed. Dr. Morris referred to certain instances that had occurred in his experience in which wrong diagnoses had been made. One of the most important signs in cases of abdominal disturbance was spasm of the abdominal muscles. If the kidney was in the appendicular region this spasm would occur. But the history of the presence of a mass there for a long time, and the fact that the organ could be pressed back into position beneath the ribs without difficulty would diagnose the condition; yet this spasm of the abdominal muscles, he said, might mislead one and make one think he was dealing with some acute inflammatory process. In making a differential diagnosis between an acute appendicitis in the pelvis and acute tubal disease this point obtained on palpation became of very great value. In the former there was such a distinct and marked spasm of the abdominal muscles that one could hardly mistake its significance; a corresponding degree of inflammation in the oviducts or ovary would hardly give any such spasm; this difference in the amount of spasm was due to the group of sympathetic ganglia involved in each case. The normal appendix could be palpated in every instance and with perfect ease by following the plan he had already described. If the abdomen was so rigid that palpation of the organs could not be done it was time then for an operation. Dr. Morris did not favor removing normal appendices when opening the abdomen. In many hundred operations he had only met with cystic appendices twice. The diagnosis in each of these cases was made by palpation.

Dr. Egbert H. Grandin said that it was quite a hazardous thing to make a positive diagnosis of any acute adnexal or appendical affections in the right iliac region, when the two conditions might be combined there; anyway, regardless of the diagnosis, the treatment was operation. As a rule, the things to depend upon were careful history taking and most thorough examinations, particularly rectal, and this would enable one to differentiate adnexal disease from appendicitis, unless the conditions were combined, and this occurred in about two per cent. of the cases. Not necessarily would the appendix be coarsely diseased, but adherent to a diseased tube or ovary. Here the subjective symptoms would be of such a nature that bimanual palpation would be almost impossible and rather unnecessary. If one was dealing with an appendiceal abscess which had ruptured, or with a pyosalpinx, or a rupture of an extrauterine gestation, he said it was not a question of an accurate diagnosis; the only thing to do was to operate. He said he knew of no organ in the body except the appendix that was so apt to lead one astray and he always took the appendix out when it could be done. He had seen cases of pyosalpinx simulate appendicitis. He frequently had found a long appendix down in the pelvis in women. The term "McBurney's point" had led him astray more often than any other in medicine. In women one rarely found pain at this point. It was not so much a question of pain as a question of stating that the condition existed. Where the disease was below the pelvic brim he did not believe that any man who was familiar with diseases of the female sexual organs would make wrong diagnosis; but when the malady was above the pelvic brim then difficulty in diagnosis would occur. An extrauterine pregnancy before or at the time of rupture was not likely to fool a man trained in diagnosing diseases of the female sexual organs. Bimanual examinations, especially per rectum, would reveal the presence or absence of diseased adnexa, etc. In chronic conditions there need be no haste in making the diagnosis. He believed that it was the so-called "cock-sure" surgeon who made the most mistakes in diagnosis.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held March 27, 1905.

Dr. Henry S. Stearns in the Chair.

A Few More Words Concerning Radium, with Special Reference to the Alpha Rays and to the Emanation.—Dr. Henry G. Piffard said about one year ago he had had the pleasure of making some remarks about radium and that his interest in radium had not ceased because certain problems had presented themselves which he was desirous of solving. The first of these was to see if a more economical use of radium could not be found; in other words, if one could not use some of the lower activities to obtain the same results as now were obtained by the higher activities. There had been some change of belief as to the character of the radium disintegration. Radium was said to give forth three kinds of rays, the alpha, beta, and gamma, and an emanation. The emanation given off was in the form of gas. A later view of Rutherford was that this was an error and that radium gave out only alpha rays and the emanation. The beta and gamma rays were not the result of the disintegration of the radium, but the disintegration of the emanation itself. Dr. Piffard said that he first began the study of radium about two years ago and he took a glass tube of radium to Columbia University and tested it. He tested it first in the tube. It was found that its activity, as indicated by the electrometer, was very slight indeed. He then removed the radium from the tube and found, to his great surprise, that the naked radium was vastly more active than the same radium when in the tube. Physicists claimed that the alpha rays from radium constituted 95 per cent. of the total radiation and also that the alpha rays had but slight penetrating power and would not go through glass or aluminum tubes and would hardly go through certain tissues. But if it was exposed naked, then its activity was increased. He believed the direct use of naked radium was practicable, but certain difficulties were now encountered, such as its cost. If one used the naked radium it was virtually lost to the world. If it was dissolved in water and injected into tissues it again was practically lost to the world. Dr. Piffard said he had never used the naked radium, or radium in solution, except in one or two experimental trials on his own skin. Radium could be painted on discs and then could be made to stick; if the menstruum used would permit the alpha rays to pass through it, then the preparation could be conveniently used in the form of discs or sticks. As a result of his study he found that he could coat various needles with radium and that the radium would stick closely to the rods and that the alpha rays were not confined as in glass tubes. The question next arose how to tell whether the alpha rays were active. Dr. Piffard presented a little rod which had been coated with radium solution by M. H. Lieber, and asked how one was to know that certain effects were due to the alpha rays and not to the beta or gamma rays. The test was an exceedingly easy one. If, for instance, one had a little screen coated with zinc sulphide and placed the needle back of it, and gazed at it in a darkened room, it would be found that it glistened on the surface, and, therefore, he knew that that fluorescence was due, not to the alpha rays, but to the beta or gamma rays. On the other hand, if the needle was held in front of the screen and examined with a lens a sparkle of light would be thrown out on each side of the rod. It had been demonstrated that the beta and gamma rays would not produce these scintillations, but that the alpha rays would. The emanations of radium appeared in the form of a gas. After this gas had been separated for a few days from the original radium it exhibited properties which had been associated with the element helium; this was discovered by Ramsey about one year or more ago. The amount of beta and gamma rays coming from the original radium he said was very slight as compared to the amount of alpha rays. Dr. Piffard asked how we were to recognize these emanations. He said there were various ways of determining their presence. The rays themselves could not be blown around. They were projected from the radium with enormous speed, with a velocity of something like 160,000 miles per second for the beta rays. When emanated they were not diverted from a straight course except by a magnet. These emanations are not only radioactive, but they possessed the power of exciting radioactivity in other bodies near at hand. This induced activity was not a permanent one, but only lasted a few days. The methods of testing the efficiency of radium were simple, and three in number, as follows: (1) The photographic; if one exposed a photographic plate to radium it would darken; the stronger the radium the darker the plate in a given time. (2) The electric method; radium near the electroscope would cause a discharge of it in a given time; if the specimen presented to the electroscope was twice as strong, the discharge would occur in one-half the time; if three times as strong, in one-third the time, etc. (3) The physiological method; if one took a tube of radium and bound it on the arm and left it in place a certain period of time, twenty-four or forty-eight hours, destructive changes, such as severe burns, would be caused. These three methods were not comparable, for the specimen of radium which produced the greatest photographic result would not necessarily produce the greatest physiological result, and *vice versa*. Formerly it was thought necesssary to use the strongest preparation possible of radium and use it in as massive quantities as possible, as was procurable. Evidently now there was but little radium and very little of high power. The effect of radium depended upon the activity multiplied by the mass or quantity. He stated that Dr. Abbe had in his possession as much as 150 mg. of 300,000 activity, and he did not believe there was another man in this country who had as much of this activity in his possession that he could call his own. Dr. Piffard here related some of his experiences with the rods coated with radium. One great trouble encountered was that after the rods had been left in morbid growths for twenty-four or forty-eight hours, and then removed, it would be found that their activity was entirely gone and could not be restored. In other words, the tissues soaked out the radium from the rods. Dr. William S. Stone had used a rod in cervicitis, leaving the rod in for twenty-four hours at a time, making five applications in all at a few days interval. Dr. Piffard had just tested that rod and found it to be still active. Here was one instance where the rod had not lost its activity, but in the majority of the cases the rods would lose their activities after being used. If the needles presented could be coated in such a way that any physician could use them without impairing the activity, one readily could see the economy of it. Dr. Piffard followed his opening remarks by a demonstration of fluorescence and radioactivity.

Experiments with Radium Emanations.—Dr. Wendell C. Philips read this paper. He said that at the suggestion of Hugo Lieber a properly constructed tube, by means of which the emanations could be made use of experimentally, had been placed in his hands for experimental work along the lines covered by his work in the field or nose, throat, and ear. He referred to the descriptions of emanations as given in the literature on the subject of radium and radioactivity and quoted Madam Curie's definition of emanations, namely, "the gases present in an enclosure containing a solid salt of radium are radioactive. This radioactivity persists when the gas is drawn off with a tube and collected in a test-tube." It had seemed to him that before commencing experiments upon patients it might be wise to determine whether the emanations possessed any bactericidal power. A pure culture of streptococcus was exposed for a period of two minutes several times during the day and it was found that the bacteria did not lose their activity. Inoculations from the exposed culture grew in new media with the usual speed, and the culture itself showed no effect from the action of the emanations. A culture made from a pure culture was exposed immediately after inoculation for the same time, the exposure to the emanations taking place before the newly inoculated media was placed in the incubator, and the culture prospered in the usual way. A mixed culture taken from the ear discharge was in no way affected by exposure to the emanations. The discoverers of radium, as well as various observers, agreed that the activity of the air in the enclosed tube rapidly lost its radioactivity when fresh air had access to the tube; it was always so applied to the part to be treated that the first current, carrying the greatest amount of the radioactive substance, fully bathed the part. An exposure of two minutes was the time usually employed. The treatment was generally repeated daily. One patient, aged 33, who was thus treated, had had all the exanthemata, but no ear complications. At the age of 19 syphilis was contracted, which was pronounced cured after three years' treatment. Four years ago the patient had an attack of laryngitis and could not use the voice for five months. Three years ago a discharge from the right ear began and had been fairly continuous. The case was diagnosed as chronic suppurative otitis media, with a large mass of granulation or polypoid tissue, which filled the entire external auditory canal. After cleansing the canal thoroughly the growth was exposed to the radium emanations for two minutes. After treatment the growth would at first appear red, and after a few seconds it became pale. After thirty days' treatment no definite change could be noted. A second case had complained of excessive discharge from both sides of the nose, with obstructed nasal respiration and pain in the head. Her nasal cavities had been completely cleared of polypoid degeneration and the anterior ethmoidal cells had been thoroughly curetted. Before beginning the radium treatment there was still some discharge, evidently from the ethmoidal cells. The treatments were continued for about six weeks. The patient thought there was some relief after treatment, but there seemed to be no appreciable change, the crusts forming in about the same manner as before the applications were made. Three cases of suppuration of the middle ear with rupture of the drum, in one of which microscopic examination revealed bacilli identical with the Klebs-Löffler were treated, with negative results. He related a case of atrophic rhinitis and ozena, in which he had first removed all crusts from the nasal cavity and, after drying the surfaces, had applied the emanations in both nostrils. There was some improvement, which was probably due to the careful removal of all crusts. When treatment was discontinued the original condition soon returned. Another case of atrophic rhinitis, with a well marked chronic catarrhal otitis media, showed no decided improvement after the use of the emanations. Though this unfavorable report was based on only a few cases, the experiments were carried out with great care as to detail and without bias of any form. The experiments on bacteria would seem to indicate that the emanations would be useless in infectious diseases. He regretted that he had not had opportunity to apply these emanations to cases of benign and malignant tumors of the nose and pharynx, to syphilitic ulcers, or to tuberculous ulcerations, especially faucial.

The Practical Use of Radium.—Dr. Robert Abbe said that in radium we were dealing with a superior force, and whether of great value as a therapeutic agent, remained to be seen. Personally, he believed it to be of value. This force he presented bottled up in a little tube and he said that a small amount would go a long ways. Dr. Abbe presented specimens of seed growth, showing the inhibitory effect of radium upon such growth. After speaking of the effects of radium upon morbid growths he showed photographs of mammary carcinoma, lupus of ear and temple, epithelioma of the ear, recurrent carcinoma in a scar, tumor of the eyelid, giant-celled sarcoma, exophthalmic goitre, etc., pictures demonstrating the "before and after" condition, proving almost conclusively that certain normal growths could be benefited and even cured by means of radium. In most instances the radium rod was simply bound on the skin over the growth and left for a brief period of time, or else the glass tube was plunged into the growth and left for twenty-four hours or less; in all instances reported the effect was very gratifying. He advised the use of radium in malignant growths where surgery was not available.

Dr. Richard said that the strength of the radioactivity should be known.

CHICAGO SURGICAL SOCIETY.

At a meeting, held March 6, 1905. Dr. Nicholas Senn exhibited and reported the following cases: (1) Dermoid cyst of lung. (2) Echinococcus cyst of the lung; exploratory puncture; rupture of cyst. (3) Dentigerous tumor of superior maxilla. (4) Ligation of internal and excision of external carotids for malignant disease. (5) Disarticulation of the hip-joint for sarcoma of the femur and tubercular endovaginitis. (6) Extensive plastic operation of the face after removal of carcinoma of the orbit, nose, and face. (7) Rectoplasty for extensive traumatic defect. (8) Scar carcinoma in the region of the great trochanter. (9) Fracture of humerus with posterior dislocation of the upper fragment. (10) Secondary suture of ulnar nerve after gunshot injury. Dr. J. E. Summers of Omaha, Neb., read a paper by invitation, on "The Surgical Treatment of Chronic Mucomembranous and Ulcerative Colitis, with Especial Reference to Technique." He discussed chronic primary colitis, primary membranous colitis, and ulcerative colits, and reported eight operative cases. Dr. Van Buren Knott of Sioux City, Ia., read a paper on "Drainage in Diffuse Septic Peritonitis," in which he emphasized the following points: (1) Operations for diffuse septic peritonitis should be made as quickly and with as little manipulation as is compatible with thoroughness. (2) Evisceration, partial or complete, greatly increases shock and the prospects of a fatal result. (3) The general use of clean hot water will most thoroughly cleanse the infected cavity with the least traumatism. (4) Drainage is simplified by collecting the peritoneal fluid at one point where drains may be easily placed. The elevated head and trunk posture followed by the gravitation of fluid to the lower pelvis best accomplishes this. (5) Results following the surgical treatment of diffuse septic peritonitis will be improved should each individual operator adopt some definite form of procedure in such cases which, being well understood by operator and assistants, may be methodically, speedily, and thoroughly carried out.

Treatment of Leprosy by Leprolin.—Norman S. Rudolf calls attention to the fact that a *sine qua non* in the cultivation of the bacillus of leprosy is a medium free from chlorides. In practice a salt-free medium is obtained by the distillation of beef extract with steam. He describes the technique of the process as follows: Small bits of pumice stone are washed and dried in the sun, and are then made to absorb a mixture of one ounce of meat extract to two ounces of water. The stone is then placed in wide-mouthed bottles which are put in an autoclave. Through the stopper of each bottle pass two tubes, one opening into the autoclave and reaching nearly to the bottom of the bottle, and the other leading from the top of the bottle into an adjoining condenser. When all is adjusted and the steam admitted, it passes by one tube to the bottom of the bottle, and rising through the pumice stone, carries with it the volatile constituents of the meat extract, and reaches the condenser by the second tube. The vapor in the condenser yields the salt-free nutrient medium in the proportion of two liters to each ounce of meat extract originally used. The nutrient medium is collected as it flows from the condenser in sterilized Pasteur flasks, which are immersed during the process in a freezing mixture in order to condense some of the volatile alkaloids from the beef, which otherwise would escape. The nutrient fluid is then inoculated with the bacillus of leprosy, and the flasks are kept in an incubator at a temperature of 37° for from four to six weeks. By this time the appearance of the flasks should be turbid with a stringy, white deposit. The contents are passed through a Pasteur filter, and this resulting filtrate is again filtered in the same way. The fluid is evaporated in vacuo over concentrated sulphuric acid, to about one-tenth its bulk. It is then mixed with an equal quantity of glycerine and preserved in an ice-chest until used. This is leprolin. An injection of 10 c.cm. causes a violent reaction in a case of leprosy. Improvement is generally shown first by a return of perspiration to the dry parts, followed by a return of sensation. Next comes a gain in strength and loosening of the contractions of the fingers and toes. Ulceration generally begins healing at once. The nodules and tubercles gradually flatten and disappear. Pain in the limbs usually vanishes early in the treatment. The mental condition and physiognomy improve remarkably, as does the general health. A number of cases have already been discharged as cured. Some improvement has been noted in all cases, while in some cases curative effect has been very marked. In no case has the treatment seemed to aggravate the disease.—*Medicine.*

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Traitement du Cancer Utérin Inoperable. Par le Dr. J. Recamier. 8vo, 243 pages, paper. G. Steinheil, Paris.

Leçons de Clinique Obstétricale. Par le Dr. Queirel. Deuxième Serie. 8vo, 243 pages, paper. G. Steinheil, Paris.

Der Aderlass. Eine monographische Studie. Von Dr. Alexander Strubell. 8vo, 180 pages, paper. August Hirschwald, Berlin.

Diseases of the Heart and Aorta. By Thomas E. Satterthwaite, M.D. 8vo, 304 pages, illustrated, muslin. E. R. Pelton, New York.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D. 8vo, 745 pages, illustrated, muslin. D. Appleton & Company, New York.

The Eye, Mind, Energy and Matter. By Chalmers Prentice, M.D. 12mo, 131 pages, muslin. Published by the Author, at Chicago. Price, $1.50 net.

A Reference Hand-Book for Nurses. By Amanda K. Beck. 16mo, 177 pages, flexible morocco. W. B. Saunders & Company, Philadelphia. Price, $1.25 net.

Der Wert des Röntgenverfahrens in der Chirurgie. Von Prof. Dr. Carl Beck. 8vo, 75 pages, illustrated. Leonhard Simion Nf., Berlin. Price, 2 Marks.

The Thyroid and Parathyroid Glands. By Hubert Richardson, M.D. 8vo, 261 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $3.00 net.

Beiträge zur Klinik der Tuberkulose. Herausgegeben von Dr. Rudolph Brauer. Band III. Heft 4. 8vo, pp. 241-329, illustrated. A. Stuber, Wurzburg, Germany. Price, M. 3.50.

The Open-Air Treatment of Pulmonary Tuberculosis. By F. W. Burton-Fanning, M. D. 12mo, 176 pages, illustrated, muslin. W. T. Keener & Co., Chicago. Price, $1.50 net.

A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, A.M., M.D. 8vo, 600 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $3.00 net.

Nineteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Vols. I and II. 8vo, pp. 1-578 and 579-1102, muslin. 1904.

Les Indications des Interventions Chirurgicales dans les Maladies Internes. Par le Prof. Dr. Hermann Schlesinger. Deuxième Partie. 12mo, 242 pages, paper. Vigot Frères, Paris.

Diseases of the Blood. By various authors. Edited and translated by Dr. Alfred Stengel. 8vo, 714 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia. Price, $5.00 net.

Malformations of the Genital Organs of Woman. By Ch. Debierre. Translated by J. Henry C. Simes, M.D. 8vo, 182 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $1.50 net.

A Hand-Book of Nursing for Hospital and General Use. Revised Edition. Published under the direction of the Connecticut Training-School for Nurses. 12mo, 319 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

Food Preservatives, Their Advantages and Proper Use. The Practical versus the Theoretical Side of the Pure Food Problem. By Dr. R. G. Eccles and E. W. Duckwall, M.S. 8vo, 202 pages, paper. D. Van Nostrand Company, New York.

Report of the Commission for the Study and Treatment of Anemia in Porto Rico. Respectfully submitted to Hon. Beekman Winthrop, Governor of Porto Rico. December 1, 1904. 8vo, pp. 1-120, 1-119 and I-LXXI, illustrated, paper. English and Spanish.

The Medical Epitome Series. Diseases of the Eye and Ear. By Arthur N. Alling, M.D., and Ovidus Arthur Griffin, B.S., M.D. Series edited by Victor Cox Pedersen, A.M., M.D. 12mo, 252 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price $1.00 net.

A German-English Dictionary of Terms Used in Medicine and the Allied Sciences. By the late Hugo Lang, B.A. Edited and Completed by Bertram Abrahams, M.B., B.Sc., F.R.C.P. 8vo, 960 pages, half-morocco. P. Blakiston's Son & Co., Philadelphia. Price, $4.00 net.

New Instruments.

READY CONTACT METHOD FOR TESTING URINE.

By P. M. WISE, M.D.,

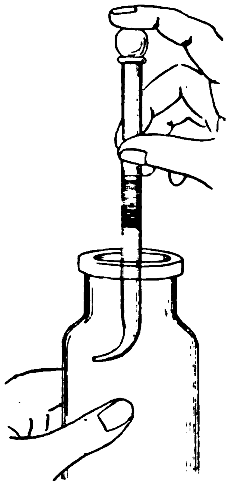
NEW YORK.

r must be true that our forebears cautioned us ake heed of the little things as the great ones take re of themselves." One of these little things which s illustrated the truth of the bequeathed adage, I ve practiced with much profit in the matter of e-saving, and although it may not be new or ique, I can find no reference to it in textbooks or ewhere.

There are few physicians who do not daily, and y times daily, test samples of urine to detect ormal constituents, especially albumin (proteids). e contact method has largely superseded nitric d and heat, or has been conjoined at least. The rent method, I believe, is to overlay a quantity of e nitric acid in a test tube with urine, and watch reaction of its slow diffusion at the point of ntact"; the advantage of this "contact method" g in the fact that the view comprises the natural earances of urine and nitric acid with the reac- at contact; conditions for comparative estima- not to be excelled, and emphasizing the appear- e of the slightest coagulum.

The present technic in detail is, I believe, to pour ew c.c. of nitric acid (c. p.) in a test tube, and h a pipette allow a small quantity of the urine to down the inclined inner surface, slowly, so as to id mixing, and to intensify the line of contact. is is well enough in the laboratory, but is awk- rd at the bedside, and is unnecessary anywhere. reover, nitric acid (c. p.) is neither a safe nor a asant companion, and its manipulation is not de- ble when it can be avoided. Besides, a test tube its substitute is not always available, especially in e of need.

I have found that a pipette alone gives equally if t more satisfactory results than the method re- rred to. Instead of nitric acid, I use a reagent t suggested, I believe, by Dr. Lyon, as follows: e part nitric acid and five parts of a cold saturated ution of magnesium sulphate. By grasping a ette without the suction bulb (or with) as shown



in the sketch, and lowering it into the suspected urine for one-third of its length, placing the index finger over the top and removing from the sample, it will remain one-third filled. Clean pipette with a moist pledget, or hold under a stream, and lower into reagent for two-thirds its length, remove finger and when the urine appears in the pipette replace finger and remove, observing point of contact. Further comment is unnecessary, except that half a minute is ample time for this process, the pipette being the sole instrument to be cleansed. The same procedure is applicable to any contact test, only bearing in mind that the liquid having the higher specific gravity should be the last introduced.

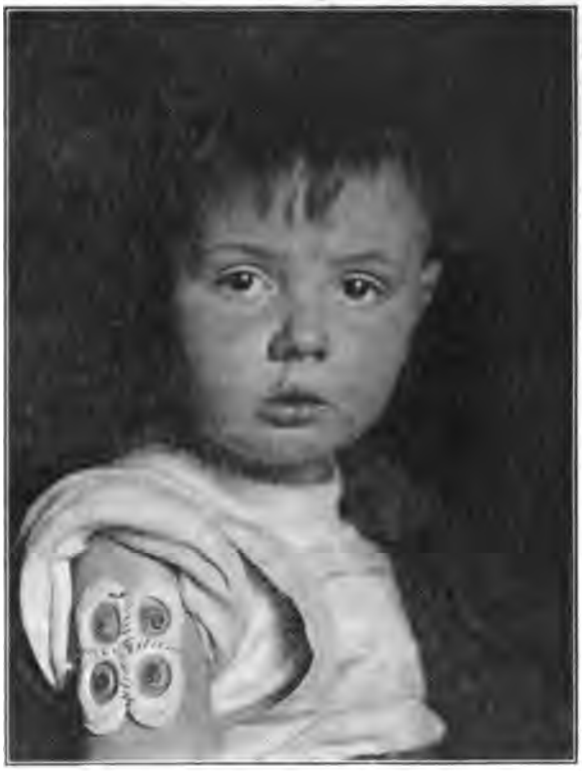
502 West One Hundred and Forty-third Street.

A MULTIPLE VACCINATION SHIELD.

By WM. P. SWETT, M.D.,

SOUTHERN PINES, N. C.

If any of the readers of the Medical Record have had occasion to remove a vaccination shield covering a mass of corruption from the arm of a patient, he will be gratified with the result of a different dressing. I have never known of any one else using this method, but it has proved so satisfactory for years with me that I venture to send the description of it to you.



The accompanying picture was taken the eighth day. One scab was shed the twenty-first day, two the twenty-fifth day, and the last the twenty-seventh day. Multiple vaccination was suggested to me by Dr. Henry A. Martin's son. I have never seen an ulcer by this method, and no sore but healed quickly, a new scab forming when the original was accidentally lost too soon. The vaccinations (insertions) should be an inch and one-fourth apart and the smaller the scarification the better; an eighth of an inch square produces a most satisfactory result. On the sixth or seventh day, or when the local congestion is at its height, bunion plasters should be put on, as shown in the picture. Cut the plasters so that each vaccination is in the center of an opening, and sew the cut edges together; lastly, bevel the felt on the outer edges so that the clothing may ride smoothly over it in dressing and undressing. Should the plasters become detached, a narrow strip of adhesive plaster across the middle and a wider one at each end, encircling the arm and overlapping a little, will keep the dressing in place for weeks if desired. Itching and its results are remarkably lessened.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 15, 1905:

	Cases.	Deaths.
Measles	473	9
Diphtheria and Croup	325	31
Scarlet Fever	260	11
Smallpox	2	1
Chickenpox	180	
Tuberculosis	372	175
Typhoid Fever	16	6
Cerebrospinal Meningitis	182	117
Typhus Fever		
Yellow Fever		
Cholera		
Totals	1,710	350

The Mutation Theory, Heterogenesis, Spontaneous Generation, and the Evolution of Morbid Germs.—Jonathan Wright declares that it is impossible for him to believe that microorganisms have gone on multiplying at the rate of many generations a day since "Creation," without variation or mutation. Neither does he believe that spontaneous generation was a mere phenomenon of a remote geological era, which has never recurred. He continues, that if we are to assume from a priori reasoning that spontaneous generation, archebiosis, heterogenesis, are closely related realities, whose occurrence it remains for science to demonstrate by actual observation, then it is in living protoplasm that we must look for them. But modern bacteriology largely rests upon a technique that includes the sterilization of the nutritive media, in other words, the destruction of living protoplasm by boiling or dry heat. The genesis of new life cannot be looked for from the resultant material. The writer calls attention to this as one of the weak spots in the armor of the modern dogma. He also thinks that Virchow's apothegm, "omnis cellula e cellula," is fallacious. He believes that the liability to error of the vast majority of Bastian's observations is very great with the technique used. In reference to Millican's work, the writer recalls some of Sir James Paget's statements in which he speaks of the frequent inhalation of the germs of contagious diseases. Yet they do not germinate in us, because we do not offer the fitting soil. The writer declares that in spite of culture tubes and hanging drops, there has grown in him a belief in heterogenesis and spontaneous generation. As to de Vries' work, he does not think that it does anything more than extend the essential idea of Darwinism. Although the original scheme of this scientist shows many weak points in its details, the central idea, according to the writer, remains unshaken.—*St. Louis Medical Review.*

The Tuning Fork as an Instrument of Precision in Physical Diagnosis.—Robert N. Wilson shows of what great assistance the tuning fork will be in discriminating between a cavity and other conditions simulating it. If the tuning fork be set in fairly rapid vibration and the end of the handle be placed lightly upon the thorax, and then be made to approach the bell of the stethoscope which rests upon healthy lung tissue, the note will go through a striking series of changes. In passing the fork from normal to consolidated tissue, the pitch rises, and the note becomes much clearer. Indeed, it may become evident for the first time. If it next passes over a superficial cavity, the note becomes clear, sweet, and musical. This character is never simulated by any other condition. The note cannot be described, but must be heard to be appreciated.—*Medical Notes and Queries.*

The Prophylaxis of Vesical Disturbances After Gynecological Operations.—Gutbrod says that the difficulty in micturition experienced by many patients after operations on the pelvic viscera, particularly after the Alexander operation, is in large measure due to the altered position of the uterus. This is, by the correction of its retrodeviation, brought into such a position that it draws the urethra upwards, and by angulation of the canal causes the urinary obstruction. The condition is the reverse of what is observed in puerperal cases, in which the weight of the enlarged uterus, by drawing the base of the bladder backward, produces a corresponding kinking of the urethra. In order to overcome the fault and to avoid the necessity for frequent catheterization, the author is accustomed after such operations to drain the bladder by a permanent catheter, which is left in position from five days to a week. By this measure the operative field is also relieved of the element of jeopardy, which an overdistended bladder often introduces.—*Zentralblatt f. Gynäkologie.*

Constipation.—Fidey formulates these rules for securing a natural daily intestinal evacuation: (1) The meals should not exceed three a day. (2) Food should contain a considerable bulk of indigestible matter, and be well masticated. (3) A good drink of water should be taken half an hour before each meal. (4) A habit of daily evacuation at a certain hour should be inculcated. (5) There should be no support of the abdominal walls, and no restraint of muscular action. (6) The waist muscles should be regularly exercised, either by systematic movements, the pursuit of sport, or of regular physical work.—*The Hospital.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended April 15, 1905:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Florida, Jacksonville	Apr.	1–8	7	..
Illinois, Cairo	Apr.	3	5	..
Danville	Apr.	1–8	3	..
Louisiana, New Orleans	Apr.	1–8	26	1
Pointe Coupee Parish	Mar.	1–31	Several.	
St. James Parish	Mar.	1–31	Several.	
St. John Parish	Mar.	1–31	1	..
Michigan, Grand Rapids	Apr.	1–8	2	1
At 47 localities	Mar.	18–25	(Present.)	
Mississippi, Natchez	Mar.	25–Apr. 8	2	..
Missouri, Saint Louis	Apr.	1–8	28	8
Nebraska, Omaha	Apr.	1–8	1	..
South Omaha	Apr.	1–8	1	..
New York, New York	Apr.	1–8	4	..
North Carolina, Goose Creek Island	Apr.	3	50	..
Hog Island	Apr.	3	15	..
Ohio, Cincinnati	Mar.	31–Apr. 7	6	..
South Carolina, Charleston	Apr.	1–8	2	..
Tennessee, Memphis	Apr.	1–8	7	..
SMALLPOX—FOREIGN.				
Africa, Sierre Leone	Mar.	10–17	240	..
Brazil, Bahia	Feb.	25–Mar. 11	24	1
Escada	Mar.	11	(Epidemic.)	
Rio de Janeiro	Mar.	12–19	8	4
Ecuador, Guayaquil	Mar.	7–14	..	4
France, Paris	Mar.	18–25	29	5
St. Etienne	Mar.	1–15	2	..
Germany, Bremen	Mar.	18–25	1	..
Great Britain, Cardiff	Mar.	25–Apr. 1	1	..
Hull	Mar.	18–25	2	..
Leeds	Mar.	25–Apr. 1	12	..
London	Mar.	18–25	3	..
Nottingham	Mar.	18–25	1	..
India, Bombay	Mar.	7–14	..	172
Calcutta	Mar.	4–11	..	10
Karachi	Feb.	6–12	18	2
Madras	Mar.	4–10	..	6
Italy, Catania	Mar.	23–30	..	1
Lecce	Mar.	8–16	6	..
Palermo	Mar.	18–25	13	4
Mexico, City of Mexico	Mar.	25–Apr. 1	2	2
Russia, Moscow	Mar.	18–25	7	3
Odessa	Mar.	18–25	4	2
St. Petersburg	Feb.	11–Mar. 18	41	12
Warsaw	Jan.	21–28	..	1
Turkey, Smyrna	Dec.	25–Jan. 1	..	1
Smyrna	Feb.	12–19	..	1
YELLOW FEVER.				
Brazil, Rio de Janeiro	Mar.	12–19	8	3
Mexico, Coatzacoalcos	Mar.	26–Apr. 1	1	1
Panama, Panama	Jan.	1–Mar. 27	43	18
CHOLERA.				
India, Calcutta	Mar.	4–11	..	32
Russia, Baku Government	Feb.	17–24	..	1
Don Territory	Feb.	5–17	7	3
PLAGUE.				
Africa, British, Darban	Jan.	29–Feb. 11	4	4
Arabia, Aden	Mar.	10–17	60	55
Brazil, Rio de Janeiro	Mar.	12–19	2	..
Chile, Coplando	Mar.	10	(Present.)	
Coquimbo	Mar.	14	(Present.)	
Pisaqua	Mar.	10	(Epidemic.)	
Egypt, Tukh	Mar.	4–11	1	..
India, Bombay	Mar.	7–14	..	683
Calcutta	Mar.	4–11	..	315
Karachi	Feb.	5–12	77	71
Peru, Cajamarca	Mar.	10	(Present.)	

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Original Articles.

MULTIPLE MYELOMA (KAHLER'S DISEASE). A CONTRIBUTION TO ITS SYMPTOMATOLOGY AND ITS MORBID ANATOMY.

By JOSEPH COLLINS, M.D.,
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NEW YORK.

THE disease known as multiple myeloma, myelopathic albumosuria, or Kahler's disease, is one of very great rarity. At least we may so conclude from the few reports in the literature, not more than thirty-nine cases have been recorded at the present time. The case which I now put on record is the tenth to be reported from this country, and the second one which has come under my own observation.

Although Bence Jones had described the peculiar proteid found in the urine of this case in the Phil. Trans. of the Royal Society of 1848, the disease was first described by Dr. W. McIntyre in the Medico-Chirurgical Transactions of London, in 1850. McIntyre designated the changes in the bones of his patient, who had suffered for upward of a year with severe pain in the chest, back and loins, as osteomalacia. In the urine of this patient, Bence Jones found albumose, a constituent which has since been thought to be a necessary accompaniment of the disease. Kahler, after whom the disease is often called, because it was his discussion of the symptoms that called widespread attention to the disease, described his case in the *Prager medicinische Wochenschrift*, in 1889. Between this date, and that of the recording of Dr. McIntyre's case, the history of another case had been reported in the *Zeitschr. f. Biologie*, by Kühne of Heidelberg in 1883. The patient was under the care of a Dutch physician, Stokris, who submitted the urine to Kühne. All these cases had been looked upon as osteomalacia. This is not astonishing, for even to-day, with all our refinement of histological technique to distinguish between osteomalacia and tumor growth in the bones, associated with rarefying osteitis is very difficult sometimes almost impossible. It was then that Kahler reobserving his own case and contrasting it with the others just mentioned, and particularly with a case of malignant disease of the bone-marrow described by v. Rustitzky as multiple myeloma, showed that there was a sameness in their clinical delineation and anatomical findings and classified them under the heading of multiple myeloma. Furthermore, it was Kahler who promulgated the statement, which has since been universally accepted, that the presence of the albumose in the urine described by Bence Jones, as pathognomonic of this disease. In England the disease has been discussed principally by Bradshaw and by Moffatt (*Lancet,* January 28, 1905). All writers on the subject say that the essential clinical features of the disease are pain of the bones, the presence of Bence Jones' albumose in the urine, and gradual dissolution, death being rarely delayed more than a year. For instance, the last writer upon the subject, Dr. S. J. Meltzer (MEDICAL RECORD, June 18, 1904), says: "The occurrence of albumose in the urine is pathognomonic for this disease. With this knowledge in mind such cases will not escape recognition with the careful physician." Moffatt, who has recently reviewed the subject, says that reports of cases of multiple myeloma without Bence Jones' albumose in the urine should be received with some caution. When no post-mortem was made the evidence is, of course, merely negative, and consequently carries but little weight. And when Bence Jones' albumose was not looked for it may easily have been missed, though present, for even in the absence of serum albumin, seeing that Bence Jones' albumose is redissolved on boiling, its presence might quite conceivably escape notice.

It is because the case which I herewith report negatives the statement that the occurrence of albumose in the urine is pathognomonic. I consider it of much importance. The patient was under the observation of several physicians for nearly two years, all of whom were prejudiced in favor of the diagnosis of multiple myeloma, yet were hindered from making it by the fact that repeated examination of the urine failed to show albumose. A further point of interest in the anatomical side of the case is the extensiveness of the new growth, invading all the bones of the skeleton without the slightest indication of metastasis, although the disease had existed for upward of two years.

The patient, a German, 56 years old, and a porter by occupation, was admitted to my service in the City Hospital, May 12, 1904. So far as could be learned there was little of interest in the patient's family history save that one sister 60 years old had cancer of the breast. His father was a hard drinker and died of some acute pulmonary disease when 54 years old. His mother died at 63, but he does not know what disease she had, but he recalls that she coughed a great deal before she died. One brother died of pneumonia when 33 years old.

The patient himself had had many infectious diseases. When five years old he had "chills and fever"; when 23 years old he contracted syphilis for which he was treated a very short time, perhaps two months; when 24 he had an attack of typhoid fever; when 32, he had an attack of rheumatism and when 40 an attack of malaria. He drank beer and whiskey rather freely every day, and occasionally went on sprees as well.

He dates his present illness from April, 1902, when he began to experience pain in the back and difficulty with his water, which came too quickly. The pain was of sudden onset and of considerable severity. He entered St. Francis' Hospital and was discharged two weeks later unimproved. He felt feeble and lame, but was able to walk with the aid of a stick. In July he went to the German Hospital and after staying there a week was sent to the Isabella Home, where he remained a month. At this time he had pains in the legs and arms as well as the back. For a short time after this he got along fairly well, but his former symptoms recurring he again went to the Presbyterian Hospital where he remained three months. He was later in the German Hospital, and then in Bellevue Hospital from October, 1903, to May, 1904. I am indebted to Dr. Van Horne Norrie, Dr. W. K. Draper, Dr. F. W. Jackson, of the Attending Staff, and Dr. Smith of the House Staff of Bellevue, for allowing me access to the notes made of the patient while in that hospital. When I first saw him in February, 1904, he complained of pains all over the body, which he described as a dull, excruciating, constant ache, at times heavy and boring in character. It was constantly present, not worse at night. With it there was agonizing hyperesthesia of the legs, and the expression of fear and agony that came into his face when the bed clothes were turned down were interpreted to indicate the profound aversion he had to being touched or handled. In addition to this he has had difficulty in holding the urine, and for the last seven or eight months he has had to pass water at short intervals, often every 10-15 minutes. Thirst is at times excessive. He has been growing steadily weaker and emaciated. For the past six months he has been bedridden. Before he took to the bed he said he had shortness of breath on exertion. He complains of palpitation of the heart at times. When he is kept absolutely quiet he makes little complaint, but when he is moved or handled he cries and complains bitterly and manifests every indication of the most abject fear.

He is greatly emaciated as the accompanying illustration shows. Since the onset of his trouble he has lost 65 pounds. His general appearance is also well shown by the photograph. He is pale, sallow, extremely emaciated and cachectic. The pupils are normal in size and reaction, the scleræ clear and bright, the tongue slightly tremulous, teeth well preserved, the pharynx anemic. There is moderate edema of the feet and ankles, a systolic, soft, blowing murmur heard at the apex is transmitted toward the axilla. The pulmonary sound is accentuated. The heart is slightly enlarged. The lungs are emphysematous. The abdomen, which is emaciated, flabby, sunken, shows no masses, no ascites, no excessive sensitiveness on pressure. The liver is small and not tender. The spleen cannot be palpated. The axillary glands are soft and somewhat enlarged, and so likewise are the inguinal glands, especially of the right groin. There is a mild tremor of the extended fingers. The tendon jerks of the knee and ankle are elicitable, somewh sluggish, and there is general hyperesthesia both the surface and the deeper parts of the body. Ther are symmetrical scars over both tibiæ and the e tremities are profoundly emaciated. Repeated a careful examination fails to reveal any irregulari of the surface or enlargement of the bones eith of the shafts or of the articulations. Aside from the meager subjective and objective symptoms, nothin could be elicited. The conspicuous feature of t patient subjectively when he came under my ca was that he made no complaint when he was undi turbed, which was the more remarkable as he seem to be so profoundly ill, and objectively the advanc emaciation and cachexia, and the extreme sensitiv ness of the skeleton to contact and pressure.

The information obtained by physical examin tion was indeed very slight. Aside from the systol murmur, a peculiar, slight infiltration edema of t back in the lower lumbar region and dullness ov the apices of the lungs with numerous râles all ov the posterior parts of the lungs, nothing worthy mention was found. Repeated examination of t urine, and especially to detect albumose failed to r veal anything abnormal save occasionally a trace albumin. The urine when heated slowly show no turbidity whatsoever, nor did any of the tes reveal the presence of the albumose described b Bence Jones in 1847, and which is supposed to pathognomonic for the disease under discussio It is corroborated also by the reports of the urina examinations made while the patient was in Bellev The patient was seen frequently by my colleag Dr. Nathaniel Bowditch Potter, and this point esp cially corroborated.

A few reports of the examinations made of t urine are appended herewith:

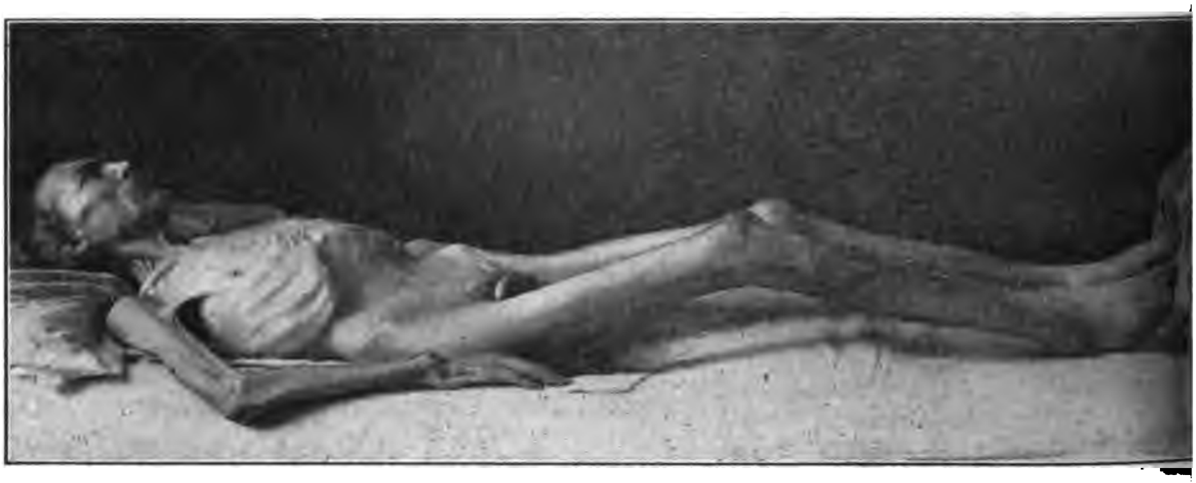

Fig. 1.

May 21, 1902: Total quantity, 3½ pints. Pal straw-color; acid reaction; specific gravity 1,018 urea, 337 gr. No albumin, albumose or sugar. Fe hyaline casts and very few granular casts.

September 6, 1903: Clear light amber; acid; 1,015 no sugar or albumin. Few leucocytes and few hy aline casts.

September 9, 1903: Slightly cloudy, amber; acid 1,020. Very faint trace of albumin; no sugar Few leucocytes. Very few hyaline casts.

September 14, 1903: Clear, light amber; acid 1,018. No albumin or sugar. Few leucocytes an hyaline casts.

September 24, 1903: Clear light amber; acid 1,012. No albumin or sugar. Few leucocytes epithelium and granular casts.

October 29, 1903: Cloudy, light amber; neutral reaction; 1,014. Very faint trace of albumin; no sugar. Epithelium and few leucocytes.

October 28, 1903: Straw colored; faintly acid; 1,012. No albumin or sugar.. Few leucocytes. Very few granular casts.

October 31, 1903: Cloudy, straw colored; faintly acid; 1,012. No albumin or sugar. Few leucocytes. Very few granular casts.

November 5, 1903: Cloudy, straw colored; faintly acid; 1,012. Very faint trace of albumin; no sugar. Epithelium and few leucocytes.

February 5, 1904: Clear, light amber; acid; 1,015; No albumin or sugar. Very few granular casts.

May 12, 1905: Sp. gr. 1,012; acid. No albumin or albumose; no sugar. Few finely granular casts.

May 17, 1905: Cloudy; alkaline; no albumose; faint trace of albumin; no sugar. Granular casts finely granular. Occasional hyaline cast; no blood.

Blood Examinations:

September 8, 1903: Reds, 4,496,000; leucocytes, 8,100; Hemaglobin, 41 per cent.; differential count, 100 cells; many ring forms, very slight poikilocytosis; no nucleated forms; polymorphonuclears, 60 per cent.; l. lymphocytes, 27 per cent.; s. lymphocytes, 11 per cent.; eosinophiles, 1 per cent.; myelocytes (neutr.), 1 per cent.

October 16, 1903: Reds, 3,944,000; leucocytes, 6,900; hemoglobin, 43 per cent.; differential count, 100 cells; no poikilocytosis; polymorphonuclears, 65 per cent.; l. lymphocytes, 10 per cent.; s. lymphocytes, 23 per cent.; eosinophiles, 2 per cent.; myelocytes.

November 30, 1903: Leucocytes, 11,600; reds, 4,040,000; Hb., 50 per cent.

December 3, 1903: Reds, 4,520,000; Leu., 6,100; Hb., 56 per cent.

January 11-12, 1903: Reds, 4,632,000; Leu., 8,200; Hb., 60 per cent.

May 14, 1905: Reds, 3,480,000; Leucocytes, 8,100; [illegible]oglobin, 48 per cent.; no poikilocytosis.

[illegible] accompanying protocol of the autopsy is [illegible] furnished me by Dr. Horst Oertel, Patholo[illegible] the Hospital, and to whom I am very much in[illegible], not only for this, but for looking over all [illegible]ctions of the bones.

[illegible]tomical Diagnosis:

[illegible]in: Apparently normal.

Heart: Brown atrophy, concentric hypertrophy [illegible].

Lungs, right: Chronic interstitial pneumonitis.

Lungs, left: Chronic interstitial pneumonitis.

Liver: Chronic interstitial hepatitis slight, venous congestion.

Kidneys, right: Chronic interstitial nephritis.

Kidneys, left: Same, less advanced.

Spleen: Chronic splenitis and perisplenitis.

Pancreas: Chronic pancreatitis.

Stomach: Chronic gastritis.

Genitourinary tract: Papiloma of bladder, fibrous prostate.

Other lesions: Glands of lumbar, right internal iliac and right inguinal fibrosis and periadenoid fibrosis. Bones, seat of small, round tumor masses.

Cause of Death: Multiple myeloma; chronic interstitial nephritis.

Autopsy Notes.—Body, 164 cm. height; much emaciated. Skin dry, pale and scaly. Pupils regular, dilated. Slight granular roughening felt on palpating the bones through the skin. On opening the thorax the diaphragm is found at fifth space on both sides. The left pleural cavity is free except in the vertebral gutter and posterior half of the diaphragm. The right pleural cavity contains a small amount of fluid. A few adhesions are found in the vertebral gutter, but most of the lung is free. The heart is small and on opening the pericardium a few extremely thin, smooth, delicate milk-patches are seen, on both the right and left sides. The mitral valve is normal. The chorda tendinæ are thick and of medium length. The papillary muscles are hypertrophied. The aortic valve is thickened at the base and there is patchy thickening throughout, save at the edges which are soft and smooth. The first portion of the aorta has patchy calcified atheromatous plates and larger fatty plates. The aortic valve is 8½ cm. in length and the mitral valve 10 cm. The right heart shows fenestrations in the free edge of the semilunar valve; otherwise it is normal. The tricuspid has large leaflets, otherwise it is normal. The chorda tendinæ and papillary muscles are short and thick. Thickness of left heart 1½ cm. and of right ½ cm. Weight, 270 grams. Muscle deep reddish brown, vessels fairly distinct. Coronary arteries show distinct atheromatous decay, localized patchy, calcified atheroma.

Left lung small, visceral pleura irregularly thickened, very thick over the vertebral gutter (1½ mm.) pale fibrous fissures obliterated by old adhesions. On section there is moderate edema, color irregularly red and white, vessels very distinct. Bronchial walls and interlobar pleura very thick. The glands at the hilus are firm but not increased in size. The larger bronchi contain blood-tinged, frothy mucus, and the mucous membrane is deeply congested. Only the larger vessels show slight atheroma. The right lung is smaller than the left. The pleura is irregularly thickened throughout, of firm consistency and slightly edematous. Otherwise similar to the right lung.

The spleen is very small, the capsule steel blue and thickened. Cut sections show fibrous tissue, lymphoid follicles and vessels very distinctly. The consistency is increased, the weight 100 grams. The cortex of the left suprarenal is irregularly mottled, red and yellow, and distinctly atrophied. The medulla is diminished. The intermediary portion is prominent.

There is very little fat about the left kidney. Its capsule is moderately adherent and its consistency is increased. The surface is slightly granular with irregular gross cicatricial-like contractions. On section the color is deep red and the markings fairly distinct. The cortex is more deeply injected than the medulla. The malphigian bodies stand out conspicuously and are injected. Thickness of cortex is 9/10 to 1 cm. and weight of the kidney 165 grams. The right suprarenal is similar to the left, but smaller. The right kidney weighs only 75 grams. The capsule is very adherent. The surface is finely granular and the consistency increased. On section it is of pale red color, the markings moderately indistinct and the vessels very prominent. The cortex is 4 mm. thick and the malphigian bodies, which are very short, are drawn toward the surface.

The peritoneum which is smooth and shiny, contains no fluid. Large intestine collapsed. The small intestine is moderately distended with gas. There is no retroperitoneal fat. The omentum is thin. The common gall duct is patent, and the contents of vessels at hilus of the liver negative. The liver itself is very small weighing only 840 grams. Its capsule is slightly thickened, its consistency somewhat increased. There is moderate intralobular injection and the lobules are grayish yellow in color. The gall-bladder is filled with a small amount of fluid bile. The mucous membrane is very thin.

The pancreas is small, pale and firm. The vessels and lobules distinct, the ducts patent.

The bladder is small, its mucous membrane thin.

At the trigone there are multiple small polypi, about the size of a pea, 15 to 50 in number, some sessile, some pedunculated. The seminal vesicles are small and their fibrous increase is much increased. The prostate, which is extremely fibrous, is moderately enlarged, especially its lateral lobes. The pelvic glands, which are very marked on the ight side, show extreme fibrous periadenitis. The lumbar glands have some interstitial perifibrosis.

Heart.—This organ shows a moderate atrophy and brown pigmentation of the muscle fibers, with marked interstitial cellular proliferation, and here and there patches of mature fibrous tissue, which have replaced the muscle fibers. The vessels of the heart are thickened, and many of them show circumvascular small round-celled infiltration.

Lungs.—These are the seat of chronic emphysema and marked interstitial growth in places which, as a rule, is fairly cellular, and confined especially to spaces about the vessels and bronchi. There is also considerable stasis of blood. A few of the alveoli contain cellular débris and large round pigmented cells. There is also marked anthracosis.

Liver.—This shows well-marked stasis, moderate atrophy of liver cells, and in places where the stasis is more marked the atrophy is more pronounced. Moderate increase in fibrous tissue of the interlobular spaces. There is moderate round celled infiltration and bile precipitation within the lobules.

Kidneys.—The kidneys present marked stasis, moderate thickening of the vessels and interstitial growth around Bowman's capsule. The glomeruli show cellular interstitial growth and obliteration of vessels, and occasionally hyaline transformation. There is slight parenchymatous degeneration of the epithelium of the tubules.

Lymph Glands.—The lymph glands examined show marked irregular growth of mature fibrous tissue, which penetrated into the glands from the capsules, and replaced the lymphadenoid tissue. The periosteum of the long bones is thickened and is easily elevated. The consistency of the long bones is very much diminished. There is no distinct line of demarcation between the medulla and the bone proper. Taken together, the bones present a moderately calcified, partly pinkish, pale or yellowish mass. There is scarcely any normal medulla, its characteristic appearance being altered by the pale, calcareous mass which has replaced it. This same change seems to exist in all other bones examined—calvarium, long and flat bones.

*Microscopical Examination.**—Sections from the bones show extensive loss of the bone substance proper, with diffuse cellular growth, mostly small round cells, in the widely dilated interlamellar spaces, producing in this way large and small cavities, irregular in shape, bounded by thin or thicker remnants of lamellar substance, which contain the new growth. Within these spaces the arrangement of the cells is partly of an alveolar character, partly more diffuse. Where larger cavities have formed there is an entire loss of the Haversian system. The new growth is formed by small or larger round cells, intermingled with more elongated, almost spindle-shaped cells, which at first present a distinct concentric arrangement around the vessel, later take on a diffuse growth. This is associated with the formation of a pale, hazy, intercellular substance, the amount of which varies, it being much greater in some of the cavities than in others. It is obvious that this has filled the Haversian spaces, and after causing a resorption of the bony substance, it has succeeded in replacing it.

In the large spaces there is to be observed a peculiar arrangement of the growth, which is characterized by the formation of smaller or larger spaces, lined by endothelium, surrounded by the more diffuse cellular growth. They have all the appearances of an attempt at formation of vessels, but for the most part they do not contain blood. The cells which form their walls have a decidedly fibroblastic appearance. Towards the periphery again are found larger and smaller round cells. The nuclei of the cells appear pale and vesicular, with rather small, irregular chromatin contents and frequent mitotic figures.

Bone substance and marrow are equally involved in an active, diffuse, or more nodular cellular proliferation, of a supplanting character, and the loss of bone substance here gives the impression that it is due to foreign invasion. There is no preponderance of gutter figures, grossly or histologically, no hemorrhagic infiltrations, no red or yellow marrow.

On the other hand, the bone marrow itself shows marked myeloid proliferation, replacing red cells and fat in the affected areas. From the histological findings of the sections first examined, it appeared that the growth was of a mixed, partly round, partly spindle-celled variety, and never going on to the formation of mature tissue, was intimately connected with the Haversian systems and the cell forms genetically related. (Fig. 2.) But the examination of a large number of sections, especially those which are apparently closer to the marrow, made that point somewhat doubtful. (Fig. 3.) While unquestionably there exists a marked formation of spindle and epithelial cells, and the attempt at formation of new blood-vessels, which is especially distinct in some portions of the tumor, large cells of a distinct myeloid appearance play a very essential rôle in this tumor formation, and in some parts they seem to predominate, to the exclusion of the others.

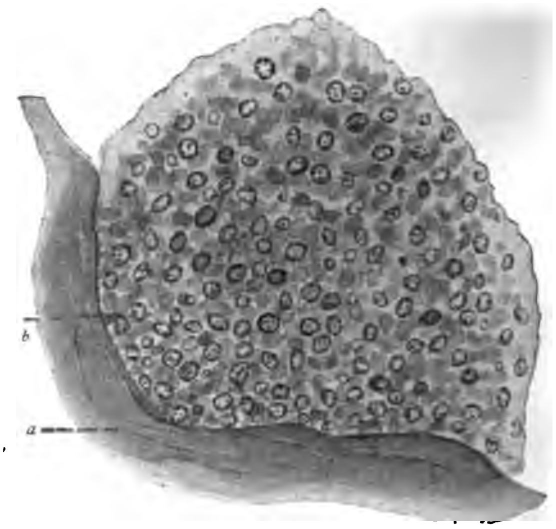

Fig. 2.—(*a*) Remnants of old bony structure; (*b*) Infiltrating tumor growth; (*c*) Old Haversian canal infiltrated. Leitz. Obj. 3. Ocular. 4.

The picture, then, on the whole, is somewhat complex. As Dr. H. Oertel says: "Whether we have to deal with a peculiar mixed myeloma is still an open question, difficult to decide. However, there is no doubt that we have a tumor formation which at present may be grouped as ***myeloma***, for this term has been used as one of situation rather than histogenesis. Zeigler and others regard them as simple round-celled sarcomata, while recently an attempt has been made to limit that name to diffuse or nodular infiltrations of distinctly myeloid character. And here is the peculiar feature of this case, for it appears to be related to both varieties, and I would at present not attempt to make a more specific classification."

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* For this report I am indebted to Dr. B. C. Crowell, Resident Pathologist to the Strecker Memorial Laboratory of the Hospital, and to Dr. H. Oertel, the Pathologist.

Dr. Harlow Brooks, to whom a series of sections were submitted, is of the opinion that the growth is unquestionably a myeloma. Of the etiology of the disease nothing is known. It has been met with more often in males than in females, and in most of the cases it occurs in the second half of life. The constant symptoms are pains in the back and sides. There are increasing weakness and anemia, and though there may be temporary remission of the acute symptoms, they invariably recur and progress to a fatal end. Spontaneous fractures of the ribs have been noted in many cases, and also tumors growing from the ribs and deformity of the dorsal and lumbar vertebræ. The urine is unlikely to attract attention until the patient comes under treatment for his other symptoms, but occasionally the patient notes the urine is turbid.

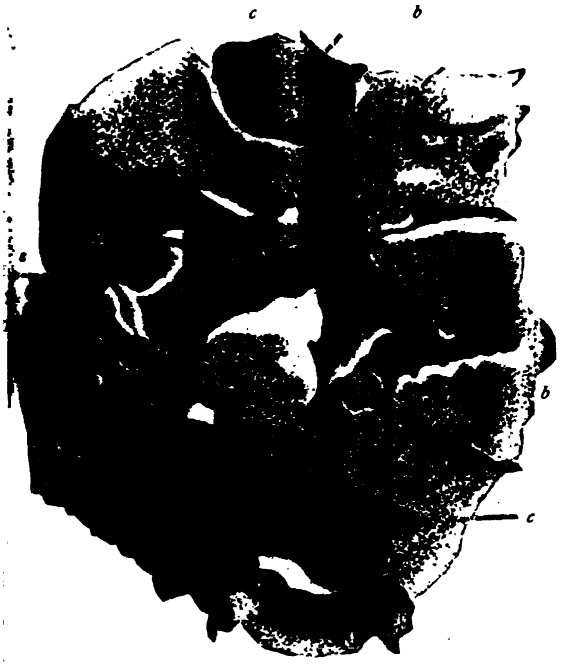

Fig. 3.—Same as Fig. 2. under higher magnification. Leitz. Obj. 6 ocular 4. (*a*) Remnants of old bone structure; (*b*) Cells of infiltrating tumor growth showing general myeloid character of the cells.

There are certain clinical features of the case that are worthy of emphasis. In the first place there was no deformity or alteration in the contour of the bones to be made out during life. Despite the fact that the substance of the bone was so largely replaced by new growth, and the existence of rarefying osteitis to a high degree, there were no indications that there had ever been fractures or dislocations. In the second place, at no time was the peculiar peptone, supposed to be pathogonomonic of the disease, found in the urine, and whereas other cases have been reported in which albumose was not found in the urine, this would seem to be the first case which was for a long time under observation in which repeated examination of the urine, extending over several months, during which time the disease was fully developed, failed to find albumose. It is because of this, rather than to discuss the anatomical features of the new growths, that the case is recorded.

37 West Fifty-fourth Street.

LET THE LUNGS ALONE IN CONSUMPTION.

By WOODS HUTCHINSON, A.M., M.D.,
PORTLAND, OREGON.

There is no more fascinating study than that of the development and changes in the conceptions of disease in medical thought. This is peculiarly true of consumption. First conceived as a general disease, as its name in every language implies, a wasting, a decline, "phthisis," "*Schwindsucht,*" "consumption," without any serious attempt at localization; next in the days of Laennec, as a local disease of a special organ, and finally within our own days as the work of a particular parasitic organism, finding its favorite nidus in that organ, its history has been an epitome of the evolution of scientific thought.

Each of these conceptions, and the work done under it, has added much that is valuable to our knowledge of the disease, but while now prepared to recognize them all as true, we can see with equal clearness that no one of them contains a complete conception of the disease in itself. Of course, the tendency has always been in each of these phases to claim that in that conception lay the whole truth and the sole rational method of approach to treatment. This delusion, however, rapidly had the breath battered out of it by the resistless shower of the blows of stern experience, beginning curiously enough with the latest and newest.

We have learned by bitter experience that we must practically ignore the bacillus in our treatment of the consumptive. Are we not coming to the same point of view with regard to the lungs? It is certainly a most curious paradox, that, while fully and firmly convinced that the bacillus tuberculosis is the cause of consumption, and that without it consumption could neither be transmitted nor developed, we yet find ourselves utterly unable to utilize or even to recognize this important and fundamental fact in any way in our treatment of the patient himself, invaluable as, of course, it is in the problem of prevention and transmission. To this position, however, we have been driven by the remorseless logic of events and our utter inability to discover as yet any drug or agent which will check the development of tubercle bacilli within the human body without injuring the tissues more than it does the bacillus. Valuable as the different serums are for diagnostic purposes, and helpful as some of the later forms appear to be in hastening the recovery of the patient under the open air treatment, yet it must be said that they have as yet achieved no specific or reliable position in the treatment of this disease. And the few which do hold the confidence of even a fraction of the profession act entirely by stimulating in some way the resisting powers of the tissues and not by preventing the development of the invading germ.

In my judgment, we are coming to almost an identical attitude with regard to the remedies which are supposed to have a remedial action upon the lung itself, from creosote to the cabinet and from exercise to altitude. Certainly, it is true that the one and only method in which the profession has an atom of confidence, the only one which has been known to cure the disease, utterly disregards both the bacillus and the lung. And now, with the characteristic tendency of the human mind, after having been driven to this position, much against our will, by the fierce buffets of bitter experience, having, by an incessant and enthusiastic testing of forty foolish things, been driven back upon the one rational procedure, we begin to cast about in our minds for explanations of the rightness of our new-found position. Fortunately, they are not far to seek; indeed, some of them are so obvious that we wonder that we never saw them before, and had not reasoned out our position in advance, instead of having been ignominiously driven into it by the knout of successive failures.

First of the various reasons for letting the lungs alone in the treatment of consumption, is the fact which is more and more clearly recognized every day, that consumption is not properly speaking a disease of the lungs, but merely a local (pulmonary) expression of a disease which involves the entire system. The consumptive is tuberculous to his finger tips, the disease chiefly focalizing itself in the lungs. This was long ago proven by bacteriologists, when it was shown that no matter by what route the tubercle bacilli have entered the system, whether by food, inspired air, hypodermic injection, or surface wounds, they have a deadly faculty of making their chief lodgment in the lungs. Time and again animals have been made tuberculous by feeding them upon infected food; they have developed and died of pulmonary tuberculosis. On most careful examination after death it has been impossible to detect any lesion in the intestinal wall, and in many not even an involvement of the mesenteric lymph nodes. It is now, in fact, universally admitted by experimenters that the tubercle bacillus, introduced into the system of an animal by whatever route, will first show itself in a recognizable manner in the organ in that animal which is most susceptible to the disease, this organ varying somewhat in different species, as I have elsewhere shown.[1]

In mammals, generally speaking, it is the lung which is the special point of affinity of the bacillus; in birds, on the other hand, this is one of the rarest sites of development, while the liver is almost invariably most seriously involved. In fact, it will be remembered that Behring's latest theory of the port of entry of the tubercle bacilli places it almost exclusively in the intestinal tract. For some reason or another the lung seems to be a point of least resistance to the lodgment and multiplication of the invading organisms, not merely in tuberculosis, but also in pneumonia and bubonic plague in man, anthrax in cattle, glanders in horses, and swine plague or hog cholera in pigs.

Equally overwhelming in itself, and most convincing, is the further evidence that this localization of disease in the lung is not affected in the slightest by any conditions which appear especially to irritate, attack, or even interfere with the expansion of the lung as such. But that susceptibility to all of them and to the involvement of the lung in all will be markedly promoted by any conditions which tend to lower the general resisting power and vigor of the entire system, such as overcrowding, underfeeding, or overwork.

Further, we are daily confronted by the paradox of a consumptive patient whose pulmonary lesions, as evidenced by all physical signs, are at a standstill, or even progressing, for weeks after his appetite, weight, and general strength show marked improvement, ending ultimately in recovery. Cure the body and it will cure the lungs.

To regard consumption as primarily or essentially a disease of the lungs is as illogical as to term Bright's disease essentially a disease of the kidney. The treatment of either disease from this point of view alone is predestined to failure.

The one organ which is chiefly and constantly defective in the consumptive is the heart. The typical "poitrinaire" ("lunger") is the individual with large lungs and small heart. This is absolutely supported by my study of the incidence of the disease in animals.[2] The pulse is our best guide in consumption.

The second reason why it is well to let the lungs alone in consumption is that they are practically beyond the reach of any remedy which we possess. Germicides intended to kill, or even seriously to discourage, the bacillus *in situ*, are, of course, out of the question. Remedies which act chiefly upon the movements of the lung, as digitalis does upon the heart or purgatives upon the bowels, we have none. We have not even remedies, so far as at present known, which can reach the lung, as certain drugs can the kidney, by dint of being excreted by it.

We have absolutely no tonic or alterative which will improve the general nutrition of the lung, or increase our appetite for air in the slightest degree, except such as work simply through their effect upon the general system.

Nor are we much better off as regards remedies to be used in direct frontal attack as local applications. Our class of so-called expectorants has almost entirely faded into air under the calcium light of modern investigation. A few of them, like certain salts of ammonia, may perhaps have a slight liquefying effect upon the bronchial mucus; but the vast majority cannot be proven to have any effect whatever upon any part of the respiratory tract, except that above the level of the larynx. Most of them are at bottom simply more or less mild narcotics or local anesthetics to the upper third of the respiratory tract, and practically none of them, except opium, reaches below the epiglottis, and this, the only cough sedative which produces any effect, produces almost invariably an injurious one in tuberculosis.

Not even our sprays, our inhalations, and our vapors will enable us to penetrate much further. It has now been shown by repeated and careful experiments that none of these reach below the level of the epiglottis, and most of them go no further than the middle of the pharynx. Intratracheal injections are the only known means of bringing remedies into direct contact with the bronchial surfaces. A few of the so-called expectorants and "lung tonics" of the resinous, or aromatic, group, by impregnating the air of the mouth and nasopharynx with their fumes for a considerable time after they have been swallowed or inhaled, may perhaps be drawn down into the trachea; but when we remember that the tidal air in ordinary respiration probably seldom reaches below the middle of the trachea, and that the fullest inspiration can inhale particles no further than the middle of the bronchi, all further interchange of air in the lungs being by gaseous diffusion, or ciliary movement, it will be seen how utterly impossible it is to cause any of these "healing" remedies to reach the "sore spots" in the apex. So that as far as medication, either direct or indirect, is concerned, the lungs are practically utterly out of our reach, and it is probably a mercy that they are so.

The third reason for letting the lungs alone in consumption, is that in the vast majority of cases, so-called pulmonary gymnastics and the demands made by them upon the lungs to expand beyond their natural limit, as is done in most methods where the air tension is artificially increased, as by breathing out against resistance, simply drive the infectious material into hitherto uninvaded areas of the lungs.

Nature's method of cure in this condition is the familiar one of surrounding the zone of attack with exudate, and changing this exudate gradually into a fibrous barrier, in which the organisms of the infectious material are imbedded. Forced expansion of the lungs injuriously interferes with this process, breaking up such protective adhesions as have already taken place, and scattering the infectious material abroad in the lungs. So far as these procedures are based upon the ground that the lung of the consumptive is distinctly deficient in size in proportion to his weight and needs expanding, they are, in my judgment, in error, for as pointed out long ago by Fothergill and Beneke, the actual total capacity of the chest of the tuberculous individual is probably as large as, if not greater than, the average for his weight, rather than less. The chest of the consumptive is narrow and round but remarkably long. What it lacks in breadth it appears to make up in length. We should develop his body so as to give his superfluous and emphysematous lung tissue plenty to do, rather than balloon his lung.

Abrams pointed out some years ago that the condition of the consumptive lung previous to the attack of the bacillus is one of expansion instead of collapse. And careful observation of my patients in this regard since hearing his suggestion inclines me to agree with him.

A form of emphysema is the condition preliminary to attack, instead of a condition of collapse of the air cells. The ghastly failure of the cabinet to expand the lungs of the consumptive, by creating a vacuum around his body and causing him to swell out, as it were, like a wrinkled apple under the bell of the air pump, needs only to be alluded to along with the other lessons of history.

Another interesting fact which should give us pause in our enthusiasm for expanding the tuberculous lung, is the remarkably beneficial effects which have come from the enforced or educational stopping of cough in these cases. Begun simply as a means of preventing the dissemination of infection, or even for the pitiful purpose of attempting to conceal the existence of the disease from the eagle eye of the keeper of the average boarding house or hotel at health resorts, it has been found to be of marked benefit to the patient himself. The reason being that it husbands instead of exhausting the last drop of his strength; it permits the inflamed area of the lung to enjoy that rest, which inflamed tissue all over the body absolutely demands; and it eliminates the possibility of driving the infectious sputum into other bronchial passages by the tremendous back-pressure developed during the spasm, or sucking it into new areas of the lung by the gasping, almost whooping inspirations which follow or intersperse the paroxysms.

Moreover the measures which have been adopted for so-called expanding of the chest have been radically wrong, in that they address themselves to the wrong diameter. The general impression, both among the laity and in the profession is that the chest of the consumptive is flattened, that is the anteroposterior diameter is the one which is diminished or deficient.

As I had the honor to report some seven years ago,[3] actual measurements with the calipers of the chests of tuberculous patients, show that just the reverse of this is the fact, and that it is the transverse diameter that is deficiently developed. The accumulation of a series of nearly 500 measurements upon the consumptive chest since that time by other observers and by myself[4] has absolutely supported this position that the chest of the consumptive is round instead of flat, Gymnastic exercises calculated especially to develop the chest as such, in my judgment, do more harm than good; their one benefit being such exercise as they may give to the general muscular system and through these to the circulation, wherever this may happen to be indicated. The only pulmonary gymnastics of any value are those that develop the entire body and general vigor. But these are only of value before the disease has developed, or after convalescence has set in.

This brings us to the most serious objection to any form of gymnastics, pulmonary or otherwise, in tuberculosis; and that is that, whereas in former years we regarded exercise as one of the chief means of cure, now we are firmly convinced that it is distinctly injurious and that absolute rest is indicated in any case in which the afternoon temperature rises above 100°. We seem to be practically reduced to the position that special exercises devoted to the expansion of the chest are irrational in principle, the chest being probably already equal, in form and volume in proportion to weight, to that of the normal individual, if not in excess of it, although the actual expansion may be less than that of the normal individual.

Such forced expansion as can be obtained in the lung is harmful rather than beneficial, in that it tends to promote the spreading of the infectious material into deeper areas, to break up the newly formed connective tissue in which the healing tuberculous foci are being imbedded, and to interfere with such steps as nature may be already taking through pleuritic or other adhesions to put the damaged parts at rest. The only benefit, in fact, of these exercises is in promoting general nutrition and quickening the respiration and circulation, and this we now regard as an injury instead of a benefit in cases showing any degree of activity or progress.

In fact, our phthinologists, as they term themselves, have swung to the other extreme, and are now strapping down the affected side of the chest, particularly where pleuritic involvement has occurred, with broad bands of adhesive plaster applied *en cuirasse,* and even throwing loops over the opposite shoulder which can be cinched together with bandages, thus exerting very considerable degrees of pressure upon the chest wall. There can be little doubt that this procedure in properly selected cases adds much to the comfort of the patient and, if his condition has been detected early enough and he is placed on an intelligent open-air and overfeeding course, he will probably recover under this straight-jacket treatment.

But other enthusiasts are equally sure that the affected areas, especially in the early stages, need to be ballooned out forcibly, so instead of strapping the affected apex, they strap the base and lateral wall of the chest below it, thus, as they believe, causing the apex to balloon out , thereby greatly increasing its air supply and consequent circulation. As these men are able to report equally good and flattering results by this method of ballooning, in connection with the open-air treatment, it arouses suspicion in the mind of the unprejudiced observer that it is this common factor which is responsible for the cure in both sets of cases; and that both groups of patients would probably have recovered in the same proportion if their chests had been left entirely alone.

Certainly both of these methods cannot be right at the same time. They have this advantage over the old methods of forced expansion, whether by the cabinet or gymnastics, that they do no positive harm. Either of them may be safely resorted to whenever they appear to increase the comfort of the patient or to sharpen his expectation of a cure.

But the evidence which should give us most thoughtful pause of all in our campaign of direct attack upon the lung tissue as such, and our endeavors to promote and increase oxidation in the tuberculous patient, is that contained in the remarkable and most unexpected findings of Robin and Binet[5] in their investigations as to the actual gaseous interchange in the consumptive. These researches with their most unexpected and, to my eye, most important results, have never attracted the attention which they deserve, although published now nearly four years ago.

By prolonged study and estimation of the amount of oxygen consumed and carbon dioxide given off by ten tuberculous patients, who were most carefully studied in properly constructed respiratory chambers or cabinets, they arrived at the surprising result that nine of them showed, instead of a diminution of normal oxygen intake and carbon dioxide output in proportion to their body weight, a marked excess.

In exact figures the total quantity of air expired was 80 per cent. greater than that passing through the lungs of an individual of the same weight in perfect health; the amount of carbonic acid exhaled was 64 per cent., while that of oxygen consumed was 70 per cent. greater, leaving a considerable amount of oxygen to be absorbed by and fixed in the tissues. A year later they made a completed report before the Academy of Medicine of Paris,[6] in which they had passed upon a much larger number of cases, which absolutely confirmed their former position; namely, that the consumptive instead of being an individual whose respiratory processes are deficient, is one in whom they are in marked excess.

So far as I have been able to discover these researches have not yet been repeated by other observers, with the exception of certain of their students and assistants; but inasmuch as they are the only results upon record in which the actual gaseous interchange of the consumptive has been put to an accurate test, and the amount of increase shown is so enormous as to be utterly incapable of explanation by any simple oversight in the method or error of personal equation in observers of such well-known scientific standing and reputation as both of these men, they certainly are entitled to a strong presumption in favor of their correctness.

What makes their findings so much the more interesting is that having once discovered this excessive overdraft, so to speak, on the part of the consumptive lung-furnace, they began comparing the condition of affairs in this regard in patients who were the subjects of other chronic diseases, particularly of rheumatism and gout, with the interesting result of finding that in both of these two conditions the proportion, or percentage, per kilo body weight of oxygen intake and carbon dioxide output fell distinctly below the normal, though not so markedly as that of the consumptive rose above it.

In another group of chronic cases, including pneumonia, neuroses, cancer of the stomach, and visceral ptoses, the respiratory exchange was in some cases slightly exaggerated and in others normal. So that so far as this series of cases goes we seem to be brought to the position that tuberculous patients have a very marked increase of gaseous pulmonary interchange, while gouty and rheumatic patients have a less distinctly marked, but still definite and constant decrease, and other classes of diseases depart but little from the normal.

Still another step was taken by these investigators, and that was the examination of two groups allied to the tuberculous, namely, the scrofulous and the descendants of tuberculous parents. In the latter of these groups a majority of the cases showed a well marked exaggeration of the respiratory exchanges. That is, of thirty children of consumptive parents, twenty-one of whom were in good health, nine subjects of various intercurrent diseases, but none showing any signs of tuberculosis, respiratory exchanges were markedly increased in eighteen. A similar increase, though less marked, was found in a group of some thirty cases with marked depression of general vigor due to such causes as overwork, grief, financial reverses, alcoholism, and sexual excess, usually regarded as predisposing to tuberculous infection.

With great enthusiasm and energy MM. Robin and Binet extended their investigations to the influence of various factors in promoting or diminishing this increased pulmonary ventilation, which they regarded as one of the necessary precedents of tuberculous infection. Heat and dryness of the air were found to have variable effects, with no uniform tendency in either direction. Warmth and moisture of the air were found in the majority of cases to increase the gaseous interchanges. Cold air increased the interchange in some, diminished it in others, thus making a negative record. It was found to vary at different mountain altitudes without any uniform effects, and the few patients who were sent from the city to live in the open air at the seaside, were found to have their gaseous interchanges diminished. The one factor which invariably and under all conditions was found to diminish these gaseous interchanges was rest. And this was particularly marked when the rest was combined with the recumbent attitude. The authors finally conclude with the statement that in their judgment these researches warrant them in the position that "an exaggerated tendency on the part of the organism to fix oxygen and form carbonic acid, that is to say, to consume itself, constitutes one of the characteristics of the propathic state, or soil, of phthisis."

This position is certainly a sufficient reversal of our former beliefs to give a distinct shock to current theories. So radical a departure is it that we must insist upon a thorough corroboration of the work by other observers and the accumulation of a sufficient body of data to render its correctness unassailable. But it strikes me as having so many points of support in our clinical and therapeutic experience of the last two hundred years as to give it the air of a strong probability of truth.

First of all it explains a striking, and in spite of its passing into popular conceptions, really undeniable element in the makeup of the disease, and that it, the extraordinarily rapid wasting of the body-tissues which takes place in tuberculosis. Let any one merely look at the face of the consumptive in the late second, or early third stage, with his flushed cheek, his brilliant eye, his translucent skin, his emaciated yet eager look, and the thought rises unbidden at once that he is literally burning himself up. In the second place, it explains, as no other hypothesis has yet, the extraordinary fact that not only will our consumptive patients lose weight with remarkable rapidity, but that they will gain it with almost equally astonishing speed.

The consumptive comes to be, to me, more steadily year by year, an individual who is not simply deficient, but remarkably unstable in bodily weight. Nearly any remedy which can be given to a consumptive short of the third stage, nay almost any change of climate or environment or of surroundings and conditions in any respect, may cause him to gain from eight to fifteen pounds inside of three or four weeks. A thing which is practically impossible to effect in eight out of ten perfectly healthy individuals.

This is, of course, one of the reasons why such an innumerable host of remedies of all descriptions have succeeded in getting a reputation in tuberculosis. It also agrees with the well-known clinical fact that a mere increase in weight as such, though encouraging, is by no means a reliable sign of actual improvement in the patient's condition. Thirdly, it at least throws some light on the singular fact that while tuberculosis is regarded as distinctly a disease of lessened vitality, or lowered appetite, of defect instead of excess, the remedies and the foods which have been found most useful clinically are those which distinctly tend to check metabolism and clog combustion processes, namely, first and most important of all, fat of every description, especially in the redoubtable form of cod-liver oil, then tar, creosote, iodoform, ichthyol, the cacodylates, and other forms of arsenic. (These last, by the way, were specially tested by Messrs. Robin and Binet and found to diminish markedly the "pulmonary ventilation" both in individuals who were overworked and in tuberculous subjects.) It has always been to my mind a singular fact that drugs, such as cod-liver oil and creosote, which could not be taken by the healthy individual without nauseating him, destroying his appetite and making him "bilious," will be consumed in large quantities by the tuberculous patient, not only with comparative relish, but with positive increase of appetite and improvement in nutrition. Instead of their stimulating effects it would appear to have been their checking and retarding effects that are beneficial in consumption. The delusion that creosote and iodoform act as antiseptics in any way was of course exploded years ago.

Last, and most important of all, it throws a flood of light upon the fact that the two remedies which have been alone found of the slightest dependability and permanent effect in the treatment of tuberculosis, namely, rest in the open air and overfeeding, are precisely the ones which most surely and constantly diminish this excessive respiratory interchange.

It has always been a matter of amazement to the profession, indeed I have heard it seriously urged as an objection to the rationality of the open-air and overfeeding treatment, that we can administer to a wasted and emaciated consumptive, weighing perhaps barely 110 to 120 pounds, with little or no appetite, sluggish bowels, broken sleep, and everything that one could well imagine to diminish his appetite and powers of digestion, quantities of fats and proteids, in the shape of cream, milk, raw eggs, raw beefsteak, ham, and bacon, which a perfectly vigorous individual in full active work and weighing 160 to 180 pounds could not consume without becoming bilious. Especially as this mere shadow of an individual consumes these enormous amounts of material while absolutely confined to his chair or his bed and forbidden under the strictest penalties to take any exercise whatever. Only an enormous and overwhelming excess of pulmonary combustion in the consumptive, can account for this extraordinary capacity for fat and proteid digestion in excess.

In short, from this point of view it would appear highly probable that our tuberculous patient is to be regarded in the light of one who, to use a very rough simile, is pouring nearly half the heat of the fuel which is burned in his body furnace up the chimney, in the form of smoke. That the food which he takes into his system, instead of being assimilated and decomposed by anaërobic processes in the body cells, is burned in the blood and in the lungs. Any means, therefore, which will tend, so to speak, to clog the throat of his chimney and prevent this fatal escape of heat and energy, whether by shutting down the draft by drugs like creosote, iodoform, cod-liver oil, and arsenic, or by pouring in an enormous quantity of food rich in heat value, so that sufficient energy can be derived to run the body-machine in spite of the large waste up the chimney, will tend to restore the balance of his gaseous interchange and enable him to return to the normal.

That in the small number of gouty and arthritic patients tested the pulmonary interchange fell distinctly and constantly below the normal. throws into curious relief the old clinical belief that these two diatheses were in some way antagonistic.

If anaërobic metabolism be in excess in the gouty, it may account for their tendency to break down the nuclei of their body-cells and form uric acid under the invasion of toxins, whether endogenous or exogenous.

Derangement of this anaërobic metabolism is probably the secret of fever, and this, of course, is due to toxins, which would place gout as a special form of mild febrile reaction.

The fact that out of thirty children of tuberculous parents eighteen showed a marked increase of pulmonary interchanges, would support the view of Robin and Binet, which seems to me probable upon other grounds, that this tendency really precedes the actual development of the infection, and constitutes something nearer than anything yet discovered to the much discussed, so-called "pretuberculous" state. The position cannot yet be accepted as established beyond question, but it certainly seems to fit in better with the results of careful and intelligent clinical observation than any other which has yet been suggested.

1. *Studies in Human and Comparative Pathology*, Glaisher, London, and Putnams, New York.

2. "The Zoological Distribution of Tuberculosis," MEDICAL RECORD, August 24, 1901; also "Studies in Human and Comparative Pathology," 1900.

3. *Journal of the American Medical Assn.*, September 11, 1897. The *British Medical Journal*, October 28, 1899.

4. *Journal of the American Medical Assn.*, May 2, 1903.

5. *Bulletin Général de Thérapeutique*, April 8, 1901.

6. *Bulletin de l'Académie de médecine*, January 21, 1902.

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AËROPHAGIA AND FLATULENCE.

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ALL hollow organs of the body contain normally a certain quantity of air. The digestive tube is no exception to the rule; the mouth, the stomach and the intestines each contain atmospheric air, either pure or mixed with some other gases. On introducing a tube into the esophagus, stomach or colon there is, as a rule, an escape of air. It is highly probable that the presence of air in the digestive tract is necessary for the accomplishment of their respective digestive functions. We know also that the escape of a certain quantity of air from either of the two extremities is not only compatible with good health, but is absolutely essential to well being, as any one who has watched closely the workings of his own engine during twenty-four hours may easily convince himself. Occasional puffs, buccal or rectal, audible or not, are physiological and therefore useful; though neither ornamental nor always agreeable.* They are the manifestations of the mobile equilibrium of the organism, and, as Spencer puts it in his definition of life, "a continuous adjustment of internal relations to external relations." When these relations become for some reason disturbed the process of adjustment still goes on, but it is of an abnormal nature. It may be that in the future we shall find that some morbid conditions of the gastrointestinal tract are due to deficiency or absence of atmospheric air in certain portions of the alimentary tube, and that some therapeutic method will be devised to supply the same. At present, however, we are acquainted with only one phase of the morbid process, namely, the presence of excessive quantities of air in the stomach and intestines.*

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* Tastes differ. In China, for instance, not only is belching not considered inelegant, but on the contrary, it is raised to the heights of an institution, a national ceremonial. Instead of making after-dinner speeches, after the viands are discussed and the traditional rice is reverently ingested, the host rises and excuses himself before the invited guests for having invited them to so shamefully

An accumulation of gas in the stomach or intestines in quantities sufficient to cause disagreeable sensations to the patient, and to give a tympanitic note on percussion is called "flatulency" or "tympanites." These terms are interchangeable, though the latter refers particularly to a retained and distending, the former to a moving and escaping gas. "Meteorism" denotes the acute stage of tympanites. "Borborygmus" is a condition wherein the accumulations of air and fluid are in a state of motion through peristalsis, felt by and audible to the patient as well as to the observer.

Flatulent dyspepsias were known to and described by the ancients, and the most fanciful explanations were given as causative factors. It is only in the nineteenth century that a careful study was begun. Combalusier in 1827[1] reported a case of tympanites wherein the evolution of gas was so great that it gave rise to the displacement of the abdominal viscera. At present we distinguish several distinct forms of gastrointestinal disturbances accompanied by flatulency.

Flatulency has been noticed in women during menstruation and at the menopause; preceding attacks of malaria; following exertion, such as running upstairs or trying to catch a train; in cases of cardiac disease—"heart wind," of Mitchell Bruce;[2] in peritonitis; in diarrhea, or following the excessive use of purgatives; in cases of thoracic aneurysm;[3] accompanying severe pain, as attacks of migraine, or biliary or renal colic; in the aged, especially towards evening;[4] in intestinal ulceration, especially of tuberculous or dysenteric origin; in hysteria; in cases of occlusion or stenosis of the intestines; following spinal lesions; in volvulus or dilatation of the stomach; in cachectic and chlorotic individuals.

Pneumatosis embraces a group of cases in which there is an excessive accumulation of gas in the stomach following immediately or soon after meals, the patient being unable wholly or in part to belch it up. In typical cases the epigastric region is found greatly distended—so much so that the contour of the stomach stands out most prominently. The patient experiences a sensation of distress and distention, marked want of air (asthma dyspepticum), a feeling of utmost anxiety, palpitation, etc.[5]

Eructation is marked by frequent discharges of gas from the stomach, or excessive belching. Hippocrates, and after him many others, described *morbus ructosus.* As a rule, wherever there is eructation, tympany of various degrees is present. It may accompany varied affections of the stomach or intestines, or it may occur idiopathically; in the latter case it received the name of "eructatio nervosa."

The question naturally arises, Whence does the gas come? The sources are as follows:

1. Fermentation.—Food may undergo acid fermentation (lactic, butyric) or alcoholic fermentation.

2. Putrefaction.—Albuminous substances may undergo decomposition.

3. Alimentary.—Certain articles of food and drink produce flatulency, as cabbage, beans, peas, carbonated waters, etc.

4. Intestinal Respiration.—Flatulence due to exchange of gas (CO_2 and N) between the blood and the contents of the stomach and intestines. This is supposed to be the explanation of the great evolution of gas occurring after severe pain, major operations or in neurotic individuals. Nothing definite is known as to the source of the gases eructated in such cases, but it is surmised that they are discharged from the blood. Brinton[6] calls the adherents to this theory "superficial observers and lax reasoners." He claims that the physiology of the digestive canal not only justifies, but demands a very different interpretation of the facts. His explanation is as follows: The bulk of a gas depends upon the pressure to which it is exposed; to double the pressure of a cubic inch of gas would diminish its bulk one-half; or, conversely, to halve the pressure would double its bulk. The gases within the digestive tube are exposed to the pressure of the abdominal muscles and that of the muscular parieties of the tube. The distention of the gases, therefore, is due to diminished pressure, or, in other words, to muscular relaxation.

5. Aërophagia, or swallowing of air. Since the subject of aërophagia has not received the attention it merits from the medical writers in the English language, we consider ourselves justified in devoting to it the greater part of this essay.

Dejardin[7] was the first to report a case in 1814 of a conscript who, in order to avoid military service, swallowed large quantities of air, which produced abdominal tympanitis. Magendie[8] in 1815 affirmed that the ability of swallowing air is easier than it was thought to be. Bouvier[9] in 1826 wrote a memoir on the subject and reported cases. Pierquin[10] in 1830 employed air-swallowing as a therapeutic measure in two cases—a man aged sixty, with cancer of the stomach, and a girl aged twenty-one, suffering from autumnal fever with gastric irritation. Andral[11] in 1848 remarked, "There are individuals who possess

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meager a repast, being dead sure that their hunger was not appeased nor their thirst quenched. The guests protest vehemently; they vie with each other in praising the variety and delicacy of the many dishes, and after having exhausted their flowery oriental vocabulary, place their hands upon their bellies, approach the host and belch up into his face, loudly and repeatedly, thus bringing forth from the bottom of their stomachs conclusive and convincing proof that they are indeed fully satisfied.

* The theory that the excessive accumulation of gas in the intestinal tract in certain acute diseases is to be looked upon as a beneficent agency, was recently propounded by Dr. H. C. Wetherill (The Beneficent Agency of Peritoneal Exudates, Adhesions, Aperistalsis, and Meteorism in Peritonitis, *American Medicine,* August 27, 1904). In studying the subject of secondary phenomena of peritoneal infections like adhesions, tympanites, and aperistalsis, he arrived at the conclusion that they play a beneficent part during the acute stage. He draws the analogy from exudations and adhesions which are conceded to play an important part in protecting the patients from the diffusion of the infection, as exemplified in a walled-off appendix or tubo-ovarian abscess. He is convinced that tympanites, through ballooning the intestines and thereby increasing intraabdominal pressure, serves the same beneficent purpose "in bringing loop to loop closely about the infecting focus and splinting the abdominal wall and diaphragm, so that even the respiratory movement shall not disturb the newly established quarantine station." The theory of Dr. Wetherill seems to be so sane, rational and ingenious that there is no doubt it deserves careful consideration by the medical profession, and the mistreatment of tympanites following acute abdominal infections will, I hope, be modified in accordance with this rational view-point. At present we cannot apply this theory to chronic cases of tympanites, but it certainly furnishes a new basis for further research.

the faculty of swallowing air and thus produce tympany." Chomel[12] refers to "direct introduction of air from the mouth into the stomach by a sort of deglutition," but he is rather inclined to accept the theory of Girardin that the mucous membrane of the stomach and intestine continuously exhale gas.

Longet in 1861[13] remarked in his text-book of Physiology, "There are individuals who can introduce this fluid (air) into their stomach, even into the intestines." Heusiger[14] in 1862 described a "rare form of spasm," and wonders whether "cribbing is possible in man." Demarquay[15] in 1862 remarked that "air may penetrate into the stomach with liquids or alone by a particular method of deglutition which many persons can perform." Falke[16] in 1863 described "cribbing in man." Willieme[17] in 1866 opposes the theory of internal generation of gas, and ascribes the numerous and rapid eructations seen in certain persons to alternate deglutition and expulsion of atmospheric air. Grisolle[18] writes in 1869, "Air can be introduced into the stomach during respiration and more so during deglutition of saliva and food." Piory[19] in 1871 cites the case of an army officer who swallowed constantly great quantities of air which "caused violent pain, and a moment later, fortunately for the patient, excessive and noisy eructations followed. Eichhorst[20] asserts that he could hear the noise which the successive deglutitions produced, and witnessed the distention which followed. Quincke[21] and Rosenthal[22] in 1889 discussed the subject extensively in their respective contributions. Bouveret[23] deserves credit for his elaborate discussion of the mechanism of this affection, as well as for the name aërophagia, which he gave the disease.

Since that date the following observers have contributed their mite to the elucidation and casuistry of aërophagia: Aubert,[24] Obici,[25] Pitres,[26] Wyllie,[27] Dupaquier,[28] Vauthey,[29] Southerland,[30] Lange,[31] Hayem,[32] Raymond and Janet,[33] Vincens,[34] Lyonet et Vincens,[35] Mathieu et Follet,[36] Soupalt,[37] Deguy,[38] Bouveret,[39] Regnalt,[40] Perrody,[41] Mathieu,[42] Morange,[43] Trambley,[44] Stern,[45] Zweig,[46] and Puritz.[47]

The phenomenon of swallowing air is not limited to man alone. Other animals, especially the horse, are subject to this affection. In fact, the affliction was recognized long ago in the horse. Mr. A. M. Farmington, Acting Chief of the Bureau of Animal Industry, U. S. Department of Agriculture, in reply to my inquiry, writes as follows: "Indigestion or dyspepsia was formerly attributed as the cause of air-swallowing, but later observers have more properly classed it with the vices, and in the same category with a considerable number of other whims, bad or vicious habits, resulting, in most instances, from idleness, which the horse, free from restraint, incessantly repeats without any other motive in reality than the gratification of desires which finally become imperative, but which always interferes with his complete serviceability. The modes by which the horse accomplishes the act of air-swallowing are known by the names of 'cribbing' and 'wind-sucking.' Usually, in cribbing, the horse takes a point of support or contact for his upper incisor teeth, which causes an abnormal wear of the teeth, and the vice can thus be detected. Less frequently he cribs in the air, without taking a point of contact, and is what is called a 'wind-sucker.' To crib in the air, the animal begins a rapid up-and-down movement of the lips, then suddenly lowers his head—sometimes to the level of his knees—and swallows a mouthful of air; most frequently with the production of a guttural sound, which has sometimes been wrongly interpreted as an eructation. When the effort is not successful, and is confined to the simple act of deglutition of saliva, the attempts are renewed until the desired satisfaction is secured.

"Cribbing with support differs from the foregoing in that, in order to execute it, the inferior extremity of the head is supported or braced by means of the incisors upon a resisting body of some kind, such as a post, the bottom or edge of the manger, a window sill, a cross-piece of a hay rack, a shaft or pole, the halter or harness of his mate, etc. When subjects are prevented cribbing on a support they will sometimes learn to crib in the air, and *vice versa*. A colt of a cribbing mare has been known to acquire the vice considerably before the age of one year. The muscles used in air-swallowing are not different, nor is the mechanism apparently different, except as above noted, from the act of deglutition generally. Remedies consist in the removal, so far as practicable, of objects that may serve as a base of support for the inferior extremity of the head, and the buckling of a strap around the neck just below the gullet. These methods, however, do not effect a cure, but only prevent the act while in use. Surgical operations have likewise failed to yield permanently satisfactory results." For information as to details in regard to the operation, Mr. Farmington refers to two articles by Professor Harger of the Pennsylvania University, Veterinary Department.[48]

As regards the mechanism of air-swallowing in man the views of the observers differ. The majority agree that the air enters the stomach in the same way as food, *i. e.*, by an act of deglutition. In the words of Lauder Brunton,[2] "When a small quantity of saliva is swallowed at a time it does not completely fill the pharyngeal cavity, and air is actually swallowed along with it. Frequent swallowing of saliva, therefore, is, according to his view, the main factor in aërophagia. This view is also shared by Deguy,[38] who included also the swallowing of smoke by smokers. Aubert[24] considers aërophagia as a voluntary act and of gradual acquirement. The mechanism is the same as in swallowing of a bolus of food. The difference between the alimentary and the aërial bolus is this: "The alimentary bolus having passed the anterior pillars, ceases to be under the influence of volition, whereas a bolus of air can easily be expelled as long as it is in the pharynx, with but a little more difficulty when it reaches the esophagus, and probably as long as it had not traversed the cardia. While a swallow of liquid, or morsel of food, descends easily into the stomach, it is difficult to swallow one mouthful of air. When one bolus of air is swallowed, it is felt to go down slowly, as it is impossible to push it quickly except by a series of deglutitions rapidly following one another, by the *vis a tergo* which one bolus exerts upon the other."

Beuveret[23] does not think that air-swallowing is a simple physiological act of deglutition. He ascribes it to a clonic spasm of the pharynx. The characteristic trait is the sudden and spasmodic deglutition which drags into the esophagus a certain quantity of air, and from there it is forced into the stomach. The violent eructations interrupt for a time the convulsive movements of deglutition, and expel a part of the accumulated air. Thus is produced a continuous circulation of gas from the pharynx into the stomach and *vice versa*, which is accompanied by two distinct sounds, one corresponding to the ingestion and the other to the expulsion of air. The sounds differ in frequency and character. While the deglutitions are short and rapid, from 46 to 60 to a minute, the eructations are but few and longer.

Oser[40] gives an ingenious explanation of the mechanism. He ascribes it to aspiration: "Suppose that through the contraction of the circular fibers the stomach is emptied of its contents, and then the layer of longitudinal fibers contracts, the stomach at once expands, and its lumen is re-established. In such event, if the cardiac orifice is open or but feebly closed, the air from the esophagus rushes in, and is in its turn expelled during the next contraction. The stomach with the esophagus act as a Politzer bag; at each compression of the stomach the air rushes out, and at each relaxation the air is aspirated."

Pitres[26] defines eructation as denoting "a sonorous expulsion from the mouth of gas contained in the stomach or pharynx and esophagus." He claims that there are two origins of eructation; one is gastric and the other is pharyngeal. "The air contained in the pharyngoesophageal cavity is during eructation expelled from the mouth by the contraction of the constrictor muscles of the pharynx. But suppose that at the very moment when these muscles contract the buccal orifice is found closed, the air thus shut in on all sides may recoil towards the lower third of the esophagus; and since the cardia, not being guarded by a sphincter muscle, is easily dilatable, the gas may, therefore, penetrate into the stomach without meeting any resistance."

Another theory is similar to the aspiration theory of Oser, the mechanism being thoracic. "When the chest is dilated, the glottis remaining closed, the intrathoracic cavity becomes forcibly enlarged, and all the organs of the mediastinum find themselves in the midst of a negative pressure. Each reacts in its own way; the esophagus opens up and the external air rushes into the cavity. As soon as the thoracic aspiration ceases, the air enclosed in the esophageal cavity is driven into the stomach, through the feebly resisting cardiac orifice."

Wyllie[27] describes aspiration or sucking of air as follows: "Under normal conditions the esophagus is collapsed and is under a more or less distinct positive pressure from the weight of the atmosphere which acts upon it through the thickness of the structure of the neck; but if the neck muscles are strongly contracted, the chest walls raised and expanded, as in forced inspiration, and the glottis is kept closed, there is formed a negative pressure in the esophagus which allows of air being sucked in from the mouth, and the air can be at once expelled again with a loud eructation." Both Wyllie and Sutherland have noted that the muscles of the neck of such patients are prominent and powerful. Wyllie deserves credit for his classic description of a modification of the act of true swallowing, which he termed "air gulping." We will quote verbatim: "Let me try to make the distinction between the two. In the act of true swallowing a wave of contraction sets in from the dorsum of the tongue, and proceeds backwards to the fauces and esophagus; the larynx being, at the proper moment, pulled forward and upward, and closed against the entrance of food by its protecting valves. Before this wave of contraction the bolus is driven onward into the esophagus. The gulping of air, on the other hand, is accomplished by a process essentially different. Here the tongue is placed in the same position as for the pronunciation of the letter 's,' a position in which the tip and edges are applied closely along the upper gum, so as to prevent the escape of air either forward or laterally. Behind this margin of contact the cavity within the mouth and pharynx is then filled with air from the larynx; and this air is at the same time imprisoned in the cavity, owing to the elevation of the soft palate, which shuts off communication with the nares, and the firm coaptation of the vocal cords, which shuts off communication with the trachea. Thus imprisoned on every side, the air in the cavity is then, in the act of gulping, put under strong and sudden compression by the elevation of the larynx and dorsum of the tongue. Under this strong compression it forces a passage for itself into the cavity of the esophagus, entering the upper end of that tube with a noise not unlike that of a slight eructation. Having got the air into the esophagus by this process of gulping, the patient, if he wishes to do so, can then expel it, by putting pressure on the esophagus within the chest. This he can do by making a slight expiratory effort with the glottis closed. The air then escapes with the characteristic noise of a true eructation. Or, if the patient chooses to do so, he can refrain from eructating, and go on simply gulping air until he has caused a large quantity of it to pass into his stomach. Nearly every one can gulp down air into the esophagus, and bring it up again in eructation in the manner I have now described. With practice, one can produce a loud eructation for each gulp of air; and some hysterics, owing to constant practice, can in this manner produce about thirty loud eructations per minute."

Linossier[50] deserves credit for having been the first to approach the subject of aërophagia from the standpoint of merycism—the regurgitation of food, its remastication and subsequent reswallowing. I take the liberty of quoting the following: "I have often been struck with the similarity between hysterical aërophagia and another neurosis, whose mechanism I have studied, namely, merycism. During the act of rumination, one can observe distinctly the two phenomena which characterize hysterical aërophagia, namely, the swallowing of air and its consecutive expulsions. Although these phenomena are to a certain extent masked by the regurgitation of food, nevertheless they are demonstrable. Applying the ear to the epigastric region, one hears immediately preceding the act of regurgitation a sound produced by a bolus of air entering the stomach. It is, therefore, clearly a combination of aërophagia and eructation. In our case the rejection of the food was always accompanied by the discharge of considerable quantities of gas; the longer the time after the meal the less food was regurgitated, so that the last regurgitation was purely gaseous. It becomes, therefore, a question whether the mechanical affection which produces rumination produces also hysterical aërophagia. What is it, then? Our experience permits us to make the following résumé: The first time, the diaphragm is lowered and the inspiratory muscles contract, the glottis remaining closed. A relative vacuum is thus created in the thoracic cavity, which favors the entrance of air into the esophagus. A small quantity may force itself through the cardia and penetrate into the stomach. The second time, the contraction of the inspiratory muscles become greater, while at the same time the abdominal muscles contract to such an extent that by the widening of the esophagus and the constriction of the stomach between the diaphragm and the abdominal muscles, the contents of the organ are ejected into the mouth."

Linnosier, therefore, arrived at the conclusion that aërophagia is nothing else but gaseous merycism, or, in other words, that the mechanism that produces regurgitation of food produces also the regurgitation of gas.

The objection raised that merycism is a congenital affection, and therefore a physiological phenomenon, does not hold good. Linnosier and Lemoine[44] have established the fact that there are two kinds of merycism—simple merycism, usually congenital, or appearing at an early age, entirely independent of digestive disorders, and pathological merycism, a sequel to acute or chronic diseases, usually following in the wake of some digestive disorder. They have based their conclusions upon the study of thirty tracings made at the laboratory of Arloing in collaboration with Guinard. The objective signs they have demonstrated are as follows: "The patient lying horizontally on his back, a slight inspiratory movement could be noticed, or, properly speaking, a dilatation of the thoracic cavity. At the same time the entire abdominal parieties were noticed to bulge out, especially at the epigastric region, where a round tumor came into relief, which was nothing else than a distended stomach. Immediately after, one could hear a gurgling sound in the pharynx, while the abdominal parieties and the epigastric region resumed their former positions, the abdomen becoming even somewhat retracted. Finally the alimentary bolus came into the mouth with such force that, although the lips were closed, the fluid would escape through the labial commissures. We have auscultated on many occasions at the time of regurgitation, and we could hear a slight sound of gloo-gloo at the time when the base of the thorax became dilated and the epigastric region bulged out. Furthermore, the expulsion of gas was always considerable. Towards the end of digestion, the eructations were mainly gaseous. The above studies were corroborated by Chauveau and Toussaint[44] in their studies upon ruminating animals."

We see, therefore, that two kinds of phenomena contribute to the accomplishment of the act of merycism, one active and the other passive. The active consists in the depression of the diaphragm and the contraction of the abdominal muscles, both of which produce a void in the thoracic cavity, and the contraction of the abdominal muscles which compress the stomach. The passive phenomena consists in the elongation and widening of the esophagus and the diminution of the lumen of the stomach.

Corlet[44] has devised an apparatus (see Fig. 1), which demonstrates that thoracic aspiration alone is sufficient to bring up the stomach contents into the mouth:

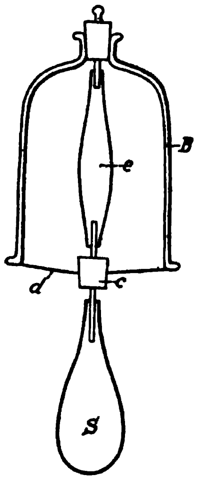

Fig. 1.—Corlet's apparatus; *c*, cork closing rubber dam, *d*, which represents the diaphragm; the glass bell, *B*, represents the thorax; *e*, esophagus; *S*, stomach.

Upon pulling the cork *c*, the vessel *e* fills up with water, contained in *S*.

Tramblay[44] has studied the influence of inspiratory muscles in four cases of aërophagia by the aid of a registering apparatus attached to the abdomen and larynx, and his investigations confirm the findings of Chauveau and Toussaint.

The composition of eructated air has been analyzed by Hoppe-Seyler,[51] Popoff,[52] Ewald and Rupstein,[53] and many others. Their investigations have uniformly demonstrated that the eructated air from the healthy stomach or in simple dyspepsia approaches in composition atmospheric air, containing, namely, nitrogen and oxygen, with an admixture of but a small quantity of carbon dioxide, the latter being derived from the decomposition of the carbonates in the food or in the alkaline saliva. It is only when fermentative changes are going on in the stomach that the gas contains, in addition to the above named, also hydrogen in appreciable quantities, and, in rare cases, marsh gas and sulphuretted hydrogen. Cases in which the eructated air contained an inflammable gas were reported in the seventeenth century by Pisani,[54] and in the last century by Ewald,[53] McNaught,[55] and others.

The quantity of eructated air differs in accordance with the number of deglutitions and eructations. In a case reported by Cortellieri[56] his patient managed to eructate 2,500 times in one hour. The quantity, therefore, must have been enormous. Bardet estimated the amount eructated by one patient in a few hours as 200 liters.

Lauder Brunton[1] enumerates the conditions which give rise to frequent swallowing of air: (1) a continued flow of saliva into the mouth; (2) a sense of irritation and tickling at the back of the throat; (3) a feeling of acidity in the stomach, and (4) a feeling of weight or oppression at the epigastrium or across the chest. The first three points are self-evident, since these conditions necessitate the frequent swallowing of saliva. The fourth point—a feeling of weight or oppression at the epigastrium—is explained in this wise: This feeling is due to irritation of the vagus, as we know from Czermak's[2] experiments. He had an exostosis on one of his cervical vertebræ, and by compressing the vagus nerve between his fingers and the exostosis, he could stimulate it so strongly as to stop his heart. Such stimulation produced also a feeling of constriction (Beklemmung). But irritation of the vagus can be produced in other ways than by compressing its trunk. Depressing emotions, such as sorrow, appear to act on the nerve centers in the medulla from which the vagus springs, and it may be stimulated from many parts of the body, and notably from the stomach. As Kroneker[2] has shown that its action on the heart is temporarily abolished by the act of swallowing, we would naturally expect any one suffering from the feeling of thoracic oppression or constriction due to irritation of the vagus, would swallow frequently, in order to obtain relief. With reference to the oppression of the chest caused by grief when frequent swallowing is resorted to, Brunton remarks that it is so well known that it has come to be popularly expressed in the phrase, "swallowed his grief."

Deguy[38] and also Quinke[21] has seen cases of aërophagia in smokers who swallow the smoke. They educate little by little the smooth fibers of the esophagus, aided by the property of nicotin to contract those fibers, and then ultimately such subjects retain the habit of swallowing air without smoking. He mentions also chronic granular pharyngitis, which is in accord with the second point of Brunton. He refers also to individuals who bolt their food, and suffer from epigastric distress after, who in order to avoid hiccough swallow air so as to be able to find relief in successive eructation. All observers agree, however, that aërophagia is a nervous disorder, and is part and parcel of *eructatio nervosa* referred to above. We can therefore say that aërophagia is found in hysteric, neurasthenic and dyspeptic patients. It is found in children and in adults, and in both sexes, although the young and the female sex predominate in point of numbers. The examination of the stomach contents may and may not reveal any deviation from the normal; nor is the mobility of the stomach any criterion. The sensibility of the epigastric region is rather increased. In many cases pressure over certain areas of the gastric region produces eructation *(points eructogenes*)*. Baudouin[62] can produce eructations at will by pressing the pit of his stomach.

We must distinguish two kinds of aërophagia—involuntary and voluntary. The involuntary occurs, as a rule, during an attack of violent hysteria. The attacks last from a few minutes to twenty-four hours. They are spasmodic in nature, and nothing can arrest them. Examined during an attack, one notices that the larynx executes the movements of deglutition—abrupt, rapid, involuntary; forty to sixty to a minute. From time to time the deglutitions are interrupted by loud explosive eructations. They are less in number as compared with the deglutitions. On auscultation during deglutition a gurgling sound may be heard over the esophagus, and an amphoric sound over the stomach. The abdomen is tympanitic; the patient feels a sensation of great tension and fullness. As a rule, these patients do not suffer from indigestion. All unpleasant symptoms cease as soon as the attack is over, nor do the attacks occur at night.

Voluntary aërophagia is usually found in neurasthenics and dyspeptics. By voluntary we do not mean that the patient is conscious of the fact that he swallows air, but because the act of taking in the air is under the control of the patients; for as soon as the patient is told how the wind got into the stomach he is at first surprised, but after an effort is able to modify the habit or stop it entirely. As a rule, the trouble is chronic, constant, and seldom of a spasmodic or violent nature. It is a sequel to some form of dyspepsia. The way this habit is acquired is somewhat as follows: The majority of dyspeptics suffer from a sense of fullness after meals. They ascribe it to an accumulation of gas, of which they wish to rid themselves by belching. But they do not succeed, and therefore they begin to go through the form of belching, first by imitating the sound, and then eventually succeed in swallowing air and then belching it up. Many patients lie down and pat their bellies, knead the stomach, and roll from side to side in order to induce belching. These patients find out themselves their eructogenic points. Soupalt,[58] on applying the stethoscope to the precordial region of one of his patients, produced a volley of belching. As we know now, many of our so-called automatic acts which we perform daily without giving them a thought were at first voluntary acts, and as the neurologists tell us that all the various forms of nervous twitchings (tics) are, at the beginning, voluntary acts, so it is with aërophagia. What was at first a voluntary act, done with a certain purpose in view, has become after many thousands of repetitions a vicious habit.

The diagnosis of aërophagia is very simple indeed. One should bear in mind that aërophagia is made up of two distinct parts: (1) The act of deglutition, single or repeated, and (2) eructations less frequent but louder. The up-and-down movements of the pharynx at each are characteristic. Cough and hiccough can hardly be mistaken for aërophagia, the first being an expiratory and the other an inspiratory act.

In flatulent dyspepsia, when fermentation is known to exist, the coexistence of aërophagia may be diagnosed by washing out the stomach. If the phenomena recurs it is due to aërophagia. The belched-up air is odorless in aërophagia. Patients with relaxed gastric musculature suffer from distention of the stomach after meals due to the small quantity of air ingested with the food. They belch quite frequently, but this cannot be mistaken for aërophagia, because the characteristic deglutition of air is absent, and because they do not belch at any other time except immediately after meals.

Since in most cases aërophagia is a voluntary act, when its mechanism is explained to the patients they can suppress it. If the habit has grown on them to such an extent that they have lost control over themselves, all that is necessary is to prevent them from swallowing air, which can be accomplished either by keeping the mouth open by means of a gag, or by stopping up the nostrils.

Treatment.—In involuntary aërophagia usually found in hysterical patients, the treatment is uncertain. Isolation, suggestion, tonics, massage, hydrotherapy, avoidance of intellectual work, etc., are indicated.

In voluntary aërophagia treatment as a rule is successful. It is sometimes sufficient to make the patient understand the origin of his disease, and explain to him that the affection is entirely under his control, and that what seems to him to be an involuntary act is simply due to habit; such patients, if they are intelligent enough, will learn to break up this vicious habit.

In the case of less intelligent patients, the treatment is more difficult. It is sometimes necessary, in order to convince the patient, to have him keep his mouth open for half an hour at a time, as recommended by Penzoldt.[57]

Quinke[21] had obtained good results from introducing a soft, thick sound into the esophagus by analogy with catheterization in an irritable urethra. In cases in which the abdominal walls are relaxed, a suitable bandage is of service. Washing of the stomach had a good effect on one of Penzoldt's patients. As to medicaments, Ewald[58] uses morphine injection. Oser uses sodium bromide, and recommends arsenic, beladonna atropine or chloral in small doses. Boas[59] recommends the pill of extract of Calabar bean, 0.3; extract of belladonna and extract of nux vomica, of each 1.0; liquorice powder and sugar, sufficient to make 50 pills; Sig.: one pill three times daily.

Van Valzah and Nisbett[60] advise an intragastric spray, which they believe is the most valuable single remedy. They use warm water, followed immediately by cold water, or a solution of silver nitrate. Mathieu used chloroform water. Since many patients with aërophagia suffer at the same time from gastrointestinal disturbances, these affections should receive attention. Catarrh of the pharynx and any other coexisting trouble should be corrected.

From a study of the literature and of my own cases, reported elsewhere,[61] I have arrived at the following conclusions:

1. Swallowing of air in small quantities is a normal phenomenon.

2. Abnormal swallowing of air may be voluntary (hysteria), and involuntary (dyspepsia, idiopathic).

3. Air may enter the stomach by swallowing, aspiration, or gulping.

4. Cases of aërophagia are not as rare as the earlier writers used to think.

5. Aërophagia, although at the beginning makes "much ado about nothing," and is, as a rule, a sequel to some other affection, yet when it is let alone it

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*Pitres suggests the name of "aërophagenic points," since the act of taking in air precedes that of its expulsion.

may, in its turn, produce grave symptoms and undermine the health.

6. Aërophagia, tympanites, nervous eructation, pneumatosis, and merycism have an etiological relationship.

7. The best treatment in voluntary aërophagia is to impress the patient with the fact that he can stop it if he will. For otherwise "they have sown the wind, and they shall reap the whirlwind."

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THE CONDUCT OF THE PERINEAL STAGE IN NORMAL LABOR.*

By B. A. FEDDE, M.D.,
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It seems that among primitive peoples, and up to little more than two centuries ago among civilized races, the one and only thought among practitioners of the obstetric art was to terminate labor as soon as possible.. The only end in view was the birth of a living child, with the preservation of the mother's life. None seems to have questioned the perfection of nature's process in natural labors, or the almost inevitable occurrence of an uncertain amount of injury to the maternal parts.

Perhaps instinctively some measure of prevention was effected by the ancient method of delivery upon the lap of the midwife, whose thighs gave support to the stretching perineum and perhaps to some degree retarded the process. In other places women were delivered upon a small mound of fresh earth. Later appears the obstetric chair, however, and with its adoption this support disappeared. The use of the labor stool persisted almost through the eighteenth century. Wilhelm Joseph Schmitt (1760-1827) was one of the first to advocate discarding the appliance.

That such a detail as preservation of the perineum should for so long a time remain undeveloped is not much to be wondered at, however, when one considers that well into the seventeenth century, even in France, which stood in the medical van, obstetrics was practised exclusively by midwives whose method of assisting labor, when they did anything at all, comprised only abdominal compression and kneading or manual dilatation of the vagina. They "worked in the vagina in a way to make one's hair stand on end, oiling poulticing, fumigating, etc., in order to facilitate labor; they gave all sorts of cordial and oxytocic remedies and constantly employed the labor-stool." (Baas.) The pioneers who ventured into that province had the much more serious problems of dystocia to solve before they could be expected to turn their attention to the improvement of eutocia.

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*Read before the Norwegian Hospital Alumni Association.

Mauriceau, in 1695, reports the operation of episiotomy as performed, not to preserve the perineum, but in an ineffectual attempt to overcome obstruction due to a rigid coccyx. He describes his method of delivery in this case as a manual dilatation of the vagina and vulva in advance of the head, the hand being well lubricated with olive oil. Evidently no perineorrhaphy was done, for he reports applying a pessary for descensus uteri some time afterward. Further on in his book of observations on obstetrics he reports being consulted by three women with complete lacerations, whom he dissuaded from perineorrhaphy, as the scar would inevitably give way in subsequent deliveries.

Torriano[1] has this advice to give: "Head coming down quick—keep the hand against the perineum lest it tear, and mind to lubricate the parts." Even as late as 1797 Hamilton[2] describes the conduct of labor as follows: "When the parts are violently stretched, the perineum may be gently supported during a pain, and a counter-pressure is generally employed when the labor is rapid; but it should be remembered that this support is only useful as it retards labor, which is often inconvenient and sometimes dangerous. A laceration of the perineum is a very rare occurrence, and generally the consequence of previous disease. It is therefore doubtful how far a hazardous expedient is to be recommended to obviate an uncertain accident." Apparently he is speaking of complete tears, or obstetrics has become a lost art; for the most modern writers on the subject admit a percentage of fifteen unavoidable tears up to thirty-five or more, the usual average in one hundred primiparæ.

In the early part of the nineteenth century, Jörg of Leipzig advocated the removal of forceps before completing delivery of the head, and the use of birth-cushions to save the perineum. It was soon recognized that direct centerpressure on the perineum exercised a crushing and disintegrating force, and this was replaced by counterpressure on the presenting part.

V. Ritgen (1787-1867) seems to have been one of the earliest to exercise any ingenuity in preserving the integrity of the pelvic floor. He advised "lifting the head upward and forward through the vulva between the pains, by pressure made by the tips of the fingers upon the perineum behind the anus close to the tip of the coccyx." (Lusk.) Rectal expression, advocated by Olshausen, followed next. Of the modern methods, the following are the most notable: Goodell hooks two fingers into the anus and draws the perineum forward during a pain, to remove the strain on the thinned border of the vulva; Merkertschiantz advocates bilateral pressure on the perineum during the pains to diminish the tension on the median line, where rupture usually occurs. A modern mechanical modification of this consists in the use of broad adhesive straps passing from one side of the perineum across to the opposite buttock, as advocated by Noble.[3] In Tucker's perineal guard or "shoe-horn" it is difficult to see any advantage except the abolition of friction between passage and passenger.

In general, the principles of procedure are to secure slow, full dilatation before delivery, to occupy the subpubic space as far as possible, and to deliver between pains by the smallest circumference of the fetal head. The degree of tension during dilatation should be estimated by sight (the danger point being reached when the structures become ischemic) and by a finger laid along the rima pudendi. With regard to delivery between pains most authors claim the advantage to be based upon a supposed greater extensibility of the parts during relaxation; but a little thought will show the fallacy of this. Physiology teaches us that there is an increase in extensibility with the other changes during contraction of a muscle; so that with increasing weight a point is reached at which there is actual lengthening during contraction (Weber's paradox); and it is self-evident that the fibrous tissues contiguous to muscles will undergo no change of intrinsic qualities with contraction of the muscle fibers, so that the advantage must be ascribed rather to the slower rate and better control of dilatation and delivery.

I wish to describe a method employed in forceps cases at the Lying-In Hospital, which I have never seen elsewhere mentioned. It seems eminently rational, is easy to execute, and remarkably efficient. It was advocated in forceps cases and in primiparæ by Dr. Asa B. Davis of the attending staff, whom I believe to be the author of it. I am indebted to him for kind permission to publish it.

If one looks carefully at the classical Schultze illustration of delivery in the occipitoanterior position, the attention may be arrested by the great *longitudinal* stretching of what may be termed the perineal portion of the posterior vaginal wall, besides the circumferential dilatation that it must undergo. Now an elastic tissue stretched in two directions at right angles to each other will naturally tear sooner than if force is employed in only one direction. This, I take it, is the principle underlying Dr. Davis' method.

It consists of arresting the progress of the head by direct pressure when the biparietal diameter has passed the ischiopubic rami and before it has reached the rima pudendi; then by gentle manipulations with the other hand—thumb and fingers on the opposite sides of the vulva—slipping the labia first over the parietal eminences, then backward over the forehead and face without allowing the head to extend until it is fully delivered. By pressure back of the anus with the hypothenar eminence the head meanwhile is maintained in flexion close under the pubis. In practice one receives the impression that tension actually diminishes with the progress of delivery.

My own practice, which I have extended to all cases, is to give chloroform during pains in the latter part of the second stage. When the head begins to distend the vulva, the patient is turned on her side with a pillow between the knees. The chloroform is handed over to the nurse, who administers it according to specific directions given from time to time. Just before delivery, when the parietal eminences have passed the pubic rami, it is ordered pushed to the point of entire cessation of pains, the head is steadied, and the vulva is slipped over the parietal eminences and the face as described. Chloroform is then withdrawn, the woman is turned on her back, coils are felt for and taken care of, and the mouth is cleansed of mucus. Usually there is some delay about the return of pains; they may be stimulated and aided by friction and pressure upon the fundus. Within reasonable bounds delay at this point is free from danger.

Frequently the shoulders will enlarge a tear or cause a fresh one. Rarely the hips and still more infrequently the placenta may act similarly; there should therefore be no remission in attention after the head has emerged.

Lusk advises applying the hand in such a way as to lift the shoulder upward and at the same time furnish a bridge over which it can glide. Edgar[4] recommends delay until the shoulders have nearly rotated into the anteroposterior diameter, then by lifting the head crowding the anterior shoulder up behind the symphysis. This presents the cervico-acromial diameter at the outlet instead of the bisacromial. The posterior shoulder is born spontaneously, or by aid of gentle traction upon the head, after which the anterior shoulder is allowed to emerge, aided, if necessary, by gentle traction downward.

In some cases it may be advisable to repeat the principle of head-delivery for the shoulders, keeping the woman on her side until the child has been born, and by manipulation slipping the perineum backward over the acromion and hips in succession as they appear.

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A CASE OF PREMATURE SEPARATION OF A NORMALLY SITUATED PLACENTA.

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Such an occurrence is of interest as it is rather infrequent, and the etiology is not very clear. In the recent literature we see records of even more cases of placenta previa than of premature separation of a normally situated placenta.

Goodell,[1] in 1869, collected 106 cases, and in 1901 Holmes[2] added 200 more to the list. Recently Macam[3] and Colclough[4] have written excellent articles on the subject.

My case was that of Mrs. G. S., who is 30 years old, married, occupation that of housewife, and of English nativity. She gave the following history: Diseases of childhood included measles, diphtheria, German measles and scarlet fever. Outside of the menstrual history she has been well since then with the exception of an occasional cold. When menstruation began she suffered from dysmenorrhea. Having obtained no relief from the family physician, she consulted Mr. Lawson Tait, who curetted and amputated the cervix with the result that the dysmenorrhea was relieved. Five years ago she was married, and two years later she became pregnant and was delivered at full term. From what I can learn, the labor was normal except that the cord was wrapped around the child's neck and caused strangulation. Whether death was due to the fault of the doctor or not, I am unable to determine. The puerperium seems to have been normal. Nearly two more years had passed when I first saw her. Examination showed bleeding from the vagina, the hemorrhage being easily recognizable but not large in amount. The cervix was not dilated. Analysis of the urine did not reveal any renal disturbance. The specific gravity was 1018, urea 1.6 per cent., and there were no casts nor albumen. The history showed that the time was near the end of the thirty-seventh week. The only exertion she had had was using a sewing-machine for two hours the day before. That night she felt a severe pain in the pelvis, and in the morning she noticed that blood had flowed from the vagina. She was kept in bed and rest was secured by small doses of opium. In spite of this, labor pains set in, and in six hours the second stage had begun. The hemorrhage had been quite steady, but the amount was small, and I did not think it was necessary to hasten the labor or to increase the risk of infection by packing the vagina with gauze. At no time did the child show any signs of approaching danger. Two hours after the second stage began the child was delivered. The position was L. O. I. A. During the third stage the uterus required some stimulation before it contracted satisfactorily, and fifteen minutes later the placenta was delivered by Crede's method. During the third stage the hemorrhage was greater than earlier. Examination of the placenta showed on the maternal side, near the border of the placenta towards the site of rupture of the membranes, a spot 2 cm. wide and 7 cm. long, which was darker than the rest of the placenta. Rupture of the membranes occurred 5 cm. from the edge of the placenta.

The puerperium was uneventful and the child and mother are now both well. In this case there were none of the usual causes, as twins, too short a cord, bag of membranes not rupturing, breech presentation, or the contraction ring mounting to high and lessening the placental site.

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PRESENTATION OF THE PORTRAIT OF DR. FESSENDEN NOTT OTIS TO THE ACADEMY OF MEDICINE OF NEW YORK.*

By L. BOLTON BANGS, M.D.,

NEW YORK.

Mr. President and Fellows of the Academy of Medicine:

As I look upon the portraits on these walls I see the faces of men who have contributed to the advancement of medical science and who have aided by their personal labor and devotion the interests of the Academy. They have been deemed worthy to be kept in perpetual remembrance. We have no Westminster Abbey in this country, where the achievements of the honored dead may be brought to mind by bust or slab; and the best that we can do to remind future generations of our own great ones is either to inscribe their names and deeds in a "Hall of Fame" or to place their portraits where many shall be led to ask, "Who is this man; and what did he do to entitle him to this honor?" The other Fellows of this Academy will have no difficulty in answering these questions in regard to Dr. Otis, but, for the sake of the younger ones, out of whose view Dr. Otis has passed, let me give, as well as I can in the short space of time allowed me, an idea of his character and achievements.

Born in 1825 of revolutionary stock—a stock which Americans venerate—he received a liberal education at Union College in this State and a medical degree from the New York Medical College, and after an interneship in the old Blackwell's Island Hospital he became surgeon to the United States Mail Steamship Co., or the "Panama Line." Those were the old California days when thousands flocked across the Isthmus of Panama to the gold mines, and he led an arduous but interesting life. His resources were limited according to our ideas, and his inventive genius was often tested by the requirements of peculiar and serious cases. With but few moments of leisure, he found time to write a "History of the Panama Railroad and its Connections," which anyone interested in our canal enterprise would do well to read. It gives a detailed and graphic account of the country between Colon and Panama, with charming descriptions of its flora, and from it one may get a good idea of the obstacles which our engineers will have to overcome. Later, in 1862, he became lecturer on genitourinary subjects in the College of Physicians and Surgeons in this city, and subsequently, 1871, Clinical Professor, a post which he held until 1890, when he was made Professor Emeritus. There was no end to his industry. Besides the lectures which he conscientiously prepared and remodeled from year to year, he made many contributions to societies and journals; carried on an arduous daily practice and wrote books relating to branches of his specialty. His original conceptions of the pathology of syphilis and of the male urethra awakened attention and led to a sharp controversy which he met with courage and with all the force of his legal mind. Believing himself to be right, he wrote with the strength of conviction, and his teachings as to the physiological capacity of the male urethra carried genitourinary surgery forward with a stride and made possible the perfected operation of litholapaxy. He was fertile in invention, and besides the numerous instruments which he gave to the profession there were adaptations, trifles perhaps, in the course of practice which met the necessities of peculiar conditions and which helped to solve difficult problems. As evidence of the esteem in which his scholastic and professional attainments were held by those most competent to judge, he received from his Alma Mater the degree of Master of Arts, and from Columbia University the degree of Doctor of Laws. His social and domestic life was delightful and refined by a simple and enduring faith. Fearless, yet deeply conscientious, he often suffered from a sense of his responsibility, and I have known him to get out of bed in the dead of night, go to the house of a seriously sick patient and walk up and down in the street opposite watching for any commotion within, lest by going in he should give cause for alarm; and one of the causes of his final break up was his devotion to the son of a friend. Had he faults? Who is without them? But faults in a character whose ethics are high, whose general trend is toward righteousness, are but the shadows which make the virtues more resplendent. In a close association of nearly fourteen years he never spoke to me an unkind word and was always kind, generous, and courteous. By placing upon its walls the likeness of such a man, whose example we well may follow, the Academy honors itself; and I have the honor, in the name of his family, to present to it the portrait of Dr. Fessenden N. Otis.

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*Presented at a meeting of the New York Academy of Medicine, April 6, 1905.

Tricuspid Obstruction.—Joseph M. Patton believes that although tricuspid obstruction is characterized by all authorities as one of the rarest of valvular lesions, it is not of so rare occurrence as some have supposed. There has been noted a remarkable relative frequency of this lesion in the female. The third decade of life shows the greatest number of instances, although certain authorities have declared the lesion to be congenital in the great majority of cases. The congenital form is generally associated with stenosis of the pulmonary artery, defects of the septum, patent foramen ovale, or ductus Botalli, and clinically with marked cyanosis, clubbed fingers, and early death. Rheumatism and chorea play the usual prominent part in the production of this lesion. Gibson believes that it may be caused by other acute diseases than rheumatism, and that chronic valvulitis from over-exertion may also cause it. As to the morbid anatomy of tricuspid obstruction, a more or less funnel-shaped adhesion of the valves is common. The chordæ tendinæ are usually thickened and shortened, and the papillary muscles are retracted. The principal valvular changes may be granulations, vegetations, fibrinous contraction, thickening, and rigidity. There may be considerable deposits of inorganic salts in the tissue of the ring and the base of the valves. The orifice itself may be oval or circular, and may admit the tips of one, two, or three fingers. The ring may be cartilaginous, or of almost bony consistence. The interpretation of the secondary effects of tricuspid obstruction upon the heart, in practically all recorded cases, has been modified by effects due to the associated lesions. It is practically impossible to separate these effects, since mitral lesions, especially obstructive ones, may produce almost identical effects upon the right ventricle and auricle as those resulting from tricuspid lesions. Indeed, the associate lesions are so constant as to be almost part of the pathology of tricuspid obstruction. Out of 154 recorded cases, there was mitral involvement in 138 cases. On account of the associated lesions, the symptoms of tricuspid obstruction must be regarded as equivocal and the diagnosis difficult. Enlargement of the right auricle, with more or less venous stasis, may be regarded as good evidence, especially when associated with a presystolic murmur which can be differentiated from a mitral presystolic murmur. Various authorities have held differing opinions about the chacracteristics of this murmur. A characteristic tricuspid presystolic thrill at the left edge of the sternum that can be differentiated from a mitral thrill must be considered as exceptional. The writer believes that in instances in which a verified diagnosis was based upon the characteristic murmur, the conditions were exceptional and the diagnosis fortunate. Dyspnea, if present, is not so prominent as in some other heart lesions. Susceptibility to cold, a tendency to cyanosis, and possibly venous pulsation are shown. The prognosis of tricuspid obstruction can be approximated only as affected by the associated lesions. The writer then cites the history of a case of this nature which came under his care. The patient, a woman of 24, gave no history of rheumatism. There were double aortic and mitral murmurs. The aortic systolic murmur was unusually loud and rough, and was transmitted over almost the entire front of the chest, being especially marked from the second to the fifth ribs along the right parasternal line. The other murmurs had the usual characteristics. Moderate dilatation of the right auricle and slight tricuspid regurgitation were recognized. The possibility of a tricuspid lesion was considered, but nothing definite was recognized. At autopsy the tricuspid opening was found to be almost round, measuring 1½ by 7 cent. (normal for women 1.5 inch). The upper and inner surfaces of the ring were rough, irregular, and hard. The valves were thick, retracted, and partly adherent at their bases. The physical changes in this heart explained the clinical symptoms, which were those of aortic and mitral disease, and were not at all indicative of tricuspid lesion. There was no hypertrophy of the right auricle, which shows that the tricuspid lesion has no such effect on the auricle as the mitral lesion has on the left auricle. The tricuspid lesion, although of considerable pathological interest, had little bearing on either the clinical history and symptoms or on the physical changes in the heart. In these respects this case only corroborates the majority of those previously recorded.—*The Clinical Review.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M D., EDITOR.

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THE NATURE OF HEMOPHILIA.

In spite of the energy with which numerous observers have pursued their investigations into the nature of this singular affection, but very little actual knowledge has been gained, and although several theories have been advanced, all views as to the etiology are still mere speculations. In a recent number of the *Zeitschrift für klinische Medicin*, H. Sahli of Bern describes observations made in four hemophiliacs who have lately been under his care. The patients belonged to three different families, and inquiries into their genealogy revealed the typical transmission of the disease by the female line to the male descendants. The clinical picture presented by the patients was also the usual one, and determinations of the alkalinity of the blood, the dried serum residue, the freezing point of the serum, and the fibrin content of the blood gave normal results. A relative and absolute diminution in the neutrophilic leucocytes was found and the blood platelets were present in numbers within the limits of health.

In studying the coagulation time of the blood, however, an interesting observation was made which tends to reconcile the discrepancies in the results obtained by various authors. In all cases it was found that the coagulation time was greatly prolonged if the test was made in an interval when the patient was not suffering from any hemorrhage, but on the other hand, blood obtained, even by a separate puncture from another part of the body, at a period when the patient was suffering from some bleeding injury, showed a greatly diminished coagulation time. The fact that hemorrhage persists in spite of this paradoxical increase in clotting power must be ascribed, according to Sahli, to some peculiarity of the injured vessel walls, which in consequence do not furnish adequate amounts of the substances which should exert a local activity in the process of normal fibrin fermentation and clot formation. The nature of these observations is regarded by the author as affording physiological evidence of the participation of the damaged vessel walls in rendering thrombus formation possible, and in hemophilia this activity is either absent or greatly reduced. The reduction in coagulating power during the hemorrhage-free intervals indicates a similar disability, analogous to that of the vessel walls, on the part of the blood cells or the blood-forming organs, and this may form part of a general defect of the body cells hereditarily transmissible by the germ plasm. This assumption also serves to explain the spontaneous or idiopathic internal hemorrhages of hemophiliacs, particularly if with the disordered chemism of the vessel walls there is associated abnormal friability or permeability, and a similar course of reasoning may be applied to the origin of the arthritic manifestations sometimes observed.

Whatever of merit this view may present from the theoretical standpoint, it brings little that is helpful to the question of therapeutics. At present the only general treatment to be considered consists in an attempt to improve the general condition by overfeeding, etc., while for the bleeding, when it occurs, compresses soaked with gelatin solution yielded the best results. Sahli condemns the injection of adrenalin or of gelatin, and says that the internal administration of calcium chloride has no logical foundation. Ferric chloride locally also is not of service. However, the effectiveness of the gelatin compresses may possibly be increased by the addition of adrenalin solution.

ANTITYPHOID INOCULATION.

The advisory board for the British Army Medical Services has been superintending investigations with regard to Professor Wright's antityphoid serum. To Lieutenant Colonel David Bruce was entrusted the duty of preparing a report on the subject, which report is published in the *Journal of the Royal Army Medical Corps* for February, 1905. Dr. Dodgson also prepared a report founded on the result of investigations carried out at the military hospitals in South Africa. Dr. Dodgson's report is reviewed at length by Colonel Bruce. The conclusions reached were that the general statistics available up to the present are not sufficiently complete or exact to permit of any conclusions being drawn as to the utility of Wright's antityphoid inoculation. Dodgson's statistics are of little value as an aid to the formation of an estimate of the effect of antityphoid inoculation on the incidence of the fever among the troops, owing to the smallness of his figures. His results are also of no practical value in an estimation of the case mortality; but if any conclusion can be drawn from them, it is that the case mortality is not affected by the inoculation. Although the future of antityphoid inoculation does not appear to be very bright, yet in view of the enormous importance of the subject and the possibility, when the method is further developed, of its exerting a practical diminution of the incidence of typhoid fever in armies, the study of this system of prevention should be persevered in. In future, however, the inoculations, if continued, should be carried out under strict supervision and on a properly constituted basis. Colonel Bruce suggests that the subject be brought before the advisory medical board, and he thinks that the best way to collect trustworthy evidence in the future would be to inoculate as nearly as possible 50 per cent. of each regiment or unit proceeding to a station where the disease is endemic. This should be performed by a skilled medical officer at least three months before embarkation. Inoculation in presence of an epidemic, or even after arrival in an endemic area, ought to be discontinued; and the writer also condemns the practice of inoculating troops on board transports.

In general Bruce's conclusions are decidedly adverse to Dr. Wright's antityphoid inoculation method, but the latter and those who are in favor of the method are by no means satisfied that the investigations have been carried out in the best possible manner. Indeed quite a little war has arisen from the discussion of the subject and there has been an acrimonious debate in the British medical and lay press on the matter. Professor Wright and Dr. W. Bulloch have resigned their seats on the antityphoid committee, as they hold that the further improvement of the process of antityphoid inoculation and the study of the problem of immunity against typhoid fever can be properly carried out only through the agency of a permanent working committee consisting of civilian experts and Royal Army Medical Corps officers.

ACNITIS AND FOLLICLIS.

Acnitis, so named by Barthélemy, is considered by Riehl as distinct from the similar appearing condition known as folliclis. It is identical, however, with the acne telangiectodes of Kaposi. Since it has no etiological relationship with tuberculosis, it must be wholly excluded from the group of tuberculides and tuberculomas. Though the name suggests acne, with origin in sebaceous structures, it is found that the process does not start from the sebaceous glands. The sudoriferous glands are involved in the inflammatory process, and furnish an etiological factor of seeming importance.

Folliclis, on the other hand, once thought by many to be identical with acnitis, with which it has many clinical features in common, has been shown by Alexander in the *Archiv für Dermatologie und Syphilis*, LXX, to be in all probability a tuberculosis. There are two types, one presenting deep-seated nodes associated with tuberculous lesions, and the other showing superficial nodes with diffuse inflammatory infiltrations, or a condition of thrombophlebitis. An embolic origin exists without doubt for both types. It is considered probable that the emboli are formed of tubercle bacilli given off from some tuberculous focus in the body, which become arrested in the smaller arteries of the subcutaneous adipose tissue. Here they set up an endoarteritis or a periarteritis of tuberculous nature.

While no bacilli were found by Alexander and inoculation attempts failed, still from the fact that tuberculin injections caused both local and general reaction the tuberculous nature was assumed. Clinically, folliclis is rare, occurring chiefly in so-called strumous subjects. There are crops of light red macules over the hands, arms, or other parts, gradually changing into deep-seated nodules which later show small vesicopustules upon their summit with exudation and crusting or scaling, especially upon the hands. Minute cicatrices may result from central necrosis and suppuration.

A Sanatorium on Wheels for the Treatment of Tuberculosis.

In a recent number of *The Lancet*, Dr. W. H. Haw, describes a plan of taking a journey in a South African bullock-cart, claiming that in this way all the advantages of sanatorium life can be enjoyed and with a minimum of expense, but a maximum of enjoyment. His idea is to have a team of bullocks which would travel about two miles an hour over ordinary country roads. He describes how the wagon should be constructed, made rain proof, fitted up, etc., and enumerates the items of baggage necessary to journey comfortably. His remarks apply particularly to journeying over the South African veldt. He claims that under the conditions specified, one would obtain fresh air, would be protected from cold winds, rain, and in summer from the heat, could regulate his rest to exactness, could exercise at his will, avoid dust or wear a nasal filter for the dust on the veldt would be bacillus free; could in fact obtain all the advantages of life in a sanatorium without its monotony and depressing influences. While the plan outlined by Dr. Haw is rather attractive, we fear that it is applicable to but few localities, and is in fact a somewhat cumbrous method of leading an outdoor life. Its constant change of scene is perhaps its most attractive feature, for sanatorium life is apt to become monotonous at the best. Moreover, the aggregation of many patients with the same malady is apt to breed a mutual depression and interchange of complaints. Obviously, too, the traveling cart is not to be recommended to the patient with advanced lung disease, high fever, or prostration. Our own mountain regions, especially the lake areas, as the Adirondacks, offer by their waterways much more comfortable methods of changing surroundings than bullock-carts. The ideas of Dr. Haw are, however, carefully worked out and his definite statements will be instructive to anyone contemplating this mode of a frequent change of environment.

Legislation Against Cigarettes.

The anti-cigarette crusade is being vigorously pushed in many of the Middle Western States, Indiana, Nebraska, and Wisconsin having already enacted laws in favor of the reformers. In Indiana the law has been effective about two weeks and a large number of arrests is reported of persons found smoking cigarettes or having the materials for their manufacture in their possession. Penalties are prescribed against any one selling, giving away, or having in his possession cigarettes or cigarette paper, and the punishment is doubled with each infraction of the law. In Wisconsin and Nebraska similar measures have been passed and will become effective on July 1. In the former State the penalties are very severe and range from a fine of $5 to ones of $500 and six months' imprisonment, and to encourage enforcement of the law half the money collected in fines goes to the informants. Bills with the same object in view are pending in Illinois and in Michigan. It is interesting to watch the spread of this cigarette prohibition movement and to speculate on its causes. There is absolutely no reason from the point of view of morality or health why a full grown man should not be allowed to smoke a cigarette as well as a pipe or a cigar, and from the point of view of a nuisance the cigarette smoker is, to say the least, no more objectionable to his non-tobacco-using neighbor than the tobacco chewer. The cigarette is an evil because it tempts many a boy to smoke who would probably abstain until he reached manhood, or might never smoke, if he had to begin, as his father did, with a black cigar or a rank pipe. But that is no reason for abolishing the cigarette. A law forbidding the sale or gift of tobacco to minors would, if enforced, do more to save children from early and injurious indulgence than any possible anti-cigarette legislation.

A Remarkable Bill.

The present session of the Legislature of this State has witnessed the introduction of a bunch of very bad bills designed to affect medical practice, but the most remarkable in its effrontery is one introduced recently in the Senate by a Mr. Carpenter. It is labeled "An Act to Provide for the Treatment of Inebriates and Persons Who Are Addicted to the Use of Drugs," but might with greater propriety been called "An Act to Enrich a Private Corporation." The first section provides that when a person is found guilty of being drunk or disorderly or is convicted of any crime which the magistrate has reason to believe was committed while such person was under the influence of alcohol or any drug, said magistrate may direct that the prisoner take the Oppenheimer treatment for alcoholism or drug addiction. Or if the magistrate merely certifies to the warden or keeper of the prison in which the person convicted of crime or of disorderly conduct is detained that such crime or offense was probably committed under the influence of alcohol or a drug, the Oppenheimer Institute shall have the right to inflict its treatment upon the prisoner. Or finally any person confined in any penal or charitable institution in the State may, at his own request, be treated by the Oppenheimer Institute at the public expense. For such treatment, whether administered at the request of an inmate of a prison or charitable institution (which term would probably cover the public hospitals, if not the private ones as well), or without his consent on the mere belief of the committing magistrate that he had broken the law while under the influence of alcohol or some drug, the Oppenheimer corporation shall be entitled to the sum of twenty-five dollars for each case, to be paid by the town or city in which the person was residing at the time his offense or crime was committed. Comment on such an amazing piece of special legislation is entirely superfluous.

TYPHOID FEVER FROM INFECTED ICE-CREAM.

TYPHOID fever has been traced to various causes, and for long ice-cream has been regarded as a means of conveying this disease. In *The Lancet* some time ago, an account was given by Dr. W. G. Barras of an alarming outbreak of enteric fever which occurred in September last at Govan, Scotland, and which was clearly traced to infected ice-cream. It has been conclusively proven that the disease may be spread by the use of ice and ice-cream by the fact that its microorganism has been cultivated after having been frozen in ice for a very considerable period. There are so many agencies by which typhoid fever may be spread that it behooves the health departments of cities to keep a watchful eye on all suspected sources of infection and means of dissemination. The ice-cream season is fast approaching, and it would be well to exercise vigilance over the methods employed in its manufacture by the horde of peripatetic venders of this popular summer delicacy in New York.

News of the Week.

The Health Board's Fight Against Cerebrospinal Meningitis.—Coincident with the appointment by the Department of Health of a commission of eminent physicians for the investigation of cerebrospinal meningitis, a corps of medical inspectors, five in number, was organized and assigned to the sanitary supervision of the disease in the Borough of Manhattan. These physicians attend to the isolation and quarantine of patients at their homes, order the necessary disinfection of premises and bedding in cases which have recovered, died, or been removed to a hospital, and report as to the sanitary condition of the premises and any violations of the Sanitary Code. They have had the opportunity of observing a large number of cases of the cerebrospinal meningitis, and their services are at the disposal of any physician who may wish assistance in the diagnosis of suspected cases of this disease. A physician trained in such work, has been assigned to the performance of lumbar puncture in these cases, at the request of the attending physician. The Department of Health advises that lumbar puncture be done in all cases where practicable, both as an aid to diagnosis, and in order to obtain more material for bacteriological study and consequent advancement in our knowledge of the disease. Requests for the services of a physician for diagnosis, disinfection, or lumbar puncture should be made direct to the Department of Health, 55th street and 6th avenue (Tel. 1204 Columbus), where they will receive prompt attention.

The Hospital Saturday and Sunday Collections.—The distributing committee of the Hospital Saturday and Sunday Association met a few days ago in Mayor McClellan's office to apportion this year's collection. After deducting $10,000 for gifts to particular hospitals and $6,000 to meet past expenses and as a reserve for future expenses, a remainder of $76,000 was divided among thirty-eight institutions. The following are the chief beneficiaries: Montefiore Home and Hospital, $7,600; Mount Sinai Hospital, $5,059.21; St. Luke's Hospital, $4,370.24; German Hospital, $4,397.80; Roosevelt Hospital, $3,941.31; Nursery and Children's Hospital, $3,879.44; Lebanon Hospital, $3,682.05; Lincoln Hospital and Home, $3,654.30; Hospital for Ruptured and Crippled, $3,569.32.

Need of An Asylum for the Criminal Insane.—At a meeting of the Medical Jurisprudence Society of Philadelphia, held April 18, Dr. J. Hendrie Lloyd read a communication entitled "The Need of an Asylum for the Criminal Insane in Pennsylvania." He pointed out the distinction between the criminal insane and the insane criminal and maintained that the former require special treatment. In the one insanity is the chief factor, in the other criminality. A differentiation might profitably be made between the innocent insane, the criminal insane and the insane criminal, and separate institutions should be provided for each. The criminal insane and insane convicts should not be permitted to associate with the innocent insane, nor should they be treated in the same institution. The insane convict requires and should be given the same prison discipline as that of the penitentiaries. In the State of Pennsylvania there are in asylums, almshouses and penitentiaries 400 criminal insane, a number quite sufficient to warrant the establishment of a separate asylum for their care and treatment.

Excursion from Portland.—A recent letter to a member of the Association from Dr. Kenneth J. Mackenzie, Chairman of the Committee on Arrangements of the American Medical Association, announces that several trips are being planned for members of the American Medical Association attending the annual meeting at Portland in July. One of these is an excursion to Alaska. The committee expects to charter a steamer, which will leave at a convenient date following the meeting. The regular excursion rate is $100 from Seattle or Tacoma and return, but a special rate of $70 for the trip has been secured. The steamer will stop at southeastern Alaska points, including Ketchikan, Wrangel, Douglas Island, Treadwell, Juneau, Skagway, and Sitka. The trip will consume about twelve days and is one of the finest trips in the world. Arrangements have also been made with the Pacific Mail Steamer Company for accommodations for fifty excursionists on the *Korea,* which sails from San Francisco on July 22. The rate from San

Francisco to Honolulu and return will be $110; from San Francisco to Yokohama and return, $240; from San Francisco to Hong Kong and return, $270. The regular rate to Hong Kong is $347. The committee is also planning to give the members of the Association a side trip to the Coast from Portland, which will enable them to see a Pacific Ocean seaside resort, with a run of about one hundred miles on the Columbia by rail or boat.

Cerebrospinal Meningitis.—There were 1,033 deaths from this disease in New York City from January 1 to April 22. In the corresponding period of last year there were 274 deaths from that cause. There were 104 deaths from meningitis last week, a decrease of thirteen from the preceding week.

Health of the Canal Zone.—Secretary Taft has received the report of Col. Gorgas, in charge of the sanitation of the Canal Zone, for the month of March, from Gov. Davis by cable as follows: "Gorgas' health report for March shows steady improvement. End of March employees were about 9,000; sick in hospitals, 153; total deaths, 11. Equals rate 14 per 1,000; favorable anywhere. In the last thirty days to date four cases yellow fever throughout the whole Isthmus, of which one was in Panama. In previous thirty days twelve cases. Each house in Panama has been fumigated; a great many several times."

Increased Powers for Philadelphia Health-Board.—Governor Pennypacker has approved a bill passed by the Legislature, which has just adjourned, granting to those having charge of the public health and sanitation in Philadelphia the power to make rules and regulations governing the care and control of persons suffering from cholera, yellow fever, typhoid fever, typhus fever, scarlet fever, relapsing fever, smallpox, chickenpox, diphtheria, cerebrospinal meningitis, measles, mumps, whooping-cough, tuberculosis, pneumonia, erysipelas, puerperal fever, plague, trachoma, leprosy, tetanus, glanders, hydrophobia and anthrax. To carry out the purposes of the bill Director Martin has formulated a new health code for the city.

American Therapeutic Society.—A meeting of this society will be held at the Hotel Bellevue-Stratford, Philadelphia, on May 4-6, 1905, under the presidency of Dr. Oliver T. Osborne of New Haven. The secretary of the society is Dr. Noble P. Barnes of Washington, and the chairman of the Committee of Arrangements for this meeting, Dr John V. Shoemaker, 1519 Walnut Street, Philadelphia.

Governor Pennypacker Vetoes Bill to Promote Vaccination.—The Governor of Pennsylvania has vetoed a bill passed by the Legislature providing that no warrant be drawn for appropriation to educational, penal, reformatory, charitable, benevolent or eleemosynary institution until the directors shall have made under oath, a statement based upon personal examination that every employee, attendant, patient and inmate is protected against smallpox either by a previous attack of the disease or by vaccination. The Governor hold thats the bill is conceived in an utterly wrong spirit, and that efforts to attain the desired results by the indirect means contemplated by the bill in question, are not to be commended. He does not deny the benefits accruing from vaccination, but he contends that the appropriations have no connection whatever with the subject of vaccination, each being intended to accomplish entirely different ends.

American Association of Pathologists and Bacteriologists.—The annual meeting of this Association was recently held at the Reynolds Club and the Hull Biological Laboratory, the University of Chicago. The officers elected for the ensuing year are: *President*, Dr. James Ewing, New York; *Vice-President*, Dr. A. S. Warthin, Ann Arbor, Mich.; *Secretary*, Dr. H. C. Emit, Boston; *Treasurer*, Dr. N. Hugh Williams, Buffalo; *Member of the National Council*, Dr. F. D. Mallory, Boston.

The American Academy of Opthalmology and Otolaryngology will hold its annual meeting at Buffalo, N. Y., on September 14-16, instead of August 23-25, as previously announced. The president of the Academy is Dr. Hanan W. Loeb of St. Louis, the secretary is Dr. George F. Suker, Everett Building, Akron, Ohio, and the chairman of the committe of arrangements is Dr. Alvin A. Hubbell, 212 Franklin street, Buffalo, N. Y.

Vital Statistics of Philadelphia.—There has been an encouraging decline in the death-rate of the city of Philadelphia for the week ended April 22. Nine new cases of epidemic cerebrospinal meningitis and 57 of pneumonia, were reported. There were 455 deaths from all causes, as compared with 517 for the previous week and 595 for the corresponding week of the preceding year. Sixty deaths were attributed to pulmonary tuberculosis, 45 to nephritis, 39 to heart disease (not including 10 of endocarditis, and 2 of pericarditis), 23 of pneumonia (not including 8 of bronchopneumonia and 6 of congestion of the lungs). Four deaths were ascribed to cerebrospinal meningitis, 3 to meningitis and 6 to tuberculous meningitis.

The International Association of Climatologists will meet in annual session at Portland, Ore., July 11-14, 1905, under the presidency of Dr. John Davis Hartley of Sacramento. The secretary is Mr. Charles H. Peck, 259 William street, New York.

Suit Against a Surgeon Dismissed.—The suit for $20,000 against a prominent ophthalmic surgeon, noticed in our issue of April 1, has been dismissed by the Court, the attorneys for the plaintiff failing to appear when the case was called for trial.

To Prevent Food Adulteration.—Governer Pennypacker of Pennsylvania has signed the bill passed by the Legislature making it a misdemeanor to use more than 1 per cent. of boric acid compounds for the preservation of food-commodities.

Defeat of the Osteopathy Bill.—The bill to license osteopaths to practice in this State on passing a special examination was defeated in the Senate on Tuesday of this week by the narrow margin of two votes. There were twenty-four votes in favor of the bill, but twenty-six were necessary to pass it.

Illinois Sanatorium for the Tuberculous.—The sum to be appropriated for a State sanatorium in Illinois has been reduced by the committee on appropriations from $200,000 to $50,000. The bill, however, providing for the erection of such a sanatorium has been very favorably recommended by the House Committee on Appropriations.

Meningitis in the Navy.—Two deaths from cerebrospinal meningitis are reported among the apprentices at the naval training station at Newport, R. I., and the station has been quarantined.

Slocum Rescuers Honored.—Because many of the victims of the General Slocum catastrophe were of German blood, the Empress of Germany desires to recognize the bravery of the women nurses and employees on North Brother Island who aided in the work of rescue at the time of the disaster last June. Fifty-one diplomas, each signed by the Empress, have been received at the German Consulate and will be presented to those entitled to them.

Knox County (Tenn.) Medical Society.—At the recent meeting of this society the following officers for the ensuing year were elected: *President,* Dr. Chas. Huff Davis; *Vice-President,* Dr. H. H. McCampbell; *Secretary,* Dr. A. G. Kern; *Treasurer,* Dr. J. A. Q. West; *Custodian,* Dr. Cawood Carmichael.

San Diego Medical Society.—The following were elected as officers of this society for the ensuing year: *President,* Dr. James M. French; *Vice-President,* Dr. W. N. Smart; *Secretary* and *Treasurer,* Dr. Thomas L. Magee; *Delegates to the State Medical Society,* Dr. F. R. Burnham, Dr. Fred Baker; *Alternates,* Dr. James M. French, Dr. Thomas L. Magee.

Tennessee State Medical Society.—At the final session of the annual meeting of this society, recently held at Nashville, it was decided to hold the next meeting at Memphis. Officers were elected as follows: *President,* Dr. Cooper Holtzclaw of Chattanooga; *Secretary,* Dr. Geo. H. Price of Nashville; *Treasurer,* Dr. W. C. Bilbro of Murfreesboro.

Fairfield County (Conn.) Medical Society.—At the 113th annual meeting of this society, held at Bridgeport, the following officers were elected: *President,* Dr. W. J. Tracey of Norwalk; *Vice-President,* Dr. William S. Randall of Shelton; *Secretary,* Dr. Edward M. Smith, Bridgeport; *County Reporter,* Dr. Donald McLean of Stamford; *Board of Censors,* J. F. Schavoir of Stamford; *Fellows to State Society,* Drs. R. L. Higgins of Norwalk and F. L. Smith, F. J. Adams, F. W. Stevens, and H. E. Smyth of Bridgeport.

Whiteside County (Ill.) Medical Society.—Officers elected to serve for the following year are: *President,* Dr. Frank Anthony of Sterling; *Vice-President,* Dr. C. G. Griswold of Fulton; *Secretary,* Dr. C. M. Frye of Rock Falls; *Treasurer,* Dr. J. F. Keefer of Sterling.

A Neurological Society in St. Louis.—A number of physicians of St. Louis met on February 27, 1905, and by vote decided to inaugurate a neurological society, to be called the St. Louis Neurological Society. Those present were Drs. M. A. Bliss, Given Campbell, Chas. G. Chaddock, Frank R. Fry, W. W. Graves, H. W. Hermann, M. W. Hoge, and Sidney D. Schwab. Dr. Fry was chosen President and Dr. Given Campbell, Secretary.

The Late Dr. James Alexander Ferguson.—The following resolutions upon the death of Dr. James Alexander Ferguson were passed at a meeting of the Medical Board of Fordham Hospital, held April 1, 1905:

Whereas the Medical Board of Fordham Hospital has heard with profound sorrow of the death of their colleague and visiting surgeon, Dr. James Alexander Ferguson, which occurred March 7, 1905;

Whereas Dr. James Alexander Ferguson was an esteemed member and for several years President of the Medical Board; he was a kind friend to many, and especially cordial in his relations with the younger members of the profession. Therefore be it

Resolved, That the members of the board hereby express their great grief at the removal of their esteemed colleague by death, and extend their sincere sympathy to the widow, relatives, and friends of the deceased.

Resolved, That a copy of this tribute to the memory of Dr. James Alexander Ferguson shall be spread on the minutes of this board, and a copy thereof be sent to the family and the Board of Trustees of Bellevue and Allied Hospitals.

(Signed) JOHN J. QUIGLEY, M.D., *President.*
THOMAS F. MAGUIRE, M.D., *Secretary.*

Obituary Notes.—Dr. PATRICK J. LYNCH died at his residence, in this city, on April 21. He was born in Virginia, County Cavan, Ireland, in 1828, and came to the United States fifty-five years ago. Taking up the study of medicine, he graduated from the University of the City of New York in 1857, and was chief of clinic to Dr. Valentine Mott for the last seven years of that surgeon's life. He was a member of the American and State Medical Associations, the Academy of Medicine, the County Medical Society, and the Physician's Mutual Aid Association and the Medical Union. Dr. Lynch is survived by a widow and seven children, one of whom, Charles, is a practising physician.

Dr. JOHN HERALD of Kingston, Ontario, died April 12, following a surgical operation. He was born in Scotland in 1855. He graduated at Queen's in 1876, took his M.A. in 1880, and graduated in medicine from the same university in 1884. He settled in Kingston and soon joined the medical staff of the college and was its secretary for years. He was Mayor of Kingston in 1894.

Dr. JOHN H. HINTON of this city died April 26, at the age of seventy-eight years. He was a graduate of the College of Physicians and Surgeons in this city in the class of 1852. He was a member of the New York Academy of Medicine and of the Pathological Society and had served the latter as treasurer for a long succession of years.

Dr. D. NEWLIN STOKES died at Moorestown, N. J., on April 19, at the age of 72 years. He was graduated from Jefferson Medical College in 1854, and he was for many years a member of the Board of Managers of the New Jersey State Hospital for the Insane at Trenton.

Dr. C. V. F. LUDWIG died at his home, in St. Louis, on April 15. He was born in Landau, Germany, and came to this country when quite young with his father, who was also a physician. He was a graduate of the Medical Department of Washington University, St. Louis, in the class of 1858. During the civil war he served as an army surgeon under Gen. Sigel and Gen. Osterhaus. After the war he was an assistant surgeon under Dr. Pope, who founded Pope's Medical College. Later he was curator of O'Fallon dispensary, the first established in the city.

Col. CHARLES SMART, Assistant Surgeon-General, U. S. A., retired, died at St. Augustine, Fla., on April 23. He was born in Scotland in 1841, and was graduated in medicine from the University of Aberdeen in 1862. He came to America immediately upon graduation and during the Civil War served as assistant surgeon in the Sixty-third New York Volunteers, in the Army of the Potomac. He was appointed assistant surgeon in the regular army in the spring of 1864, and in December of the same year was brevetted captain for meritorious services in the field. He was appointed colonel and assistant surgeon-general in 1902. He was the author of several papers on medico-military and sanitary subjects, of a novel, and of a "Handbook for the Hospital Corps."

Dr. WILLIAM B. ULRICH died at his home in Chester, Pa., on April 24, at the age of eighty-four years. He was born in Philadelphia and was graduated from the Philadelphia College of Medicine in 1850. He practised first in Fairview, La., later in Galveston, and removed to Chester in 1867. He was an ex-president of the Pennsylvania State Medical Society.

Dr. HIRAM BARBER of Ossining, N. Y., died April 24, at the age of eighty-five years. He was a graduate of the Albany Medical College, and was for a number of years physician to Sing Sing Prison.

Dr. Samuel Henderson Griffiths, Surgeon U. S. N., died in Washington on April 24. He was appointed assistant surgeon in the navy from Pennsylvania in 1877, passed assistant surgeon in 1880, and surgeon in 1895. He was fleet surgeon of the Atlantic training squadron and was with his command at Guantanamo when taken ill.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PRINCE OF WALES—ECONOMY IN HOSPITAL MANAGEMENT—INTESTINAL DISEASES—COLITIS—AFTER ENTERECTOMIES—ANKYLOSTOMIASIS—SURGERY FOR CONSTIPATION—SATURDAY HOSPITAL FUND—WATERCRESS—OBITUARY.

London, April 7, 1905.

The Prince of Wales has had to keep to his room for a few days, as he had a trivial operation performed on Monday, but he has continued in such excellent health that no bulletins have been issued. Last week I commented on the Prince's speech at the meeting of the King's fund; his remarks on hospital economy are bearing fruit. Comparative statistics are appearing.

Yesterday the Duke of Abercorn presided at the annual meeting of the West London Hospital, of which he has just become chairman, and commented on the question raised by the Prince. He advocated strict economy, but not at the expense of efficiency, and he thought the two were combined in this hospital—a fact largely due to the harmony between the medical staff and committee. He found that this hospital was more economically managed than, at any rate, thirteen others, and pleaded for further funds.

Yesterday the meeting of the Northwest London Hospital was also held, Dr. Harry Campbell presiding. The report showed that an appeal at the suggestion of Mr. George Herring had brought in £1,527, to which Mr. Herring added £509. The award from the King's fund this year was £500, and it was accompanied by a recommendation to rebuild the hospital. That would probably cost £100,000, and the committee could not see their way to follow the advice. I think they were quite right. There are too many building appeals before the public to leave room for another, and, really, the hospital is doing its work very well. It seems doubtful whether the King's fund committee should encourage the sinking of money in bricks and mortar.

Intestinal diseases have been rather prominent at the societies lately. Dr. Rolleston described under the term pericolitis sinistra some cases which resembled appendicitis. but were situated on the left side. The condition in all cases is one of inflammation of the visceral peritoneum. It may be quite slight, or go on to abscess, and this may burst into the peritoneum, setting up the more expensive general peritonitis. Dr. Rolleston grouped the mild cases affecting the membrane around the descending colon or sigmoid flexure together. They are often spoken of as fecal accumulation or impaction. A second group consisted of cases of localized abscess in connection with perforation of steroral ulcer, either in a false diverticulum or in the wall of the colon, either intra or extra peritoneal, and in either case may extend along the side of the colon, resembling the spread of an appendicular abscess.

Dr. de Haviland Hall was inclined to think the first group connected with a rheumatic diathesis; the second group probably originated in a local cause.

Dr. Caley agreed that many cases were preceded by chronic constipation, but others came on suddenly. Simple colitis was much more common than ulcerative.

Dr. Symes Thompson, in recurrent cases, recommended lubricants for the mucous membrane, *e.g.* vaselin with salol.

Dr. Carver of Torquay followed the paper of Dr. Rolleston at the Medical Society with one on acute infective colitis, dealing with an outbreak in the G. N. Central Hospital, London, in 1902. A number of cases occurred, but in only ten were prolonged records available. Of these, seven were in children—six girls and one boy. The boy and five girls died. The three adults were all females, and one of them recovered. The outset was sudden, violent diarrhea, much blood and mucus passing, anxious expression, coated tongue, tenderness over ascending colon, marked pain on passing motions, temperature slightly raised. In seven or eight days signs of exhaustion set in, and by the tenth or eleventh day feces became more natural and without blood, but the patient gradually sank, and died from the fourteenth to eighteenth day. Afternoons there was always enlargement of the mesenteric glands. The walls of the large intestine were swollen from edema, and scattered over the mucous membrane were numerous hemorrhagic points, about the size of a pin's head; also, there were many shallow ulcers. The bacillus enteritidis was present in the stools, and it was thought the infection was carried by water. The rectum was not affected.

Dr. Hall recalled other epidemics associated with Herroch's purpura and other infections, but he admitted they were not like that described by Dr. Carver.

Dr. C. E. Beevor had had some of the cases under his care and considered the most striking features were the sudden outset and rapid progress to a fatal issue.

Mr. Macnamara had seen a somewhat similar epidemic in Manila, and distinguished it from tropical dysentery.

Mr. Barker read a paper at the clinical society on the condition of the small intestine after extensive enterectomy. Three cases showed that the paresis about an acute obstruction may persist long after the release of the obstruction. A second operation was done two and one-half years, twenty-one months, and two years respectively in these cases. In the two former the bowel above the anastomosis had not returned to its normal size or activity as contrasted with the part below the junction. There was thinning of the proximal portion, and Mr. Barker attributed this weakening not only to distention, but to saturation with toxins. In the third case, the same condition was found, and, in addition, there was adhesion to the sigmoid flexure.

Mr. Malcolm suggested that a break in the peristaltic wave, caused by the cicatrix, might give rise to distention and paresis.

Mr. Spencer remarked on the great extent of these resections, six feet being removed in one case, showing that surgeons need not fear to remove large portions, especially when gangrene had occurred.

Mr. Barker, in his reply, said shock was not increased by extensive resection, and, therefore, enough should be removed to secure healthy tissues for the sutures.

Enterectomy in a new-born child must be very rare. Dr. Kennedy, of the Maternity Charity, was equal to the occasion when a nurse sent him word a child had been born with ineconium coming away from the cord. He found a fistula at the side of the cord, which he slit up longitudinally, exposing a blind finger-like process of intestine, with the fistula in its side. Drawing it out, it was found to be two inches long, and to come from the cecum, and the intestine on each side so narrow he judged it could not maintain the passage, so he excised it and completed the operation by lateral anastomosis, removed the cord and closed the opening. The child was sick for two days, but recovered perfectly. The operation was done without an anesthetic, and "the infant quietly sucked a sugared teat while its intestine was being stitched." Dr. Kennedy has previously recorded in the *British Medical Journal* a radical cure of hernia in a child one day old. Now he is able to add this case, which I think is unique. He thinks it may have been one of persistent Meckel's diverticulum, or possibly an enlarged appendix, as there was no sign of this on the excised cecum.

In addition to the foregoing contributions on intestinal diseases, we have just had, at the Chelsea Clinical Society, a full debate on constipation, extending over two evenings. Space will not permit me to summarize this to-day, but I may mention that Mr. Arbuthnot Lane, who opened the debate, explained the grounds of the operative procedure which he advocates in cases of intractable constipation. He traces many cases to early malnutrition leading to distention and displacement of the large bowel, inflammation and adhesions fixing it. An inflamed and dilated cecum sets up attacks, which may be taken for appendicitis, and this is not relieved by removal. The after history of many operations for so-called appendicitis is exciting much attention, and Mr. Lane explains many failures by the condition indicated. When these exist, and it becomes evident that something beyond wrong treatment must be done, if the patient is to be rescued from a state of steady progress downwards, instead of attempting to free the bowel by dividing the bands and adhesions, he establishes direct continuity between the lower end of the ileum and the large bowel. Some had objected that this would leave the patient the subject of constant diarrhea, but this had not proved to be so. In some of his cases the opposite condition remained for a time.

In these islands ankylostomiasis has been met with for a long time in the Dolcoth mine, in Cornwall, but I hear that it has recently appeared in the Lanark coal-pits. It must have been brought by some foreign workman, for it is common enough in mid-European mines. Dr. Thomas Oliver brought the subject before the Medico-Chirurgical Society last week. It was until lately held that the ankylostoma gained access to the alimentary canal by men eating with unwashed hands or drinking contaminated water; but Loos of Cairo accidentally inoculated himself with a culture, and he has shown that the larva may penetrate the skin and reach the upper part of the small intestines by a circuitous route. The worm cannot reproduce itself in the human intestine. Ova are constantly passed in the feces.

Dr. Oliver gave an account of continental views and experience. Preventive measures are cleanliness of the workmen, keeping the pits as dry as possible, and a rather low temperature. As to medicaments, aperients and antiseptics are employed, but opinions differ concerning their value. Sometimes Filix mas causes amblyopia. In presence of moisture, at a temperature of 62 to 80 F., the ova are transformed into active larvæ, which can live a long time in the sludge of the mines. In the intestine, the larvæ become sexually-matured worms and attach themselves by their hooklets to the mucous membrane. As they often contain blood, miners' anemia has been attributed to their blood-sucking, but this is disputed, and many think that probably they produce toxins which are absorbed and give rise to the anemia.

Sir P. Manson considered cases are not so rare in this country as generally supposed, and thought that they may become as common as in Germany. Loos had shown that only those embryos that did not pass into the stomach directly gave rise to mature worms. Perhaps the circuitous route through skin, veins, lungs, and gullet conferred immunity from the gastric juice. For prevention, the one thing was to educate the miners. The ovum soon perished without free oxygen, and the Chinese stored excreta in cemented tanks until decomposed, which tended to destroy the ova. The infection was usually multiple, and the only certain diagnosis by microscopic examination of the fecus. He had found three or four doses of thymol, half a drachm each, valuable. The last dose should be given with castor oil and no solvent of thymol should be given at the time. Areca might be tried.

The Epidemiological Society has also had the subject of ankylostomiasis before it, in a paper by Dr. A. E. Boycott. He described the ankylostoma as a parasitic nematoid, differing from other hematozoa in having no intermediate host. Each species is pathogenic to only one species of animal, and at one period only in its saprophytic or larval state. Only one species, *A. duodenale,* is known to attack man in the old world, but a very similar one, *A. americanum,* does so in the Western hemisphere. The eggs are in the jejunum, but are not hatched until they have left the body. They are easily recognized in the feces, hatch in water in about twenty-four hours, and are encapsuled in a week. Only full grown larvæ are infective. In the body perfect reproductive males and females are developed in about five weeks. They are tolerant of heat and cold. Larvæ show vigorous movement for days in the absence of oxygen, the want of which is supposed to prevent the ova from hatching in the intestines. The encapsuled larvæ can survive for months or years at a temperature exceeding 50° F. Dr. Boycott thinks that the anemia is due to toxins; it varies from a 10 per cent. reduction of oxygen capacity of the blood to a degree surely fatal. Some men seem to enjoy immunity from the disease, but they are just as dangerous to others. If miners would abstain from promiscuous defecation the disease might disappear, as it has done from some parts. As an anthelmintic, Dr. Boycott says nothing can approach thymol.

The thirty-first annual meeting of the Hospital Saturday Fund was held on the 1st inst. The receipts for the year were £24,344, the best year this fund has had. In January the committee distributed £22,196 among 190 institutions, being above £1,000 more than in any previous year.

The County Council's medical officer has been visiting the cress beds which supply London. There are 120 of them, varying in size from one-quarter of an acre to forty acres, and it is estimated that they send 1,500 tons of watercress annually to London. The medical officer reports that in most cases there is not much risk in consuming the cress, as it is well washed before eating. But in some beds, he says, the precautions against pollution by sewage or by surface drainage are not sufficient. The council will call the attention of the Local Government Board to the matter.

Lieut.-Col. H. W. A. MacKinnon, of the R.A.M.C., who died last week, aged 63, entered the army in 1865, and served in Egypt in 1882, being slightly wounded at Tel-el-Kebir. He was also in the Burmah campaign of 1885-86. He retired in 1895.

Dr. Thomas Morton, who died on the 27th ult., was a London graduate, with honors. He settled in Kilburn in 1863, and has practiced in that suburb ever since, where he leaves a son, who has for years been his partner. For some months his health has failed, he had sciatica, and subsequently pleurisy. He seemed to be recovering gradually from this, but cardiac failure supervened quite unexpectedly. He held pronounced views on alcohol, was a total abstainer from it, and a promoter of various philanthropic institutions. Among his literary efforts was "Alcohol in Arctic Exploration," an excellent piece of work.

Intelligence reached London on Saturday of the drowning in Lough Rea of Dr. George J. Lough, and his man servant. They were caught in a sudden storm, and the boat was overturned. The occurrence was witnessed from the shore, but assistance was not available. The doctor formerly practiced at St. Leonard's, but had retired. He was only 45 years of age.

Dr. James Alexander of Paignton, Devon, died on the 2d inst., aged 57. He was a Dublin graduate in arts and medicine. He was at one time surgeon to a mining company in Newfoundland, and contributed a paper on the diseases met there to the *Dublin Journal of Medical Science,* in 1878.

Dr. Maurice Griffith Evans, J.P., consulting physician to Brecon Infirmary, died on the 16th inst., aged 74. He was a graduate of King's College, Aberdeen, and practiced for many years at Cardiff. He retired ten or twelve years ago. A few months since he became paralyzed, from which he has died.

OUR PARIS LETTER.

(From Our Special Correspondent.)

LUYS' CYSTOSCOPE WITH DIRECT VISION—METHODS OF ADMINISTERING CHLOROFORM—LOCALIZATION AND EXTRACTION OF PROJECTILES BY RADIOSCOPY—EXTRACTION OF CALCULI FROM THE URETER—RELATIONS OF SYPHILIS TO GENERAL PARALYSIS—ANEMIC CONDITIONS—SURGICAL TREATMENT OF ANTHRAX.

PARIS, March 30, 1905.

At the Société de Chirurgie, Pierre Delbet presented the cystoscope, affording direct vision, which Luys has perfected. It is a simple and ingenious instrument, which makes the examination of the interior of the bladder, male or female, very easy and direct, without the interposition of a prism. The view with this instrument is direct in place of a reflected image. This instrument of Luys is an improvement on that of Kelly. Kelly's method, as is known, is based on the fact that the bladder is filled with air when the patient is placed in the knee-chest position, and the ureter is made to gap. It remains to illuminate the bladder cavity, and it is then ready for inspection. Luys has perfected the method of Kelly. First, instead of placing the patient in the knee-chest position, which is very uncomfortable, he places him in the Trendelenburg position, which is far easier. The instrument is provided with an aspirator tube, so arranged as not to interfere with any maneuvers, but which allows of the aspiration of urine just as it is excreted by the ureters. Thanks to this arrangement, examination or intravesical intervention can be made without interruption. Finally, the light is furnished by a small electric light, a cold lamp, which can in no way injure the bladder, and which gives an illumination much superior to the head mirror employed by Kelly. A movable magnifying glass is so fastened to the instrument that the vesical image is enlarged. The instrument, properly speaking, is composed of a tube 18 cm. in length for a man, and 10 cm. for a woman. In the wall of this tube there is a smaller tube. On the vesical side, this small tube is terminated by an orifice, which opens on the lower and interior part of the larger tube. At the other extremity, the little tube is prolonged by an ajutage, to which is fastened a rubber tube. That is again fastened to an aspirator. This instrument is very easy to use. It allows the insertion into the bladder under the control of the eye, of instruments such as forceps, galvanocautery, and caustic holders, and makes easy a certain number of intravesical interventions. Tuffier has used this instrument and declares that he has never seen the vesical mucosa so clearly and definitely—its coloration, the least roughness, and the form and color of the openings of the ureters—as with this cystoscope of Luys.

Professor Berger discussed the methods of administration of chloroform. While many surgeons favor, in anesthesia by chloroform, the employment of apparatus which regulates the administration of the anesthetic, and which allows air or oxygen to be mixed in certain proportions with the chloroform, Berger believes in the administration of chloroform by the hand of the physician armed only with the classic compress. He does not approve of any apparatus, but thinks that they inspire too much confidence in the anesthetizer, by making him feel that there is no danger when he is using apparatus for this work, and by turning his attention from the observation of physiological phenomena shown by the patient to the oversight of stopcocks, screws, and so on. The best method of administration is the most simple.

Tuffier presented three patients from whom he had extracted bullets. The apparatus by means of which he located and withdrew these bullets from the deep tissues is very simple and is based on the simple radioscope. In one patient, the bullet which gave rise to sensory and motor troubles of the right arm, was located under the subclavicular artery, in the midst of the brachial plexus. In the second patient, the projectile was in the chest, under the left pectoralis major muscle, at the level of the fourth rib. It had given rise to thoracobrachial neuralgia. The third patient had been shot in the left submammary region. The projectile had lodged against the peritoneal surface of the diaphgram.

Picque presented a very interesting observation of a woman of forty-nine years, who for fifteen years had had pain in the lower abdomen. Vaginal touch detected a hard mass in the right vaginal cul-de-sac, and this mass, which was a little irregular, presented at times a sort of calcareous crepitation. The right kidney was increased in size, reaching below the floating ribs, and was painful when examined. Picque diagnosed a calculus of the lower extremity of the ureter with crises of intermittent hydronephrosis. Operation was performed. By an incision parallel to the femoral arch, the peritoneum was stripped off and the ureter was laid bare at the point where it crosses the uterine artery. The calculi were then felt in the interior of the ureter. It was incised longitudinally, and three calculi lying end to end were extracted. They made a mass about 6 cm. long. The ureter was greatly dilated. It was sutured with silk in one plane. Eight days after, the ureteral suture was perfectly firm, and eight days later the patient was entirely well.

Fournier called the attention of the Académie to the pathogenic relations which exist between general paralysis and syphilis. The period by far the most frequent for the manifestation of general paralysis in the course of syphilis is comprised between the tenth and twelfth years. The causes which in syphilitics serve as predisposing agents in the development of general paralysis are, first of all, the insufficiency of antisyphilitic treatment, nervous overstrain, alcoholism, venereal excess and nervous heredity. General paralysis is apt to follow the form of syphilis which is at first benign. It far more rarely follows early malignant syphilis. From observation and statistics, the only guarantee of the patient against the future risks of general paralysis consists in the antisyphilitic treatment, methodically kept up for a long time. This treatment may well have its defects; it is not absolutely positive, but it is the best measure at hand. The treatment ought to be by mercury, and, in general terms, its duration ought to be for two, three, and even four years. It is this long duration of treatment which seems for the syphilitic his best safeguard against cerebral accidents, especially general paralysis.

Pinard presented some considerations concerning the relations of procreation to syphilis. He thinks that specific treatment for six months before generation will enable the father to beget a healthy child. He emphasizes the importance of the syphilitic following the same line of treatment before every act of procreation.

Joffroy and Lancereaux do not believe that general paralysis is a manifestation of syphilis, first, because the anatomical lesion has neither the characteristics nor the evolution of syphilitic changes, and because of the recognized inefficiency of anti-syphilitic treatment in general paralysis. Cornil has concluded by saying that from the anatomical and pathological points of view, cerebral syphilis and general paralysis remain two very distinct maladies. Clinically, however, syphilis is one of the best-known causes of general paralysis, which does not exclude others, such as alcoholism, nervous overstrain, and heredity.

At the Société de l'Internat, Vaquez spoke of the present condition of the subject of anemia. The prognosis of anemia does not depend only upon the cause which produces it, but much more on the condition of the spinal cord to which the modification of the blood bears witness. In the case of plastic anemia, that is to say, with medullary reaction, repeated examinations of the blood alone can teach us the value of the reaction. The appearance of exceptional elements in the blood always indicates a grave prognosis, especially if the number of red corupscles is proportionately low. In the aplastic form, that in which no medullary reaction can be determined, the prognosis has always been fatal. It is in this form that the absence of retractility of the clot is determined, as noted by Hayem. The treatment comprises two principle considerations: To search for the cause of the anemia (unrecognized hemorrhage, intestinal parasites, etc.), and to aid the organism to preserve the blood corpuscles it already has and to make new ones. Arsenic and iron preparations also play a rôle in the treatment. In order to stimulate the hematopoietic functions of the organism, it is necessary to follow other therapeutic methods. Opotherapy, the specific serums, are indicated here. Radiotherapy practised on the epiphyses has given the author excellent results in a case of very grave anemia.

Delaunay operates for anthrax by making a series of incisions. The chief incision runs longitudinally through the length of the infected tissue, and even into the healthy tissue. Perpendicular to this are a number of other incisions. In this way a number of cutaneous flaps are formed that may be curetted thoroughly. Cauterization follows, and the skin cicatrizes marvelously.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

TREATMENT OF FACIAL ATROPHY—EFFECTS OF RADIUM ON NORMAL SKIN—A COALTAR PRODUCT ERUPTION—MODERN CONCEPTIONS OF TUBERCULOSIS—ADRENALIN AND ARTERIOSCLEROSIS.

VIENNA, March 31, 1905

DR. R. STEGMANN of the Rudolph Hospital has demonstrated a case of bilateral facial atrophy, treated by Gersuny, by means of vaselin injections. As four weeks have elapsed since the last injection was made it may be assumed that the present result will be permanent. Photographs of the twenty-four-year-old patient, taken before the operation, represent an uncomely woman, apparently thirty to forty years of age. In discussing the technique, Stegmann called attention to the fact that only vaselin and a mixture of one part of vaselin to four parts of oil were used, the former in regions in which the resulting hard tumor was not undesirable, as in the canine fosse, and the oil mixture in the rest of the face. After absorption of the oil the vaselin remains disseminated through the tissues and gives rise to a new tissue in consistency very like the ordinary subcutaneous fat. He advises against the employment of the hard paraffins, which are difficult to inject, and owing to the high temperature required involve danger of burning. In order to be sure that the injection needle has not entered a blood vessel it is not sufficient merely to wait for the appearance of blood, but suction should be made with the syringe, and only if this is negative can the injection safely be proceeded with. The disease appears not to be as rare as supposed, for within six months five patients have presented themselves for the treatment, which gives such excellent results.

In the course of his observations on radium, already extended over a period of more than a year, Professor Schiff found it desirable to determine the activity of the substance on normal skin. This was all the more necessary, as so far we have no method by which to graduate the dosage except the length of application. For this reason Schiff was anxious to have the substance act as long as possible, and as he did not wish to subject any one else to an injury the degree of which it was impossible to foretell, he applied a capsule containing 55 mg. of radium, of an activity of 200,000, to his own arm. Not until the fifth day did the skin under the capsule begin to show a slight redness, which gradually deepened and finally became cyanotic in color. After some days a thick, hard rusty brown infiltration appeared, resembling the eschar after a burn of the third degree. The circular edge was raised and resembled that of a chancre, while the surrounding tissues were infiltrated and swollen for a distance of about four centimeters. Great pain was present, so that the motility of the hand and forearm was much impeded. This state of affairs persisted for about six days, after which the inflammatory reaction gradually subsided. and five weeks later the skin had returned to a normal condition, except for a slightly adherent scab.

Dr. Loebl presented before the Society of Internal Medicine a thirty-year-old patient with a coaltar product eruption. According to his statements, the patient in the course of the last year had suffered from four sudden attacks of ulceration of the buccal mucous membrane. The affection was characterized by brown discoloration of the lips and tongue, followed by swelling, difficulty in speaking, and the formation of vesicles filled with clear serum. When he came under observation both surfaces of the tongue were covered with confluent ulcers, there was high fever, and the diagnosis of ulcerative stomatitis was made. The etiology at first seemed obscure, as syphilis, tuberculosis, and diabetes could be excluded. The patient stated that soon after the appearance of the symptoms in the mouth a cyanotic, itching edema developed in the forearms and disappeared after a few hours. On examination several shining red wheals were found on the arms, showing that the affection was not limited solely to the mouth. A closer inquiry into the history revealed the fact that about two hours before each attack the patient had taken a dose of one of the coaltar anal?????. The condition was, therefore, a simple drug eruption, or, rather, enanthem, though the abundant literature on this subject records but two cases of such severe involvement of the mouth. The treatment consists in gargling with peroxide of hydrogen.

On the first of March, the Austrian Society for Hygiene held a session for the purpose of discussing regulations for restricting the spread of tuberculosis. Prof. Ferd. Hueppe of Prague delivered an address on the dangers of infection attending the institutional treatment of the disease, and the measures to be taken to meet this peril. Since the public has become educated to the idea of infection, the presence of the large numbers of tuberculous patients to be found in many summer resorts and watering places has given rise to much popular apprehension; but the people at large, and also many physicians, make the mistake of considering infection and disease as being synonymous, and in the effort to exterminate every bacillus we fall into the error of trying to accomplish too much. Koch's view, that the bacillus with its vital capacities dominates the clinical picture, is no longer tenable. Disease is a process, a variable and not a constant quantity. In order to produce the disease a bacillus must gain entry to the body, but whether it remains there and multiplies or is expelled depends not on the bacillus, but on the body. Our powers of resistance are constantly changing, so that disease is the product of several variable factors depending on (1) the specific organism with its inconstant properties; (2) the susceptibility or resistance of the body; and (3) the circumstances attending the transmission. To-day our conception of tuberculosis is much more far-reaching than formerly. Infection may emanate not only from tubercles, but also from tuberculous infiltration. Laboratory experiments are exceedingly valuable, but their results cannot indiscriminately be applied to the human subject. In the case of the guinea pig, a single tubercle bacillus is sufficient to bring about prompt death of the animal, but for man the conditions are much more complex. Even Galen knew that frequent prolonged contact with sick persons was necessary to reproduce the disease in the healthy, and it is still unknown how many germs are required. If an individual's powers of resistance are sufficiently great to destroy a quantity of bacilli daily, he may go about for years with tuberculosis without suffering from it. Tubercle bacilli are found almost everywhere, and may easily be demonstrated in healthy people. Large numbers are often present in the nasopharynx without doing any damage. In conclusion, Hueppe said that he had been accused of underestimating the importance of the germ, but that this statement was unfounded, for as far back as 1883, he had emphasized this. At the same time, however, he called attention to the significance of susceptibility, which plays as large a rôle as the germ itself. Whereas Koch demands absolute disinfection, Hueppe's standpoint is to fight the bacilli where they are accessible.

Dr. Sturli has reported on experiments made by the intravenous injection of methylaminoacetopyrocatechin, an oxydation product of adrenalin. Adrenalin produces marked changes in the aorta, is a vasoconstrictor, and causes a temporary rise in blood pressure, which is the result of the vasoconstriction. The question whether the drug acts on the smooth muscle or on the endorgans of the vasomotor nerves is still undecided. Sturli presented numerous microscopical preparations which show that methylaminoacetopyrocatechin gives rise to similar changes. The lesions of the aorta consist in thinning of its wall, which may lead to sacculations and aneurysmal dilatations. The elastic tissue of the media undergoes partial degeneration and the nuclei of the contractile elements lose their affinity for stains. The elastic fibers which ordinarily run a wavy course become straight and finally grow thin and friable, and disintegrate. The changes which affect principally the media, and are but slight in the intima, and are hardly comparable to human arteriosclerosis. Probably the smooth muscle cells are directly attacked. That it is not the rise in blood pressure which causes these alterations is evident from the short duration of the former and also by the experiments of Braun, who used amly nitrite to precent the rise in pressure, but still obtained similar lesions. In the discussion which followed, Prof. v. Schötter said that these results had an important bearing on the conception of arteriosclerosis. There is still much confusion in this field and the tendency to call every stiffening of the vessels sclerosis is incorrect. For example, it is wrong to say that syphilis causes arteriosclerosis. Syphilis produces syphilis of the vessels, but this is not necessarily arteriosclerosis. Various factors may give rise to hardenings of the vessel walls which are quite different from a pathological standpoint, and the lesions produced by adrenalin belong among these.

DIFFICULTIES IN MICROSCOPICAL WORK IN SMOKY CITIES.

To the Editor of the Medical Record:

Sir: Would it seem to you possible that on account of the thick obscurity, the cloudy weather, the mysteriously dark and gloomy sky, so often prevailing in Chicago, there would be more difficulty in microscopical work there than in New York City?

I was pursuing most pleasantly my microscopical studies in New York City. I never thought of surroundings only as being just perfect, when my son requested me to visit him and his family in St. Joseph, Mich. While there I thought I would also take the opportunity of visiting the great city of Chicago, which is so wide awake in all its active industries. I brought my microscope and slides, to continue reading nature's book, which, as Harvey says, is open and legible; and I imagined I would soon finish the little book I was writing. But, alas, alas, in Chicago, all during the fall and winter, scarcely a clear, bright day for microscopical work! I was beyond measure grieved. I came to Chicago in October. All the days seemed so dark and gloomy; rain and snow apparently lasting weeks, and dark, cloudy days unnumbered; and, almost all the time, with the thick, dull, gloomy atmosphere. In New York microscopical work went on undisturbed. The days here might be represented by a few days of one week, when they said, "The good weather is here!" But, instead, we had in that week four days of continuous rain—Friday, Saturday, Sunday, and Monday, clearing off Tuesday morning. This was two or three weeks ago, but with such weather I could never have seen or explained the origin and formation of fibroid tumors. We must see things. I made my researches on that subject in New York City, where there was good light, and also a transparent atmosphere. In Chicago!——

After the publication of my article in the Medical Record, September 14, 1901, I consulted the works of many eminent surgeons and pathologists, to see what might be their views. Pozzi, professor of the Faculté de Médecine, Paris, says: "We still know nothing positive about the exciting causes of uterine fibroma." Henry T. Green, in "Pathology and Morbid Anatomy," "Of the etiology of tumors as a class, nothing certain is known." Henry D. Ingraham, professor in the University of Buffalo, "As to the exciting cause, nothing whatever is known." They give no explanation. I was more and more convinced mine was the right theory; and it is more and more confirmed by further investigation.

One thing helps very much in microscopical work, and that is the method of mounting. Canada balsam is used by many great scholars, and in our best colleges. But I have found that mounting in pure glycerin gives a clearer definition, and better results. This was Dr. Charles Heintzman's method. Still the important thing, the necessity for any kind of microscopical work, is a clear, transparent atmosphere. So as to the thick, obscure days we find in Chicago, I determined to see what the colleges said before I ventured to condemn anything in this great western city. I went to one college, asked a bright young professor if the thick, dark atmosphere would interfere with microscopical studies. He unhesitatingly replied: "We are bothered some here by cloudy days, too dark to do without artificial light; too cloudy to do the best microscopical work." These were his exact words. A representative of Rush Medical College said: "It is very difficult some days to see. We need artificial light." He suggested that the cause was the coal dust, burning soft coal. Two or three days after an eminent pathologist of one of the colleges repeated that it was the coal dust. I still could not accept the idea, especially when we see so often an unexpectedly bright, beautiful day after a continuous fog. What becomes of the coal dust? Is not all the fog the result of the surrounding beautiful lakes?

Mary A. Dixon Jones, M.D.

Progress of Medical Science.

Boston Medical and Surgical Journal, April 20, 1905.

A Method of Producing Ether Narcosis by Rectum, with the Report of Forty-One Cases.—J. H. Cunningham and F. H. Lahey review the history of this method of anesthesia. They have devised a special apparatus which they claim overcomes the usual disadvantages of the method. There have been in their series of cases no diarrhea or bloody stools. In seventeen cases ether was taken by mouth, preliminary to the rectal route, while twenty-four were started by rectum. The advantages are the following: But little ether is used; there is no stage of excitement; vomiting seldom occurs; bronchial secretions are absent; there is a comparatively quick ether recovery; the bowels are slightly constipated. They find that unless the bowel is free from feces it is difficult to produce narcosis. A brief summary is given of the anesthesia details in each case of the series, together with an illustration showing the apparatus in action. Full rules are laid down for the preparation of the patient and the administration of the ether.

Serum Treatment in Multiple Infectious Arthritis.—Four cases are reported by E. G. Brackett. His experience would seem to indicate that the only effect of the antistreptococcus serum in such cases is to cut short the acute stage. Eventually we have the same deformities and stiffness as of old. Naturally, the amount of resultant damage is lessened by cutting short the acute period.

New York Medical Journal, April 22, 1905.

Nasal Obstruction as a Cause of Disorders of Nutrition.—P. Fridenberg calls attention to the part taste and appetite take in digestion, and to the fact that an intact taste sense presupposes a normal micosa. The sense of smell also is important, not only for digestion and appetite, but as a guard against deleterious elements and putrefactive changes. Anosmia may lead to a blunting of taste, cause lack of discrimination in diet, and to the abuse of spices and condiments. Anorexia may be due to deficient aeration alone. Again, the nasal mucus naturally passes backward and is swallowed. Any abnormal intranasal condition preventing this secretion and diminishing it will, therefore, lead to stomach trouble and thus affect nutrition. Nasal obstruction interferes with respiration and interrupts feeding and swallowing. Much air is apt to be gulped into the stomach, and as a result the patient vomits, for breathing can take place only as mouth breathing and that, too, only between the acts of swallowing. As a remote result, mastication is imperfect and there is an imperfect development of the jaw and teeth. Nasal obstruction leads to the accumulation of discharge in the nasopharynx and this is generally swallowed after it is loosened up by hawking. Thus a vicious factor is introduced into the stomach and leads to a chronic catarrhal and fermentative process in that organ. The author closes with an enumeration of the method he has employed for the relief of the faulty conditions referred to.

A Method of Measuring the X-Rays.—The method advocated by M. Franklin is based on the power of the rays to ionize the gases through which they travel. Practically it makes use of an electroscope and with an instrument of the gold leaf pattern, the relative activities of two radiations may be compared with great accuracy and expedition, and if one of them is the standard unit of activity or bears a known ratio to the standard, the value of the other, in terms of the standard, will be readily deducible. It is necessary only to charge the electroscope by applying a rod of vulcanite, sealing wax, resin, or other suitable material, which has been previously electrified by friction, and then to time the transit of the filament under the influence of the rays. The rate of discharge will vary directly as the activity of the radiation. All computation with consequent delay is eliminated, and the whole process need not occupy more than ten or fifteen seconds. The electroscope may be charged and the rays allowed to enter only at the instant when desired during the exposure, by means of a ray proof shutter at the back of the instrument. The author gives illustrations of the instrument he has devised and a formula for recording the results. The charged electroscope is brought to the same distance from the x-ray tube as the patient, and, while the tube is running, a shutter in the electroscope is opened and the time in seconds occupied by the filament in transit across a chamber is noted. The number of records is the exact coefficient of energy of the rays. In this way a definite standard is provided.

Medical News, April 22, 1905.

Alcohol as Food.—R. H. Chittenden declares that there is no doubt that alcohol, when taken in moderate doses, can be oxidized in the body and its energy made available for the needs of the system. This is not meant to imply a commendation of alcohol for its food value, or to deny that prior to its oxidation it may not exert some harmful physiological effect. Alcohol can be looked on as a food in the sense that it can replace fats and carbonates as a source of energy. But it also causes an increase, and a very notable one, in the output of uric acid through the kidneys. From experiments on man it appears that this excess of uric acid output is not connected in any way with the diuresis which the alcohol produces, *i.e.* it is not due to a simple sweeping of urates already formed and circulating in the blood out of the system. Not only is the uric acid increased, but the purin bases also, and it was noted that the alcohol did not cause the change above referred to when taken without food as with a purin-free diet. The increase of uric acid appearing in the urine, under the influence of alcohol, is not then of endogenous origin, but is unquestionably associated with some change in the rate of oxidation in the liver of uric acid of exogenous origin, or else there is a change in the rate of production of uric acid from the precursors of uric acid contained in the food. Owing, therefore, to the disturbance on the metabolism, alcohol cannot compete as an advantageous food with fats or carbohydrates. Moreover, certain wines seem to exert an effect on metabolism far greater than is accounted for from their percentage of alcohol. This is particularly true of port wine, and hence even moderate indulgence in alcoholic drinks may be attended with greater disturbance of the metabolic phenomena of the body than prevalent ideas would lead us to believe.

What the State of New York Is Doing for the Insane.—F. Petersen gives an instructive account of the various State institutions for the insane, describing them, their methods of administration, etc. Special allusion is made to the central laboratory for the study of psychiatric problems, the first established in this country. Arrangements have been made whereby many of the physicians in the various institutions may come to the laboratory for instruction, a feature which has greatly increased their efficiency. Much more importance now than formerly is attached to the matter of case histories, which as now taken not only present a clear picture of the mental condition of the patients, but record so completely every physical abnormality that they have already become a treasure-house of important data for reference. It is safe to say that there are over 10,000 histories of patients in the books better recorded than ever before put down in asylum annals. The accumulation of such material must become of incalculable value to investigators in psychiatry; but quite as important is the fact that the very work of their preparation is an education to the young men performing the services, stimulating their understanding, improving their powers of observation, and sharpening their scientific judgment. It makes them better physicians, and in so doing directly profits the patients under their care, who must inevitably reap the benefits of better diagnosis and more expert treatment.

American Medicine, April 22, 1905.

Destructive Skin Diseases, Epithelioma, Lupus Vulgaris, and Syphilis.—Henry W. Stelwagon directs attention to the diagnostic value or ulceration, scarring, or both, as a factor in chronic skin diseases, and especially when the disease is of limited area, as it points in an overwhelming majority of cases to either epithelioma, lupus vulgaris, or syphilis; the smallest proportion of such cases belong to lupus. Many of the so-called lupus cases reported in the various journals in the past several years by those unskilled in dermatologic differences, in connection with Röntgen-ray reports, were, if the histories were correct, examples of the rodent ulcer type of epithelioma, and some, examples of the tubercular syphiloderm. In some instances this conclusion was confirmed by the accompanying photographs. Apparently, a diagnosis of syphilis is often only made when a clear or suspicious history is obtainable, or the patient's virtue doubtful, whereas the fact is that women not infrequently contract the disease innocently from their husbands, may have mild or overlooked secondary symptoms; and, further, that cases of extragenital chancres. whose nature may not have been recognized. are not at all uncommon, and the cutaneous disturbances following may be misinterpreted. In epithelioma the best plan of treatment is the removal of the morbid tissue by incision, curet supplemented by caustic application, or by caustic alone, according to the individual case; the treatment to be supplemented by Röntgen-ray exposures. While Röntgen treatment alone will frequently suffice, it is in many instances tedious, and often stops short of complete cure, and except in particular cases should not be advised as the sole method without stating to the patient the probable tediousness and the possibility of stopping short of complete removal. In lupus, the most rapid results may be obtained by the destructive methods mentioned, followed by the Röntgen ray. But Stelwagon believes the Finsen-light treatment, and the treatment by caustic pyrogallol or arsenical salves, followed by the Finsen or Röntgen-ray treatment, to be the most valuable. The Finsen treatment is valuable, but it is expensive, tedious, and its application requires a trained assistant; and in many instances the Röntgen ray will do the same and with much less trouble. In late syphilitic ulcerative or nodular eruptions the ordinary mixed treatment is usually quickly successful, but in some instances, and especially when the eruption is seated about the nose or the palm, the malady is rebellious and inunctions may often be resorted to before the disease yields.

A Study of Homogenized Cultures of Tubercle Bacilli.—Randle C. Rosenberger found in homogeneous cultures of the human tubercle bacillus, the morphology and microchemical reactions but little different from those present in growths upon blood-serum or upon glycerin-agar. In cultures three months old, the individual elements were very long, 10 microns to 12 microns being an average size. Some were thin, others thick; some stained darkly, the remainder stained very faintly. A number contained small, deeply-stained granules, which slightly exceeded the diameter of the organism itself. As many as eight of these granules were observed in a single element. This filamentous character was quite constant, the threads resembling closely those seen in streptothrices. Rosenberger was unable to demonstrate motility in any of the cultures examined, even in cultures only four or five days old. Brownian movement was evident in nearly all preparations. Five c.c. of the homogenized bouillon culture inoculated into the peritoneal cavity of a guineapig, produced caseous nodules ranging in size from 5 mm. to 2 mm. Spreads made from these lesions contained numerous beaded, long, acid-fast bacilli.

Typhoid Fever in Relation to the Urban and Rural Population of the United States.—Seneca Egbert shows by reference to the United States Census Reports on Vital Statistics for 1900, and by means of graphic charts illustrating the numerical data of this Report, that typhoid fever is much more prevalent in the rural portions of the country. He attributes this high incidence of the disease to the unsanitary conditions prevalent in the many towns and villages that, being under 8,000 in population, are too small to be classed with the urban, and which, therefore, make up a large part of the so-called rural population. He concludes: (1) Popular education as to the causation and dissemination of typhoid fever and similar maladies is especially important in the localities and districts indicated by the charts. (2) It is the duty of physicians to impress upon their typhoid patients the importance and necessity of disinfection measures, not only during, but also long after, convalescence. (3) The profession should urge improvement, purification, and care of public water supplies, and should induce those depending on private or suspicious sources to protect themselves against the danger of infection. (4) The profession should work for uniform and satisfactory registration laws and methods, as these always reflexly foster improvements in sanitary conditions.

Journal of the American Medical Association, April 22, 1905.

Eyestrain.—Lewis S. Dixon treats of the general subject of eyestrain and its evil effects and discusses the reasons why all persons with imperfect eyes do not suffer alike from reflex disturbances. The main point in the relief of these conditions is rest. It is a mistake to assume that to use glasses too much or to wear glasses seemingly overstrong weakens and impairs the natural power of the eye. Glasses which correct the optical imperfections of the eyes simply remove the abnormal tax on the muscles which results from the imperfect shape of the eyes, remove the constant strain, render the eyes normal, and give them a fair chance to work and rest just as much and under the same conditions as do perfect eyes. The glasses do not do the work the eyes ought to do; they simply correct imperfections and prevent waste of power. When, he says, the fact is realized that congenital and natural variations in the shape of the eyes are the cause, not only of so-called weak eyes, but of a very large part of the nervous frets and weaknesses which mar the ease and comfort of so many lives, it will be considered wise to hunt for errors in the child. None can be found if they do not exist, nor can strain on the nervous system be avoided, if they do exist, by leaving them uncorrected. The child who thus begins early has no strong eye habits to break up, easily learns to accept a full correction, and by wearing glasses a few hours a day at home, keeps out of all trouble, and is not confined to the glasses, for he never gets exhausted and knows how to rest if he is tired. But he should never discard the glasses entirely, for his errors remain as long as do his eyes.

Some Fallacies in the Agglutination Tests, with a Plea for the Employment of a More Uniform Technic.—Oskar Klotz summarizes his article as follows: Without entering into the discussion as to the chemical or physicochemical nature of agglutination and the bearing this has on the differences in the agglutination reaction, and vice versa, I wish to point out that in carrying out these tests we require a greater uniformity in the technic to allow comparisons of the results obtained by different observers. The susceptibility of an organism to agglutinins increases for the first six months from the time it has been isolated from the animal body and grown on artificial media. Inoculations of animals with broth culture will produce in their sera, beside the agglutinins, precipitins whose reaction in broth culture cannot be distinguished from true agglutination, as the organisms are mechanically deposited in the precipitate. Pseudoclumping may be obtained by using emulsions of bacteria is undiluted broth and testing against the above serum. The agglutination of a microorganism varies with the medium in which it is grown, the reaction of that medium, the temperature of incubation, and the number of organisms present in the emulsion. Pseudoclumping may be produced by sudden changes in the temperature and by the addition of certain chemicals. The addition of carbolic acid or of chloroform as preservatives in an immune serum does not interfere with the agglutination reaction. In using the dried blood test, paper having a soluble gloss should be avoided for collecting the blood. In our hands the macroscopic method for determining agglutination has proved the most useful and rapid. A time limit of three hours has been placed on all these reactions.

Laboratory Diagnosis of Smallpox.—R. L. Thompson comments on the difficulties in the early diagnosis of smallpox and suggests the use of laboratory methods. A rapid method of paraffin imbedding recently described by Henke and Zeller is recommended by Thompson as specially available. It consists in using snippings from the lesions by fixation in pure acetone for from three-fourths to one and one-half hours and then directly transferring them to paraffin at 56° C. The subsequent treatment is that of any paraffin material; applying with the dropping bottle successively xylol, absolute alcohol, thin celloidin, 95 per cent. alcohol, and water to the sections and then using the hematoxylin-eosin stain. The whole process requires about three hours, and the specific skin lesions and smallpox bodies can be observed. He considers that by this method fewer mistakes will be made by a microscopist of reasonable skill in smallpox diagnosis than in the ordinary microscopical tumor diagnosis.

The Lancet, April 15, 1905.

A Remarkable Case of Strangulated Hernia.—H. E. Barrett was called to see a man aged 77 years, and found him dead on arrival. Autopsy showed general peritonitis, caused by a strangulated, oblique, inguinal hernia. From a perforation in the bowel protruded a mass looking like feces, but which was found on closer inspection to be a portion of newspaper, apparently carefully folded up to about the size of a domino, but slightly thicker, forming a hard angular mass; this was lying in the strangulated loop of intestine. Just above it there was another rather smaller piece, also folded. They both had a very slight fecal envelope. At the inquest it came out that the deceased had suffered from chornic constipation and it is not improbable that the paper might have been swallowed in the hope of obtaining an action of the bowels. The hernia was an old-standing one. According to the friends, there were no symptoms necessitating medical attendance, except a slight "bellyache" during the night on which the man died.

A Case of Tetanus Successfully Treated with Antitetanic Serum and Curare.—The patient of E. Collins was a boy of 17 years, who had stepped on a rusty nail. Eight days later the initial jaw symptoms were manifested. Three days later the patient was first seen by the author. The wound in the foot had entirely healed, but was excised, rubbed with pure carbolic, and packed. Ten c.c. of serum were injected and chloral and bromide given by the mouth. The notes of the case show that it ran a very obstinate course, and that repeated injections of the serum were necessary. These not proving permanently efficacious, curare was finally given in one-third grain doses, by the needle. It was nearly four weeks before the patient was considered out of danger. The author lays special stress on the importance of freely exposing and removing the area of inoculation as soon as symptoms of tetanus arise. He believes that large daily doses of the serum are called for. He does not believe that curare has any other effect than to diminish the severity of the chronic spasms, which it does probably by a paralysis of the nerve endings.

The Cure of Cancer.—E. Owen declares that the surgeon is never able to claim that he has *cured* cancers. He can never be sure that the widest possible sweep of the knife has removed every cancer germ, "and a cancer germ adrift in the lymphatic stream is like a message thrown out to sea in a bottle; it may be found years afterwards—goodness only knows when and where." A time limit is fallacious. Then years may elapse before the mass of drifting cancer cells is stranded in an ovary or uterus. Treatment is unfortunately not the same as cure, and yet the most effectual treatment is still removal by the knife. Surgery has made great advances by including in the operation the removal of neighboring glands and lymphatics. One case is recorded of a woman of fifty-five years, from whose breast a cancer was removed in 1876. There were several recurrences in the scar, and three years later the auxiliary glands were removed. From this time, twenty-five years ago, she has remained well.

The Relationship Between Dental and Other Diseases.—R. D. Pedley narrates a series of cases in which a dental lesion was found in each instance to be the initial cause of the symptoms. The series includes alveolar abscess, with enlargement of glands; stomatitis, eczema, weakness and improper diet, malnutrition, fretfulness, sinus in the mandible, chorea, nervous affection of the mouth and eyes, general malaise, with nervous tremors and glandular infection. There is no doubt that systemic infection often results from oral bacteria, and at the bottom is a defective state of the teeth. Apart from the special susceptibility which some patients seem to show to bacterial infection, it is evident that a body where vitality is lowered forms the most prolific soil for their development. The defective dentition which we meet with in daily practice and among the poor, as seen in hospital practice, has the effect, broadly speaking, of lowering the nutrition of the body, and by so doing opening wide channels by which other diseases are only too ready to find their way. We are face to face with the facts that dental disease is of all diseases the most prevalent among civilized communities; that we are as far from touching the cause of this defect as we ever were. We have in our own hands not only the means of alleviating much suffering out of systematic treatment improving the general health, especially of the young, who are in a sense the most important portion of the community.

British Medical Journal, April 15, 1905.

Iron Acetate in the Treatment of Pneumonia.—Herbert J. Robson states that for the last seven years all cases of pneumonia in his practice have been treated by iron acetate and in severe cases by alternate doses of iron acetate and strychnine. This treatment the writer considers particularly useful under the following conditions: Cases of severe bronchopneumonia occurring in infants or children and in catarrhal and lobar pneumonia occurring in debilitated subjects. In cases in which there are not two properly trained nurses for night and day respectively; for by the regular administration of the strychnine through the night as well as through the day, the heart's action is kept up, and the danger of heart failure at the crisis is very much lessened. In that infectious, creeping, and spreading form of pneumonia following influenza the crisis is hastened and favorably modified; the virulence is lessened and the complication of empyema seldom occurs. Even when bronchitis is present, there seldom seems need to order depressing drugs like ipecacuanha, as the iron acetate seems to act as a good expectorant.

The Hepatic Factor in Biliousness.—Francis Hare declares that biliousness from a clinical standpoint has been ascribed to prolonged external heat, to deficiency of physical exercise, to excess of sugar and rich carbohydrate food stuffs, and to excess of meat and nitrogenous food generally. All of these etiological factors tend to cause at least one effect in common, that is, accumulation of glycogen in the liver. Experiments have proved that accumulation of glycogen in the mammalian liver is favored by external heat and physical inactivity. Sugar and other carbohydrates are the chief foods from which liver glycogen is derived. It can also be argued that the absorption of glycogen-forming material is dependent upon the supply of proteid. An ultra-physiological accumulation of glycogen can give rise to all the clinical phenomena of a bilious attack. The liver cell rich in glycogen is large as compared with the cell that contains no glycogen. Glycogenic distention of the liver causes mechanical congestion of the portal venous system behind the liver. From this system the whole of the alimentary mucosa, from the stomach downward to the junction of the skin and mucous membrane at the margin of the anus, will become congested. For the rapid manufacture and discharge of the digestive juices, and for active digestion, a free escape for the blood is as essential as a plentiful supply. In the course of the congestion, the orifice of the common bile duct will probably become blocked; and this will result in the blocking of the pancreatic duct. There will then be no bile or pancreatic juice in the alimentary canal. The result will be a cessation of the processes of digestion and absorption. Clinically, the symptoms will be anorexia, nausea, and vomiting. In some cases the retrohepatic congestion will relieve itself by diarrhea. By these means the glycogenic distention will be relieved, the hepatic obstruction removed, the mechanical stases dispersed, and convalescence established. The whole paroxysms may be regarded as a strike against the absorption of food in excess of the requirements of the organism. Some of the factors which tend to reduce the amount of glycogen in the liver are therapeutic—namely, abstention from food, physical exercise, climate, purgatives, restriction of meat and nitrogenous food stuffs and restriction of carbohydrates. Others are pathological—namely pyrexia and glycosuria. Calomel is probably the best purgative used in biliousness. Pyrexia markedly reduces the amount of hepatic glycogen. Glycosuria has decided inverse relations with biliousness. The management of biliousness by the means just referred to is far simpler in the case of patients who are well nourished. It must be remembered that in some cases it will be found necessary to provide against an excess of fats not less than against an excess of carbohydrates.

Cold Affusion in Hyperpyrexia.—John Haddon describes how some years ago he found that the sudden shock produced by even a tumblerful of cold water in a case of hyperpyrexia relieved the worst symptoms, showing that it is through the nervous system that good is done by the application of cold water, and that it must be applied suddenly to cause shock. The writer tells of using the cold affusion of Currie in a case of scarlet fever in a boy who was unconscious and limp. The mother held him in a tub while the writer poured a pail of cold water over his shoulders. As soon as the water was applied the patient sprang into bed. His temperature was only one degree lower after the affusion, but his pulse was very different, and he was perfectly conscious. His skin also became moist. He had no other treatment and his progress was uninterrupted. There was no sequela.

Death from Cancer Twenty-Two Years After Primary Operation.—A. W. George reports the history of a patient who, at the age of fifty, had the right mamma removed. The axilla was untouched. For seventeen years there was no recurrence. Five years ago a small nodule was discovered just below the scar. This was removed, and microscopic examination showed it to be scirrhous cancer. A little over a year later another nodule was removed. About this time the inner end of the scar became gradually fixed to the chest wall by a deep growth, too firmly fixed for removal. Finally, the skin ulcerated, although this complication had been retarded for a time by the Röntgen rays. The patient finally succumbed to exhaustion, at the age of 72 years. There was at no time any sign of symptom of a secondary new growth. No sedatives were given, as the disease was painless throughout.

Berliner klinische Wochenschrift, April 3, 1905.

Experimental Observations on Renal Dropsy.—Richter describes observations on animals which tend to discredit the prevailing views as to the part played by retained salts, especially sodium chloride, in the production of renal dropsy. Uranium nitrate was found to have the property of inducing in rabbits the picture of acute nephritis, accompanied by transudation of fluid into the serous cavities and edema of the skin. The edema and ascites were, however, dependent on the administration of considerable quantities of water given cojointly with subcutaneous interjections of the uranium salt. When the experiment was repeated with the addition of sodium chloride to the water consumed, the resulting accumulations of fluid were not greater than those accompanying the ingestion of water alone. Experiments with milk and with mineral waters having different percentages of saline constituents all pointed toward the conclusion that it was the amount of fluid and not the presence of dissolved salts which was responsible for the development of the transudates. This point has a great bearing on treatment, since it indicates that in attempting to prevent or to dissipate fluid accumulations in nephritis it is particularly the liquids of the dietary that require careful management. While it is not altogether clear whether or not an increase of fluid in chronic nephritis really overtaxes the heart and leads to danger of muscular insufficiency, the author considers that his experiments have demonstrated that it is not possible to flush the system, and remove waste products in these cases by such a plan of treatment. The fluid taken in, whatever may be its nature, tends only to accumulate and so to increase the danger of dropsy. This holds true both for the conventional milk diet and the mineral cures, and this feature should receive more attention than the sodium chloride content of the food and the osmotic changes dependent on it.

The Disinfection of Ambulances.—George Meyer calls attention to the necessity of properly disinfecting all ambulances or other conveyances used for the transportation of the sick after each trip and before a second patient is admitted. He suggests a suitable plan of construction for ambulances, the interior of which should have a smooth surface, with rounded corners, and without any projecting cleats, etc. The litter should be as simple as possible and consist of canvas stretched over an enameled iron framework. The bearers should wear canvas gowns, which, as well as the litter and all blankets, etc., should be sterilized by steam after every trip. Experiments on the most practicable method of disinfecting the conveyances are in progress.

Münchener medizinische Wochenschrift, April 4, 1905.

Carcinoma and Sarcoma in the Same Patient.—Landau says that so far about twenty cases have been recorded in which heterogeneous malignant growths occurred in the same individual. His own patient was a man of thirty-eight, who came under treatment for symptoms originating in a rectal carcinoma, situated close to the anal margin. He also presented several exostoses and an osteoma of the jaw a number of pigmented moles were scattered over the body, and a firm non-adherent mass could be felt in the right breast. The rectal growth was extirpated by a Kraske operation and was found to be an adenocarcinoma, while several small polypi in the same neighborhood proved to be benign. Four months after discharge the patient returned on account of pain and a rapid increase in size of the mammary tumor, which was now adherent both to the skin and deeper parts. It had also become soft. The mass was removed and the axilla cleared, the glands being found normal on microscopic examination. The tumor was a fibrosarcoma of the spindle-celled variety. The operation was seven months ago, but there has been no evidence of recurrence of either growth. The author calls attention to the fact that here of a number of tumors of different natures, two suddenly—one shortly after the other—began to grow and assume malignant characteristics, the polyps turning into adenocarcinoma and the fibroma into sarcoma.

Experimental Observations on the Pancreas and on Fat Necrosis.—Hess describes experiments on dogs relative to the production of the lesions of fat necrosis. After various unsuccessful attempts conducted in different ways the typical lesions were finally produced in an animal that had its pancreatic duct rendered patent by the insertion of a permanent glass canula introduced into the papilla through an incision in the duodenum. A short distance lower down, the gut was constricted, but not shut off, by a double silk ligature. Twenty c.c. of olive oil were injected into the duodenum before suturing it, and the abdominal wound was then closed. The dog lived for forty-five hours, and at the autopsy characteristic areas of fat necrosis were found throughout the omentum and mesentery, and in the fat about the bladder. Numerous necrotic patches were present in the pancreas itself, and in the vicinity of the organ. The author draws the conclusion that in some cases of fat necrosis the papilla previously injured and rendered permeable by the passage of biliary or pancreatic calculi permits fatty food material to enter the pancreatic ducts. The substances formed in the splitting up of the fat by the pancreatic juice damage the cells and form the starting point of the lesion. He also suggests that in some cases of chronic indurative pancreatitis the connective tissue growth may represent a process of repair following a previous necrosis originating in the escape of the fat from the intestine.

French and Italian Journals.

Beneficial Effects of the Thyroid-Graft in a Backward Child.—Lannelongue makes this report in the name of Gauthier and Rummer. In referring to the first time that he grafted the thyroid of a sheep under the skin of an infant cretin, afflicted with myxedema, in 1890, he calls attention to the advance that has been made in this line of work since that time, due in great measure to the work of Cristiani. The graft ought to be transferred while it is warm, only a few seconds elapsing between the time of the detachment of the fragment and its insertion under the skin of the patient. Several fragments are grafted at a time. The operative sequelæ are simple and without any complication. The only difficulty in this operation is to find the proper tissue for the graft. It is necessary to find either a young person who has a goitre to be excised, and in whom there is also normal thyroid tissue, and this cannot be found in all goitrous subjects; or one must profit by an operation which is made in the neighboring region of the thyroid which will allow the opportunity of obtaining a flap of the tissue desired. However this may be accomplished, the immediate result has been excellent in a child three years of age, who was almost an idiot. She did not speak, but uttered only inarticulate cries; she could not stand, and she made constant rotary movements with her head and hands. She was not myxedematous. Thyroid tablets had been administered to her in vain. A graft of four small thyroid fragments was made. The effect was very rapid, for a month later the child was walking with confidence, and showed other signs of intelligence. In order to judge of the true value of the results, it will be necessary to wait for a suitable time to elapse. This child was operated on in May, 1904.—*Le Bulletin Médical,* March 22, 1905.

Treatment of Severe Whooping-Cough by Antidiphtheritic Serum.—Passalacqua has had in his practice a certain number of severe cases of whooping-cough, in some of which there were broncho-pulmonary complications. He tried injections of antidiphtheritic serum in seven of these cases, and they all recovered. The action of the serum can generally be noted after the first injection; but in general, three injections are necessary before permanent effects are secured. Improvement is shown by a decrease in the number of, and in the intensity of, the paroxysms. The improvement under this treatment is slower in the case of whooping-cough than it is in diphtheria. In one of these small patients it was not observed until the sixth day. *Revue Française de Médecine et de Chirurgie, March* 13, 1905.

The Cardiac Area in Cured Tuberculous Patients.—Guilleminot declares that while in tuberculous patients in the beginning of the disease the heart is smaller than normal, as has been established by the measurements of Bouchard and Balthazard; on the contrary, in tuberculous patients who have recovered from their lesions, the heart appears to be under normal size. These facts give great importance to the subject of cardiac mensuration in the beginning of tuberculosis, or in the stage just preceding. Not only does this factor become an element in the diagnosis in the sense that a small heart is one of the signs of the evolution of beginning tubercuolsis; but also a favorable prognosis might be made when the heart is found over the normal in size in incipient tuberculosis. These observations complete the work of Sciallero, who has shown that in tuberculosis, recent and malignant, the heart is diminished in volume, while in patients with old benign lesions, the heart is apparently normal.—*La Tribune Médicale,* April 1, 1905.

Nervous Fever and Feigned Fever in Medico-Surgical Affections.—Georges Dircksen concludes that: Hysterical fever may perhaps exist, but in the majority of cases the fever is feigned by means of various artifices. The only way of making a diagnosis consists in reading the thermometer after being assured that the vagina and rectum do not contain irritating substances, and that they are not the seat of local inflammation. Often, simultaneously with the fever, these malingerers simulate also dyspnea, syncope, hemoptysis, and vomiting—symptoms accompanying diverse organic affections. These are so well assumed that their combination constitutes a syndrome resembling a true illness. This syndrome is almost the same in all malingerers. There also exists in these malingerers a particular psychical state, which is morbid. The will is so affected that they easily submit to a surgical operation or to energetic medical treatment in order that they may remain in the hospital. The malingerers are hysterical, partly abulic, and the pseudo-fever which is noted in them is truly a simulated hysterical fever. Hysterical phenomena are characterized by the fact that they may be made to appear and disappear by suggestion; hysterical fever, then, ought to be provoked by this proceeding; but all of the writer's attempts of this kind, even when repeated, in hysterical subjects, have completely failed.—*Revue Française de Médecine et de Chirurgie,* March 13, 1905.

Studies of the Hypophysis of Castrated Animals.—Fichera has experimented on animals by castrating them, allowing them to live, and later killing them and examining the hypophysis cerebi. In all cases he has found it hypertion of the suprarenal capsule, with the marked hypertrophy occurred, and of what nature was the connection between the pituitary gland and the sexual apparatus. Taking into consideration the hypertrophy with hyperplasia of the hypophysis occurring in thyroidectomy, or when there is a lesion of the thyroid, and that which occurs by extirpation of the suprarenal capsule, with the marked hypertrophy and hyperlasia occasioned by extirpation of the testicle, there becomes evident a marked relation between the functional activity of the various glands of internal secretion.—*La Riforma Medica,* April 1, 1905.

Formalin as a Preservative for Sediments in Urine, Pleuritic Fluid; etc.—Sereni calls our attention to the disadvantages of formalin as a preservative for urine and other fluids, in that, while it preserves the sediments intact, it prevents entirely or retards the reactions that are necessary to carry on some of the other tests used in the examination of these fluids. It also forms a new compound, which, by its predominance in the liquid over the other constituents of the sediment, does not permit them to be seen, and by its own physical characteristics seems to be composed of globules of free fat in the urine. From this it is distinguished only by chemical reaction. It is necessary always to have in mind this source of error in the interpretation of the microscopical findings when this method is made use of.—*La Riforma Medica,* April 1, 1905.

Histological Alterations of the Intestine and Its Permeability to Bacteria in Strangulated Hernia.—G. Del Conte gives us the results of his experiments on dogs, as well as of the careful histological examination of the intestines in ten subjects operated on for hernia. In nine of these cases there was no penetration of bacteria through the intestine by bacteria, as was shown by culture experiments. In one case there was found bacterium coli; but in this case it was demonstrated that there was a fecal fistula resulting from ulceration. His conclusions are as follows: 1. In strangulated hernia the changes in the intestinal coverings does not go on in a systematic way, but since they are caused by hyperemia, they are tumultuous, and may involve at once all the layers of the walls. 2. In general, the longitudinal layer of muscular fibers and the arterial walls are the most resistant. 3. It is not necessary that there should be serious lesions of the mucosa to permit the passage of bacteria through this layer of the intestine; in the muscular layer they find a filter which, as long as it is intact, arrests their progress out of the intestine. 4. The strangulated portion always contains bacteria; the hernial liquid always remains sterile until alterations take place in the muscles which permit of the passage of bacteria.—*Giornale Internazionale delle Scienze Mediche,* March 31, 1905.

Book Reviews.

Meals Medicinal: with "Herbal Simples" (of Edible Parts), Curative Foods from the Cook, in place of Drugs from the Chemist. By W. T. Fernie, M.D., Author of "Herbal Simples," "Animal Simples," "Kitchen Physic," etc. Bristol: John Wright & Co.; London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1905.

This delightful book is appropriately dedicated to "Our 'Little Marys' (playfully named) with the Homage of a Lifetime Spent in Their Service," but it is good (and not too solid) food for our minds as well, and conveys much information, pleasantly told, other than gastronomic or dietetic, respecting the manifold articles, both wet and dry, employed in the sustenance of man. The author has made a lifelong study of foods and treats of them most entertainingly as well as instructively, dealing indeed less with calories and force units than with the historical and literary side of his subject.

The leading motive of the work, the author explains, is to instruct the reader "how to choose meats and drinks which can afford precisely the same remedial elements for effecting cures as medicinal drugs have hitherto been relied upon to bring about. . . . So that a culinary 'Materia Medica' will stand thus competently and agreeably provided, on which dependence can be placed, even with greater trust than on prescribed drugs." We are not prepared, even after reading a large part of the book, to accept the author's conclusion as to the superior medicinal effect of foods over drugs in all cases, but he does show most convincingly that by a proper selection of food we may often dispense with more violent, if not more potent, drugs in the treatment of many chronic ailments. This, of course, is no new truth, but it is one too little appreciated, and it is brought home to us in this quaint work more forcibly, in a way, than in the more formal treatises on dietetics.

The subjects are arranged alphabetically, and under each head the author treats of the source, the mode of preparation, the nutritive and the medicinal value, all told in narrative style with many historical and literary references, which give to the work a charm foreign to formal medical treatises. There is also a therapeutic index of "diseases and minor ailments, with dishes and drinks (of medicinal parts), proper and sufficient for the curative treatment of each malady." The reader who will delve into this book in his moments of relaxation will derive much pleasure while gaining not a little information of a useful sort.

A Book about Doctors. By John Cordy Jeaffreson, Author of "The Real Lord Byron," "The Real Shelley," "A Book about Lawyers," etc. New York, Akron, O., Chicago: The Saalfield Publishing Company, 1904.

This is a most entertaining volume of essays, anecdotes, and sketches relating to medical men of note, for the most part English physicians of the seventeenth and eighteenth centuries, to some off-color practitioners and arrant quacks, and to various phases of medical practice. Incidentally the work contains a large amount of material for a systematic history of medicine in Great Britain. Addressing not only a strictly medical, but also a general audience, the author has discreetly omitted from the selection all material, some of it well worthy of preservation in the proper place, which could possibly bring a blush to the cheek of the innocent reader, but what he has seen fit to include is very good and will afford many hours of enjoyment to the tired professional man in need of quiet recreation.

A well known, and not yet superannuated, medical essayist has said that everyone should devote a half-hour before bedtime to the reading of some good book, and the one who would follow this sage advice may well put this book on his shelf of nocturnal literature. The chapters are short and the matter they contain is entertaining, but not of a sort to arouse sleep-chasing thought. Much of the material is familiar but some of it is new, being drawn from manuscript sources never before published. The volume is the fourth of "The Doctor's Recreation Series," the first three of which have already been noticed in these columns, and by its literary style and the interest of its contents well sustains the high character of the series.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M. D., Adjunct Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York; Pathologist to St. Luke's Hospital, New York. With one hundred and eighty-eight Illustrations in the Text and nine Colored Plates. New York and London: D. Appleton & Company, 1905.

After having passed through the preliminary stage of over exploitation, natural to the early days of every newly developed branch of knowledge, the science of clinical pathology has gravitated to its normal level in the estimation of medical workers. The man behind the microscope no longer even secretly considers the test-tube and the cover slip as the only infallible means of diagnosis, nor does the clinician regard with suspicion information beyond the reach of his own five senses at the bedside. This decrease in over-confidence on the one hand, and of scepticism on the other, has led to the adoption of more rational views as to the function of laboratory methods, and the present volume is devoted to their presentation in a form practically available for every day use by the practitioner as well as by the special worker.

The general impression created by the volume is most pleasing; the mechanical make-up is attractive, the illustrations are numerous and instructive, and the systematic plan of arrangement, together with a very full index, enhances the value of the book as a work of reference, while closer inspection serves only to confirm the favorable opinion produced. The very large amount of material that is now comprised in this department of medicine, together with its allied branches, is covered with the utmost thoroughness, and, though the book is a large one, the style is characterized by inciseness and absence of verbiage. Many tests, methods, and instruments of foreign origin are given, which have as yet received but little attention in this country. Such, for example, are the Sahli hemoglobinometer, Strzyzowski's modification of the Teichmann test, Donogany's spectroscopic test for blood, a convenient method for identifying lead in the urine by electrolysis, a discussion of the recent work on the significance of occult gastric hemorrhages, with the methods for their detection, etc. Perhaps the most conspicuous feature in the volume is the excellence of the plates representing the various blood pictures, which are marvels of execution and reproduction. These are colored in terms of the modern eosin-methylene blue combinations, and it is to be hoped that their appearance will give the quietus to the impossible tri-acid anachronisms still on parade in most books on hematology. Of especial interest, even to the experienced worker, is the series of depictions of ninety different normal and abnormal red and white cells, and the plate showing the phases of the malarial organism. The mosquito cycle of the plasmodium is also figured with unusual fullness, and the sections on filariasis, trypanosomiasis, etc., embody the most recent discoveries in this field. The sections on the serum diagnosis of typhoid and other diseases, as well as those on the precipitin reactions, also contain much that is new. In the section on the urine many recent practical methods are given and a very complete list of reactions for identifying drugs excreted by the kidneys is included. Chapters containing much practical information are those on testing the functional efficiency of the kidneys, on animal inoculation for diagnostic purposes, and on the examination of milk.

It would be easy to continue to select many more points for special commendation, for the book is teeming with originality, but enough has been said to indicate that it is a most practically useful work. No practitioner of medicine, whatever may be his special work, can afford to be without some book of this sort, and the present volume may frankly be recommended as satisfactory.

The Intestinal Catarrhs. Being a Clinical Study of Colitis, Appendicitis, and their Allies; with a Special New Section on Sprue. By Edward Blake, M.D., Member of the Royal College of Surgeons; Life Assoc. Sanitary Institute, Great Britain; Member French Hygienic Society; Hon. Memb. Michigan Medical Society; Found. Fell. Brit. Gyn. Soc.; West End Medical Referee for Union Assurance Company; Editor of the "Student's Handbook of Comparative Pathology," by Prof. Woods Hutchinson. Author of: "Interchangeable Character of Dermatoses, Neuroses and Arthropathies"; "Dandruff as a Cause of Facial Acne Pustulosa"; "Chemistry of Animal Heat"; "Indications of Disease in the Hand"; "Paludic Pathology"; "Eczema: its Pathology, Bacteriology, and Treatment"; "Lepra Bacillus"; "Arterial Tension." Second Edition. Chicago: W. T. Keener & Co.; London: H. J. Glaisher, 1905.

Although the author calls this volume a second edition, he explains himself in the preface and states that it is neither a reissue nor a fresh impression of his work on Colitis, published a decennium ago. He goes on to say that "it is a genuine new edition, more than double its former size. Every part has been carefully overhauled and corrected to date. Much has been rewritten. The sections on Sprue and on Treatment are now produced for the first time." The volume fairly bristles with new theories and theories which in many instances will not be accepted by the majority of its readers. He claims that colitis is essentially an affection of the skin, *i.e.* the skin is the starting point of the disease. "Of the noninfective forms, throughout their course; and even of some of the latent infective forms, in the earlier stages, this is probably true, without any limitation." The infection he considers secondary. Again, "it is in part because colitis is a descending disease, that the right kidney is the first to be displaced. It is the first to be reached and is therefore the first to suffer." All in all the work makes interesting reading, but one must take many of the author's opinions with considerable reserve.

Society Reports.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Semi-Annual Meeting, Held at Kansas City, Mo., March 23 and 24, 1905.

(Special Report to the MEDICAL RECORD.)

Surgical vs. X-Ray Treatment of Rodent Ulcers and Epitheliomata of the Face.—Dr. C. O. THEINHAUS of Milwaukee said that rodent ulcers were nothing but epitheliomata, and that they did not originate from the endothelium. He had been prompted to write this paper by reason of the observation of two cases, treated by the *x*-ray for six months each, without any curative effect. In fact, both showed increase in size. The first patient had suffered eighteen months with an ulcerated growth in the middle of the left cheek. Various caustics had been applied for several months without avail. The *x*-ray had then been used for six months without avail. He presented a cauliflower growth the size of an apple and bleeding on touch. The microscope showed it to be an epithelioma. The parotoid gland region was swollen and apparently involved. The speaker decided first to remove the growth in the cheek and then to examine with the microscope the tissues in the region of the parotoid to prove the presence or absence of malignancy there. The line of incision near the parotoid had shown no malignant tissue. The second patient had suffered for two and a half years from a rodent ulcer near the left nasal bone. Under the use of the *x*-ray the ulcer had increased. He excised the ulcer, treated the wound with the *x*-ray twelve times and then covered the defect by a flap from the forehead. The results had been favorable. Virchow has said that carcinoma was not a neoplasm of permanence. Its cells were decidedly frail and liable to be destroyed by retrogressive metamorphosis. If we had means to produce this metamorphosis at once, and if we could hinder the growth of accessory nodules, the definite healing of the carcinoma would be assured. The *x*-ray had a decided elective influence on the epithelial cells in carcinoma; it checked the division of nuclei and produced degenerative processes with destruction of the cells, but it did not produce retrogressive metamorphosis, nor did it hinder the new growth of accessory nodules. Neither was it possible to measure the degree of quality or of quantity of the rays necessary. The therapeutic employment of the ray had been a dismal failure, possibly by reason of the limit of penetration. Many cases passed into the inoperable period while the *x*-ray was being used. The surgical treatment of rodent ulcer and epitheliomata must be considered the best. After operation, however, the *x*-ray was of great value.

Transverse Ribbon-Shaped Corneal Opacity.—Dr. J. W. SHERER of Kansas City, Mo., read this paper, reporting a case in a man of 72 years, with a negative family history. He had had typhoid fever twenty years ago, with complete recovery. He had been rheumatic indefinitely. Vision had been keen until two years ago, when sight began to grow dim and the eyes felt scratchy. The eyes had never been painful. He walked slowly, with the lids wide open. There had been neither ataxia nor paresis found in the general or ocular musculature. Tension was normal, and the eyes reacted normally to light and consensual tests. The pupils dilated equally under cocaine. The media were clear except the corneæ. Each cornea presented a horizontal, grayish, granular opacity which extended entirely across the cornea and was separated from the limbus on either side by a narrow interval. The band of opacity was 3 mm. wide on the temporal side, 4 mm. wide on the nasal side, and 5 mm. wide over the pupil. Bilateral iridectomy was recommended and declined. The causative factor had probably been the low grade of chronic rheumatism present. Kalt had reported a case in a man who had suffered for years from rheumatism and renal calculi. Treatment should be directed to the diathesis, if one was present. Schiess had reported a case in which recovery had taken place upon a diet of raisins and cider. Kalt had reported a case in which he had removed a superficial opacity, involving the epithelial layer only, with the knife. Transparent epithelium would be developed safely in a few days. Cases of this nature were rare, only 27 having been collected by Manzutto.

Some Points on Suprapubic Cystotomy.—Dr. E. N. WRIGHT of Olney, I. T., read this paper, reporting a case. While attending post-graduate work in New York some years ago, he had seen a surgeon abandon a case of this character for the reason that, upon incision, he had come in contact with the peritoneum, and had felt that the risk to the patient's life was too great to warrant a continuance. In his own case a boy of 6 years had been brought to his office, presenting obscure symptoms. He decided to examine for stone in the bladder and got the ring of stone. He had also been able to feel the stone with his finger in the rectum. Operation had been decided upon at the patient's home, ten miles in the country. It was a cold day and the log house had no window. The gable end was knocked out for light. He found it impossible to use the smallest catheter, but proceeded with the operation. With much blunt dissection, he reached the bladder. An assistant introduced two fingers into the rectum and pushed the stone forward to the pubes. When the bladder incision was made, the stone protruded in part and was easily removed. He felt that he had saved the time needed for inflation of the bladder, and that the holding of the stone forward to the pubes permitted a small incision into the bladder.

Injuries to the Spinal Column.—Dr. CARL E. BLACK of Jacksonville, Ill., read this paper. He said that the rational treatment of spinal injuries presented a very fertile field for surgeons. All the older surgeons and many modern ones urged a "let-alone policy" in these cases. Of late the attitude of many prominent surgeons had changed, but the majority of physicians continued to follow the text-books and the surgeon was not called until much precious time had elapsed, and with it the most favorable time for operation. The literature of the subject was very small in comparison with its importance, and surgery of the spinal column was still in its infancy. The neurologist must take the lead in seeking for positive signs and symptoms by which the extent of cord injury could be determined. He now felt that it was entirely justifiable to operate to learn whether the cord was crushed or only compressed. He had reviewed the literature of 552 cases; of these 261 were operated upon, and 289 were not. Of those operated upon, 49 per cent. recovered; 40 per cent. died. This 49 per cent. of recoveries referred to both life and function. Of the 289 cases not operated upon, only 25 per cent. recovered both life and function; 65 per cent. of these died; 93 of the 552 were cases of dislocation. Reduction was effected either by direct manipulation or by incision; 76 per cent. of these recovered, and yet 72 of the 93 cases suffered a dislocation in the cervical region; 310 of these cases were fracture cases. The 4th, 5th and 6th cervical vertebræ were injured 59 times; 80 out of the 154 dorsal fractures occurred in the 10th, 11th and 12th dorsal vertebræ. Of the 310 fracture cases, 170 were operated upon; 140 were not. Of the former, 44 per cent. recovered and regained their function; 42 per cent. died. Of the 140 unoperated upon, only 27 per cent. recovered and 60 per cent. died. Gunshot injuries of the spine showed still more remarkable results. Of 104 cases, 47 were operated upon, with 42 per cent. recovering, and 57 per cent. dying. Of the 57 cases not operated upon, only 9 per cent. recovered and 80 per cent. died. His own experience and this study had taught that the mortality ought to be greatly reduced, and that there was absolute necessity for early, if not immediate, operative intervention.

Retrodisplacements of the Uterus; a New Method of Suspension.—Dr. O. B. CAMPBELL of St. Joseph, Mo., read this paper. He said that, with the advent of the Alexander-Adams operation in 1884, the contention was between this operation and the use of pessaries. The universal application of one or the other of these methods had been urged. The adoption of the pessary as a means of treatment for this condition had passed into almost total disuse. The Alexander operation was also passing, its field being so limited. The permanency of the results of all methods of shortening the round ligaments had been disappointing. Recurrences had been especially numerous among those in whom pregnancy and parturition had subsequently occurred. A study of the method of support afforded by the various uterine ligaments showed that the broad ligaments were the essential suspensory support while all the others tended to maintain the organ in its anteposed position. When the correction of this displacement was attempted by shortening the round ligaments, it was really an effort to transfer to the round ligaments the function of suspension. The recurrences had shown that the round ligaments were incapable of this new function, especially in those cases in which infection and inflammation entered as factors. The consensus of opinion was that the Kelly method of ventrosuspension should not be used. An ideal method of correcting retrodisplacements should conform to the design of Nature and contribute to the suspensive power of the broad ligaments. In the Campbell operation a mesial three-inch abdominal incision was made, exposing the peritoneum. By means of finger dissection, the peritoneum was separated from the overlying deep abdominal fascia back to the internal inguinal ring. Beginning within three centimeters of the mesial line, the peritoneum was incised laterally to the internal inguinal ring. Any needed work might be done upon the adnexa of this side. Mattress catgut sutures were now placed beneath the round ligaments, through both layers of the peritoneum, and through the parietal peritoneum of the opposite side of the lateral incision. Three of these sutures would be required to close the opening in the parietal peritoneum through which the round ligaments had been drawn, thus making it extraperitoneal, except about one inch of its uterine end. The round ligament should now be attached to the overlying deep abdominal fascia by three catgut sutures. The opposite round ligament should be treated in the same way. Thus the uterus became directly suspended by the stronger ends of the round ligaments and also by the anterior lamina of the broad ligaments. This method furnished the most substantial support obtainable in anchoring the uterus, and was applicable in prolapsus as well as in retrodisplacements.

Symposium on Puerperal Fever.—Dr. Robert T. Sloan of Kansas City, Mo., said that now instances of direct infection by physician or nurse were very few, while those of autoinfection had not diminished. A latent gonorrheal infection might become active at the time of labor and extend to the endometrium. An old pus tube, an ovarian abscess, or a pelvic abscess might rupture and initiate a peritoneal inflammation. A benign bacteriemia might give rise to a vigorous sepsis in the susceptible uterus. Pure saprophytes set up putrefactive changes and produce sapremia, and this might be followed by a true toxemia. The common colon bacillus might produce a toxemia. The most common form of puerperal fever would arise in those cases in which there were pronounced pelvic lesions. The bacteria might enter the circulation, producing a true septicemia. This would be a bacteriemia, plus toxemia, with great destruction of the blood. When thrombi in the sinuses became infected and passed into the blood stream, we had a septicopyemia. This would be shown clinically by metastatic abscesses. In making a diagnosis of puerperal fever, typhoid and malarial fevers, influenza, pneumonia, etc., must not be ignored as complications. The characteristics of sapremia would be chills, high fever, nausea and vomiting, and stinking lochia, full of necrotic placental remains and coagula, without pus, but having gas bubbles in the discharge. The uterus would be large and flabby, not very tender. There might also be an infectious endometritis, with a tender uterus and lochia always containing pus. Parametritis and local peritonitis would be ushered in by chills, fever, pain and tenderness, and, later, symptoms of the formation of pus. General peritonitis would present greater abdominal tenderness, rigid abdominal muscles, with the patient in the dorsal position, with thighs flexed. The pulse would be very rapid, the meteorism extreme, the pain intense until all these symptoms would pass away and the patient show that deadly tranquillity, more ominous than the most extreme agony. Septicemia and septicopyemia were differentiated only by the metastatic abscesses found in the latter. In these fevers, if there should be the symptoms of a grave toxemia, with a pulse rate out of harmony with the temperature, if there was pus in the lochia, the diagnosis of true septicopyemia would be a reasonable one.

Dr. R. C. Moore of Omaha, discussing the treatment, said that the prophylaxis of puerperal fever was modern obstetrics, purely and simply. This was the application of surgical asepsis by all means in our power. While this might be easily secured in hospitals, it was next to impossible in private practice among the very poor and ignorant. Among this class he was often compelled to use in emergencies a pad composed of newspapers, the best obtainable dressing. Intravenous injections of bichloride and of formalin had been used, but had not been adopted by the profession. Decinormal salt solution had been used in the same way with good results, respecially if large quantities were used and the emunctories were functionating well. The serum treatment has been highly commended, and as emphatically condemned. The only serum of use in this condition was the antistreptococcic, and this only when the disease was a purely streptococcic invasion. Hysterectomy had been suggested, tried and very wisely abandoned. As to curettage, he felt that the starting point of the infection was in the genital organs; that removal of the cause was the first indication for treatment. When the point of invasion was within the uterus, a thorough curettage should be done and the uterus swabbed out with pure carbolic acid. Drainage by iodoform gauze was advisable. Later, douches of decinormal salt solution were valuable. The internal treatment of puerperal fever could be summed up in two words: eliminate and support. Calomel, followed by sulphate of magnesia, secured elimination. Eight-drop doses of the tincture of veratrum viride every four hours would reduce arterial tension and increase the action of both skin and kidneys. Quinine, two doses of 20 grains each an hour apart, morning and evening, was very useful. Whiskey in small and oft-repeated doses with an easily digested nourishment completed the supporting treatment.

Chorioepithelioma Malignum.—Dr. A. P. Condon of Omaha, Neb., presented this paper, reporting a case of an Indian woman referred to him in early October, 1904. She was 38 years of age, had a good family history, and had had good health until two years ago. Menstruation had always been normal. She had been married twice, and had borne seven children the youngest being four years of age. She had had one abortion in early married life, and another, at the fifth month, two years ago. The placenta had been retained and had been removed promptly, under anesthesia, by finger curettage. She had been in bed ten days, and had flowed off and on ever since. Six months ago she had begun to have pain in the lower abdomen and to lose flesh, dropping from 198 to 125 pounds. She had some nausea and vomiting. Examination showed a hard, irregular, roundish mass extending from the pelvis half way to the umbilicus. The inguinal glands were not enlarged. There was much emaciation and some fever, temperature between 100° and 101°. She coughed continually, expectorating a bloody mucus. Bronchitis was present, but no tubercle bacilli. The urine contained albumin, blood, and casts. The vaginal walls were covered with large, irregular masses from the vulva almost to the cervix. These growths were soft and boggy, and there was a small ulcerated area in the posterior wall of the vagina. All these conditions warranted the diagnosis of chorioepithelioma malignum. Operative procedure was out of the question. The vagina

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er, as was the ureter. The urine

loaded with pus, though no catheter had been used. diagnosis of a septic cystopyelitis was made and the litions relieved upon proper treatment. He had also with a host of renal cases with all the subjective symp- is referred to the bladder. He recalled three cases in ich he had operated for renal tuberculosis, and yet all e symptoms and treatment of years had been directed the bladder. A faulty interpretation was always easy, nd the relations of the gall-bladder and biliary passages o the right kidney, of the ureter to the appendix, as well as to the appendages and bladder, must never be ignored. The centrifuge and microscope were always at command and should be used.

Anesthetics.—Dr. Cora Greene-Wilson of Kansas City, Mo., said that her address was a plea for the anesthetic specialist. She was much gratified to know that the trained anesthetist was more generally employed. It was formerly thought that any physician could give an anesthetic, and the administration of the anesthetic was entrusted as a sort of placebo to the doctor who brought an operative case to the surgeon. Surgeons were beginning to realize that the anesthetist was more responsible during the operation than was the surgeon. The desired skill in anesthesia could only be acquired by constant practice, and even then best by those specially endowed. She pleaded for complete equality, ethical and professional, between the surgeon and the anesthetist. When the patient was thus informed of the dignity and importance of the anesthetist, he would not object to paying a proper fee. Dr. Alice Magaw, who had administered anesthetics 12,000 times for the Mayo brothers, without a death, had properly said that the administrator of any anesthetic was responsible for the results of the narcosis. As to the anesthetic to be employed, she said that the use of ether was steadily gaining ground, while chloroform was losing. She agreed with Dr. Mellish, who recently wrote that the immediate safety during the administration was so overwhelmingly in favor of ether that those who held to the contrary could not be fully acquainted with the fact, and there were few contraindications to the use of ether. She also agreed with Jacoby of New Orleans that chloroform was more dangerous than ether; that ether was a cardiac stimulant, and that Willy Meyer's experiments had proved that there was more danger from kidney complications in the use of chloroform than in that of ether. She said that Israel of Berlin, an authority on surgery of the kidney, used ether entirely, and that the Mayo brothers used ether almost exclusively. Poncet had administered ether 29,000 times without a death. The chief objections to the use of ether had been the unpleasantness of the old cone method, the postoperative vomiting, and the supposed irritating effect upon the lungs and kidneys. She agreed with Jacquet that chloroform and ether were identical in their method of producing anesthesia, but differed in the secondary results produced. The former depressed the heart and respiration, and lowered blood pressure. Ether did not do this until a toxic dose was reached. Prolonged anesthesia was better borne under ether. Chloroform was very treacherous and killed very quickly, without warning. An overdose was much more easily given than one of ether.

The Treatment of Inguinal Hernia.—Dr. Prince E. Sawyer of Sioux City, Iowa, said that, since nearly 10 per cent. of all people suffered from hernia, and since 85 per cent. of all hernias were inguinal, the subject should elicit keen interest and sharp discussion. The first truss was applied by Campier in 1785. At present, trusses had fallen into disfavor. Radical operations for hernia had been done as long ago as the time of Celsus, but the operations fell into disfavor, by reason of the high mortality, and did not come again into favor until early in the nineteenth century. In 1871 the cure of hernia through an open wou[illegible]as taken up, and had shown marked success. M[illegible] these operations had one end in view—the [illegible] the sac and the repair of the break in [illegible] The transplantation of the cord one patient, the bullet which gave rise to sensory and motor troubles of the right arm, was located under the subclavicular artery, in the midst of the brachial plexus. In the second patient, the projectile was in the chest, under the left pectoralis major muscle, at the level of the fourth rib. It had given rise to thoracobrachial neuralgia. The third patient had been shot in the left submammary region. The projectile had lodged against the peritoneal surface of the diaphgram.

Picque presented a very interesting observation of a woman of forty-nine years, who for fifteen years had had pain in the lower abdomen. Vaginal touch detected a hard mass in the right vaginal cul-de-sac, and this mass, which was a little irregular, presented at times a sort of calcareous crepitation. The right kidney was increased in size, reaching below the floating ribs, and was painful when examined. Picque diagnosed a calculus of the lower extremity of the ureter with crises of intermittent hydronephrosis. Operation was performed. By an incision parallel to the femoral arch, the peritoneum was stripped off and the ureter was laid bare at the point where it crosses the uterine artery. The calculi were then felt in the interior of the ureter. It was incised longitudinally, and three calculi lying end to end were extracted. They made a mass about 6 cm. long. The ureter was greatly dilated. It was sutured with silk in one plane. Eight days after, the ureteral suture was perfectly firm, and eight days later the patient was entirely well.

Fournier called the attention of the Académie to the pathogenic relations which exist between general paralysis and syphilis. The period by far the most frequent for the manifestation of general paralysis in the course of syphilis is comprised between the tenth and twelfth years. The causes which in syphilitics serve as predisposing agents in the development of general paralysis are, first of all, the insufficiency of antisyphilitic treatment, nervous overstrain, alcoholism, venereal excess and nervous heredity. General paralysis is apt to follow the form of syphilis which is at first benign. It far more rarely follows early malignant syphilis. From observation and statistics, the only guarantee of the patient against the future risks of general paralysis consists in the antisyphilitic treatment, methodically kept up for a long time. This treatment may well have its defects; it is not absolutely positive, but it is the best measure at hand. The treatment ought to be by mercury, and, in general terms, its duration ought to be for two, three, and even four years. It is this long duration of treatment which seems for the syphilitic his best safeguard against cerebral accidents, especially general paralysis.

Pinard presented some considerations concerning the relations of procreation to syphilis. He thinks that specific treatment for six months before generation will enable the father to beget a healthy child. He emphasizes the importance of the syphilitic following the same line of treatment before every act of procreation.

Joffroy and Lancereaux do not believe that general paralysis is a manifestation of syphilis, first, because the anatomical lesion has neither the characteristics nor the evolution of syphilitic changes, and because of the recognized inefficiency of anti-syphilitic treatment in general paralysis. Cornil has concluded by saying that from the anatomical and pathological points of view, cerebral syphilis and general paralysis remain two very distinct maladies. Clinically, however, syphilis is one of the best-known causes of general paralysis, which does not exclude others, such as alcoholism, nervous overstrain, and heredity.

At the Société de l'Internat, Vaquez spoke of the present condition of the subject of anemia. The prognosis of anemia does not depend only upon the cause which produces it, but much more on the condition of the spinal cord to which the modification of the blood bears witness. In the case of plastic anemia, that is to say, with medullary reaction, repeated examinations of the blood alone can teach us the value of the reaction. The appearance of exceptional elements in the blood always indicates a grave prognosis, especially if the number of red corupscles is proportionately low. In the aplastic form, that in which no medullary reaction can be determined, the prognosis has always been fatal. It is in this form that the absence of retractility of the clot is determined, as noted by Hayem. The treatment comprises two principle considerations: To search for the cause of the anemia (unrecognized hemorrhage, intestinal parasites, etc.), and to aid the organism to preserve the blood corpuscles it already has and to make new ones. Arsenic and iron preparations also play a rôle in the treatment. In order to stimulate the hematopoietic functions of the organism, it is necessary to follow other therapeutic methods. Opotherapy, the specific serums, are indicated here. Radiotherapy practised on the epiphyses has given the author excellent results in a case of very grave anemia.

Delaunay operates for anthrax by making a series of incisions. The chief incision runs longitudinally through the length of the infected tissue, and even into the healthy tissue. Perpendicular to this are a number of other incisions. In this way a number of cutaneous flaps are formed that may be curetted thoroughly. Cauterization follows, and the skin cicatrizes marvelously.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

TREATMENT OF FACIAL ATROPHY—EFFECTS OF RADIUM ON NORMAL SKIN—A COALTAR PRODUCT ERUPTION—MODERN CONCEPTIONS OF TUBERCULOSIS—ADRENALIN AND ARTERIOSCLEROSIS.

VIENNA, March 31, 1905

DR. R. STEGMANN of the Rudolph Hospital has demonstrated a case of bilateral facial atrophy, treated by Gersuny, by means of vaselin injections. As four weeks have elapsed since the last injection was made it may be assumed that the present result will be permanent. Photographs of the twenty-four-year-old patient, taken before the operation, represent an uncomely woman, apparently thirty to forty years of age. In discussing the technique, Stegmann called attention to the fact that only vaselin and a mixture of one part of vaselin to four parts of oil were used, the former in regions in which the resulting hard tumor was not undesirable, as in the canine fosse, and the oil mixture in the rest of the face. After absorption of the oil the vaselin remains disseminated through the tissues and gives rise to a new tissue in consistency very like the ordinary subcutaneous fat. He advises against the employment of the hard paraffins, which are difficult to inject, and owing to the high temperature required involve danger of burning. In order to be sure that the injection needle has not entered a blood vessel it is not sufficient merely to wait for the appearance of blood, but suction should be made with the syringe, and only if this is negative can the injection safely be proceeded with. The disease appears not to be as rare as supposed, for within six months five patients have presented themselves for the treatment, which gives such excellent results.

In the course of his observations on radium, already extended over a period of more than a year, Professor Schiff found it desirable to determine the activity of the substance on normal skin. This was all the more necessary, as so far we have no method by which to graduate the dosage except the length of application. For this reason Schiff was anxious to have the substance act as long as possible, and as he did not wish to subject any one else to an injury the degree of which it was impossible to foretell, he applied a capsule containing 55 mg. of radium, of an activity of 200,000, to his own arm. Not until the fifth day did the skin under the capsule begin to show a slight redness, which gradually deepened and finally became cyanotic in color. After some days a thick, hard rusty brown infiltration appeared, resembling the eschar after a burn of the third degree. The circular edge was raised and resembled that of a chancre, while the surrounding tissues were infiltrated and swollen for a distance of about four centimeters. Great pain was present, so that the motility of the hand and forearm was much impeded. This state of affairs persisted for about six days, after which the inflammatory reaction gradually subsided, and five weeks later the skin had returned to a normal condition, except for a slightly adherent scab.

Dr. Loebl presented before the Society of Internal Medicine a thirty-year-old patient with a coaltar product eruption. According to his statements, the patient in the course of the last year had suffered from four sudden attacks of ulceration of the buccal mucous membrane. The affection was characterized by brown discoloration of the lips and tongue, followed by swelling, difficulty in speaking, and the formation of vesicles filled with clear serum. When he came under observation both surfaces of the tongue were covered with confluent ulcers, there was high fever, and the diagnosis of ulcerative stomatitis was made. The etiology at first seemed obscure, as syphilis, tuberculosis, and diabetes could be excluded. The patient stated that soon after the appearance of the symptoms in the mouth a cyanotic, itching edema developed in the forearms and disappeared after a few hours. On examination several shining red wheals were found on the arms, showing that the affection was not limited solely to the mouth. A closer inquiry into the history revealed the fact that about two hours before each attack the patient had taken a dose of one of the coaltar anal?????. The condition was, therefore, a simple drug eruption, or, rather, enanthem, though the abundant literature on this subject records but two cases of such severe involvement of the mouth. The treatment consists in gargling with peroxide of hydrogen.

On the first of March, the Austrian Society for Hygiene held a session for the purpose of discussing regulations for restricting the spread of tuberculosis. Prof. Ferd. Hueppe of Prague delivered an address on the dangers of infection attending the institutional treatment of the disease, and the measures to be taken to meet this peril. Since the public has become educated to the idea of infection, the presence of the large numbers of tuberculous patients to be found in many summer resorts and watering places has given rise to much popular apprehension; but the people at large, and also many physicians, make the mistake of considering infection and disease as being synonymous, and in the effort to exterminate every bacillus we fall into the error of trying to accomplish too much. Koch's view, that the bacillus with its vital capacities dominates the clinical picture, is no longer tenable. Disease is a process, a variable and not a constant quantity. In order to produce the disease a bacillus must gain entry to the body, but whether it remains there and multiplies or is expelled depends not on the bacillus, but on the body. Our powers of resistance are constantly changing, so that disease is the product of several variable factors depending on (1) the specific organism with its inconstant properties; (2) the susceptibility or resistance of the body; and (3) the circumstances attending the transmission. To-day our conception of tuberculosis is much more far-reaching than formerly. Infection may emanate not only from tubercles, but also from tuberculous infiltration. Laboratory experiments are exceedingly valuable, but their results cannot indiscriminately be applied to the human subject. In the case of the guinea pig, a single tubercle bacillus is sufficient to bring about prompt death of the animal, but for man the conditions are much more complex. Even Galen knew that frequent prolonged contact with sick persons was necessary to reproduce the disease in the healthy, and it is still unknown how many germs are required. If an individual's powers of resistance are sufficiently great to destroy a quantity of bacilli daily, he may go about for years with tuberculosis without suffering from it. Tubercle bacilli are found almost everywhere, and may easily be demonstrated in healthy people. Large numbers are often present in the nasopharynx without doing any damage. In conclusion, Hueppe said that he had been accused of underestimating the importance of the germ, but that this statement was unfounded, for as far back as 1883, he had emphasized this. At the same time, however, he called attention to the significance of susceptibility, which plays as large a rôle as the germ itself. Whereas Koch demands absolute disinfection, Hueppe's standpoint is to fight the bacilli where they are accessible.

Dr. Sturli has reported on experiments made by the intravenous injection of methylaminoacetopyrocatechin, an oxydation product of adrenalin. Adrenalin produces marked changes in the aorta, is a vasoconstrictor, and causes a temporary rise in blood pressure, which is the result of the vasoconstriction. The question whether the drug acts on the smooth muscle or on the endorgans of the vasomotor nerves is still undecided. Sturli presented numerous microscopical preparations which show that methylaminoacetopyrocatechin gives rise to similar changes. The lesions of the aorta consist in thinning of its wall, which may lead to sacculations and aneurysmal dilatations. The elastic tissue of the media undergoes partial degeneration and the nuclei of the contractile elements lose their affinity for stains. The elastic fibers which ordinarily run a wavy course become straight and finally grow thin and friable, and disintegrate. The changes which affect principally the media, and are but slight in the intima, and are hardly comparable to human arteriosclerosis. Probably the smooth muscle cells are directly attacked. That it is not the rise in blood pressure which causes these alterations is evident from the short duration of the former and also by the experiments of Braun, who used amly nitrite to precent the rise in pressure, but still obtained similar lesions. In the discussion which followed, Prof. v. Schötter said that these results had an important bearing on the conception of arteriosclerosis. There is still much confusion in this field and the tendency to call every stiffening of the vessels sclerosis is incorrect. For example, it is wrong to say that syphilis causes arteriosclerosis. Syphilis produces syphilis of the vessels, but this is not necessarily arteriosclerosis. Various factors may give rise to hardenings of the vessel walls which are quite different from a pathological standpoint, and the lesions produced by adrenalin belong among these.

DIFFICULTIES IN MICROSCOPICAL WORK IN SMOKY CITIES.

To the Editor of the Medical Record:

Sir: Would it seem to you possible that on account of the thick obscurity, the cloudy weather, the mysteriously dark and gloomy sky, so often prevailing in Chicago, there would be more difficulty in microscopical work there than in New York City?

I was pursuing most pleasantly my microscopical studies in New York City. I never thought of surroundings only as being just perfect, when my son requested me to visit him and his family in St. Joseph, Mich. While there I thought I would also take the opportunity of visiting the great city of Chicago, which is so wide awake in all its active industries. I brought my microscope and slides, to continue reading nature's book, which, as Harvey says, is open and legible; and I imagined I would soon finish the little book I was writing. But, alas, alas, in Chicago, all during the fall and winter, scarcely a clear, bright day for microscopical work! I was beyond measure grieved. I came to Chicago in October. All the days seemed so dark and gloomy; rain and snow apparently lasting weeks, and dark, cloudy days unnumbered; and, almost all the time, with the thick, dull, gloomy atmosphere. In New York microscopical work went on undisturbed. The days here might be represented by a few days of one week, when they said, "The good weather is here!" But, instead, we had in that week four days of continuous rain—Friday, Saturday, Sunday, and Monday, clearing off Tuesday morning. This was two or three weeks ago, but with such weather I could never have seen or explained the origin and formation of fibroid tumors. We must see things. I made my researches on that subject in New York City, where there was good light, and also a transparent atmosphere. In Chicago!——

After the publication of my article in the Medical Record, September 14, 1901, I consulted the works of many eminent surgeons and pathologists, to see what might be their views. Pozzi, professor of the Faculté de Médecine, Paris, says: "We still know nothing positive about the exciting causes of uterine fibroma." Henry T. Green, in "Pathology and Morbid Anatomy," "Of the etiology of tumors as a class, nothing certain is known." Henry D. Ingraham, professor in the University of Buffalo, "As to the exciting cause, nothing whatever is known." They give no explanation. I was more and more convinced mine was the right theory; and it is more and more confirmed by further investigation.

One thing helps very much in microscopical work, and that is the method of mounting. Canada balsam is used by many great scholars, and in our best colleges. But I have found that mounting in pure glycerin gives a clearer definition, and better results. This was Dr. Charles Heintzman's method. Still the important thing, the necessity for any kind of microscopical work, is a clear, transparent atmosphere. So as to the thick, obscure days we find in Chicago, I determined to see what the colleges said before I ventured to condemn anything in this great western city. I went to one college, asked a bright young professor if the thick, dark atmosphere would interfere with microscopical studies. He unhesitatingly replied: "We are bothered some here by cloudy days, too dark to do without artificial light; too cloudy to do the best microscopical work." These were his exact words. A representative of Rush Medical College said: "It is very difficult some days to see. We need artificial light." He suggested that the cause was the coal dust, burning soft coal. Two or three days after an eminent pathologist of one of the colleges repeated that it was the coal dust. I still could not accept the idea, especially when we see so often an unexpectedly bright, beautiful day after a continuous fog. What becomes of the coal dust? Is not all the fog the result of the surrounding beautiful lakes?

Mary A. Dixon Jones, M.D.

Progress of Medical Science.

Boston Medical and Surgical Journal, April 20, 1905.

A Method of Producing Ether Narcosis by Rectum, with the Report of Forty-One Cases.—J. H. Cunningham and F. H. Lahey review the history of this method of anesthesia. They have devised a special apparatus which they claim overcomes the usual disadvantages of the method. There have been in their series of cases no diarrhea or bloody stools. In seventeen cases ether was taken by mouth, preliminary to the rectal route, while twenty-four were started by rectum. The advantages are the following: But little ether is used; there is no stage of excitement; vomiting seldom occurs; bronchial secretions are absent; there is a comparatively quick ether recovery; the bowels are slightly constipated. They find that unless the bowel is free from feces it is difficult to produce narcosis. A brief summary is given of the anesthesia details in each case of the series, together with an illustration showing the apparatus in action. Full rules are laid down for the preparation of the patient and the administration of the ether.

Serum Treatment in Multiple Infectious Arthritis.—Four cases are reported by E. G. Brackett. His experience would seem to indicate that the only effect of the antistreptococcus serum in such cases is to cut short the

the inner fragment, the outer end being driven beneath the skin to guard against infection. The advantage of the abducted position in apposing the fragments was demonstrable, and the limb was fixed at the proper angle by a plaster bandage. The after-treatment was the same as in non-operative cases. In a large class of patients in which treatment had been ineffective and in which the open operation was contraindicated, it was advisable to force the upper extremity of the femur from the dorsum of the ilium to a position in front of the acetabulum with the aim of lessening deformity and assuring a more secure support in locomotion. This position of over-extension and moderate abduction must be retained for many months by the use of a short spica plaster bandage. In other cases discomfort might be relieved by the application of a pelvic support that would provide a slight degree of lateral pressure and fixation. In children and young patients where the injury involved the articulating extremity of the femur the open operation was indicated. So far as complete fracture was concerned he did not claim that favorable results might not be obtained by any other method if so applied as to accomplish its object, namely, apposition and fixation of the fragments. The speaker said that he had attempted to justify his statement that fracture of the neck of the femur was a neglected subject, and he suggested that this injury would be far less disastrous in its results if the following conclusions were generally accepted: (1) Fracture of the neck of the femur occurs at any age, even in childhood. (2) An injury at the hip, followed by persistent disability, should always suggest fracture, and if one was not expert in the details of physical examination, an *x*-ray picture should be procured if possible. (3) As an impacted fracture must of itself cause disability, one should attempt to reduce it in the manner that had been described, provided sufficient support could be assured. (4) The first essential in the treatment of complete fracture was to appose the fragments. For this purpose, direct traction under anesthesia, followed by fixation in the attitude of abduction, seemed to present certain advantages over the methods ordinarily employed. (5) If union had not followed routine treatment, the open operation was indicated in suitable cases. (6) Support and protection by properly adjusted apparatus was of great advantage during the period of repair, and, in any event, weight bearing should not be permitted until the symptoms indicate that consolidation was complete. (7) The distinction between the two forms of fracture that occurred in young subjects was of importance as influencing treatment. (8) It seemed probable that in the majority of cases treatment might be applied, tentatively at least, with advantage. The standard of success in the treatment of the most favorable cases should be restoration of normal function, and in all one should at least attempt to apply the principles that are recognized as essential to success in the treatment of fractures in other situations.

Dr. De Forest Willard of Philadelphia opened the discussion. He said that among the things that deserved special consideration were the following: (1) The complete and immediate reduction of the deformity under ether; (2) the fact that the patient was somewhat advanced in years, or past the age of 40, did not necessarily mean that the patient would become helpless or hopeless; (3) the after-treatment, especially after they were up and about, should be continued with a view of preventing the deposits of osteophytes about the joints. Even with a fair amount of fixation there was an enormous amount of thickening about these joints which interfered with motion and the subsequent locomotion of the individual. He believed that Dr. Whitman's method of reduction was one of the most efficient measures which could be undertaken. In cases of suspected dislocation or injuries about the joint he made it a rule to always employ anesthesia unless there was some positive contraindication. In every case over 60 years of age he always strived to obtain union. At the Presbyterian Hospital in Philadelphia they met with a great many cases of fracture of the neck of the femur, but he could not say whether they were intra- or extra-capsular, although he believed that nearly all were both. In order that splints might be effective, it was necessary that reduction of the fragments be made; otherwise, although union would occur, it would be with such deformity as would interfere greatly with locomotion. It was absolutely important to have a thorough reduction under ether, and should be done by one who had *x*-ray and clinical knowledge of the points and landmarks about the joint. Every case under 60 or 65 years, he said, should be considered as hopeful when certain methods of treatment were employed. In children one could almost always obtain good union, and one should never despair in their attempts at such. In other words, one should never despair in obtaining good union between the ages of 20 and 60. He referred to a fracture of the femur occurring in a girl as the result of a fall upon the trochanter; the force was so great as to drive in the floor of the acetabulum, yet the shortening was less than an inch, and the patient walked perfectly well but with a slight limp, caused by partial absorption of the bone. With regard to the method of fixation, he did not believe there was anything better, or more comfortable for the patient, or more efficient, than plaster of Paris, especially when applied by one who was expert in it. Many surgeons were not experts in applying this dressing; they did not know how to apply it properly. It received the pain, was very comfortable, and was secure from interference on the part of the patient. The joint should be properly protected and long after; in patients who could not afford splints, plaster of paris should be used, or even a posterior bar would help greatly. The joint should be properly protected to prevent undue motion, and for a long period of time. They needed massage, passive and voluntary motion, but not too excessive until the tendency to osteophytic formation had passed. With regard to the operative treatment of fractures of the neck of the femur, he said there was a certain class of cases in which immediate reduction was advisable—in those cases between the ages of 20 and 50, possibly 60; here hopeful results were obtained. But in the younger cases operation was not required. At these ages one should strive for good functional results. The class of cases most fitted for operation were those which under ether, with traction and abduction employed, showed that the deformity had not been reduced, and that non-union would surely result. In these cases he believed it was proper to operate. The flap operation of opening up the joint and cutting off the shaft of the femur and turning the trochanter did not seem to him a safe initial operation. If one cut the trochanter from the shaft of the femur one got a double fracture, and the operation was a long and tedious one. He believed the simplest operation was to cut down upon the great trochanter and drive a nail or screw in the axis of the neck, through into the head of the bone. The great objection to this procedure was that it left a foreign body which might set up irritation and which might necessitate removal. But that must be expected. If it did not produce caries of the neck of the bone one should be thankful. The immediate operation seemed to him full of hope; he simply drove a nail, a peg or drill through the neck into the hip, being careful not to perforate the cartilage, or going into the joint surface and irritating the acetabulum. If a sinus formed one should immediately cut down and remove the foreign body causing the irritation. The results of operative treatment did not give perfect results. There was stiffening and shortening which followed. It was his experience that when he approached a deep or severe operation about the hip it always was with anxiety, especially when in healthy tissues. He did not have the same anxiety when operating in tuberculous or long-diseased conditions.

Dr. L. A. Stimson asked that the results be judged by the clinical results alone. In the young he saw no reason why Whitman's operation should not lead to restoration of form and function, but it was of the utmost importance that this method should not be generally adopted in the old. He did not consider a case of fracture of the neck of the femur as helpless unless the line of fracture was through the narrow part of the neck, or where the periosteum was much damaged. With regard to repair in these fractures he said one should bear in mind a point he wished to emphasize, that the neck of the bone was nourished by the same vessels that nourished the head of the bone, and that the neck must share in the reparative process; the granulations must have blood supply; the blood from the head and neck came from the base of the neck; therefore, if a fracture took place through the narrow part of the neck, dividing the periosteum, the head and neck would be cut off from its blood supply, and such cases could not get well. But even in old people repair was possible if the periosteum remain intact. He cautioned against the use of an anesthetic; in cases where one did not know whether he was dealing with a dislocation or fracture, and an anesthetic was given, danger would result from too forcible manipulation of the limb; even destruction of the periosteum of the neck might occur, which would make the case a hopeless one. In hospitals, fractures of the neck of the femur were not desirable; these cases often went from one hospital to another, and finally they would land in the almshouse. Every hospital which transferred such cases would make an entry of "improved," "unimproved," etc., and at last they would die in the almshouse. Statistics regarding these patients were, therefore, very unreliable. Thirty years ago every patient was placed on a stand and traction applied, often with a pulley, the limb then being encased in plaster of Paris. Poor and old people could not stand the rough handling. He thought Dr. Whitman had not said enough regarding the swelling of the soft parts; this to him was a serious matter, for this swelling would mechanically interfere with the treatment, especially in the older people. Fractures of the neck of the femur did not occur like a break of a piece of chalk; the bone was crushed like a handful of snow, and the bone, therefore, could not be brought back to its previous condition. The ordinary treatment of fracture of the neck of the femur was by Buck's extension or vigorous traction, and he believed that the old would recover under such treatment. He did not believe there was any anatomical or clinical evidence that better results could be obtained by wider abduction, although he hoped that results would show him to be in error. One of the first things noticed in these injuries was a thickening of the front of the thigh right over the neck of the bone; after two or three days the fingers around the trochanter could detect this great thickening. This was due to the inflammatory reaction from the traumatism inflicted to the soft parts. In post mortems one found a great overgrowth of bone beyond the intertrochanteric line and at a point where the different muscular fibers had their origin from the bone.

Dr. Virgil P. Gibney said that at the Hospital for Ruptured and Crippled they saw the results of many of these extremely abducted cases, and they were disappointed in them, although he believed that the time had not yet arrived for drawing any definite conclusions regarding this treatment, especially as applied to the older patients. The majority of those who complained were women, with more or less of a neurasthenic temperament. These had been the most difficult cases to treat in the hospital. He agreed with what had been said by Dr. Stimson, and said that years ago surgeons of this city were quite adepts at plaster of Paris work, and especially members of the house staff at Bellevue. People to-day were not such adepts in applying plaster of Paris as they were years ago, but he believed that its proper application in these cases was the *sine qua non* in the treatment.

Dr. George Woolsey said that the limitations in the age of patients to be treated by this method would leave out many of the cases seen at Bellevue Hospital and other general hospitals. In his experience at Bellevue Hospital he said he had not been impressed so much by the advocacy of the various methods of treating the fracture of the neck of the femur as he was in the treatment of the patient himself. It was surprising what good results could be obtained in many cases, so far as function went, when more attention was paid to the building up and nutrition of these patients. The results of the commonly employed treatments in young people had been rather discouraging, and, therefore, he said he had tried the method of Senn, making extension, applying a plaster-of-Paris apparatus, with pressure in the line of the femur, and his results had been excellent so far as function was concerned. He said that lately he had tried extension in the abducted position. In these fractures the only thing that connected the inner with the outer fragment was the periosteum; the periosteum intact was essential for repair, for it was through the periosteum that the blood could reach the head of the bone. The ligamentum teres practically had no office in carrying blood-vessels to the head. Therefore, it should be borne in mind that any strong manipulative force in abduction should be guarded against, and no additional damage to the periosteum be given. He was not much impressed with Dr. Whitman's method in recent cases, but thought it would be of value in those that were ten or eleven weeks old when first seen. Abduction under an anesthetic, with proper extension, he believed would result in good function.

Dr. A. S. Taylor said that, at Dr. Whitman's suggestion, he had performed some experiments on six hips to determine what displacements occurred after division of the bone at different places, and how manipulation should be performed in order to get a proper approximation of the fragments.

The Ethics of Gonorrhea in the Female.—E. S. McKee writes on the difficulties which beset the medical man in the discharge of his duties to his patients, especially female, when gonorrhea is present, and the many complications and difficult questions which appear. A man told him his wife was suffering from the disease, which he had himself given her, and he wished Dr. McKee to treat her. He went, found the diagnosis correct, and conducted the case to recovery. A suit for divorce followed, and the wife tried to make the doctor testify on this point. He refused five times, and was finally arrested and brought before a judge, who, after three appearances and three weeks' time, ordered him to testify. The argument was that the wife was the patient, the husband was not. The wife, the patient, wanted the testimony given, and it was ordered given. In another case, in which the doctor treated the husband and wife both, he was subpœnaed, but could not be made to tell what was the matter with the husband, as he had treated him. Professional secrets the writer considered very important and delicate, and he thought he should not have been ordered to tell what the woman's husband told him in confidence.—*Lancet-Clinic.*

The Use of Bisulphate of Sodium in the Treatment of Typhoid Fever.—John Egerton Cannaday has used the acid sulphate of sodium in the treatment of 85 cases of typhoid fever, as a routine intestinal antiseptic. The bisulphate is used in the strength of seven and one-half grains to the ounce of water, two ounces of this solution being given every three hours. The writer states that it corresponds in acidity to the hydrochloric acid of the stomach and so promotes digestion, which is at a very low ebb in this disease, especially if the temperature runs at all high. The solution is not at all nauseous, and as a rule patients do not object to the taste. The mouths of those patients, in whom treatment was begun early in the course of the disease, kept in excellent condition, with an absence of sordes. Diarrhea and tympanites were uncommon in these cases. The writer has at one time or another tried on different series of cases various intestinal antiseptics, including salol, zinc sulphocarbolate, tincture of iodine, and carbolic acid. He believes that the results have been considerably better when intestinal antiseptics have been used. He concludes that bisulphate of sodium is a nontoxic intestinal antiseptic, that it keeps the mouth clean, promotes digestion by its acidity, prevents tympany, and lessens diarrhea.—*Therapeutic Gazette.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 22, 1905:

	Cases.	Deaths.
Measles	356	16
Diphtheria and Croup	294	42
Scarlet Fever	212	12
Smallpox	......	......
Chickenpox	61	...
Tuberculosis	314	189
Typhoid Fever	15	7
Cerebrospinal Meningitis	111	104
Typhus Fever	.. ..	......
Yellow Fever	......	......
Cholera	.. ...	......
Totals	1,363	370

The Principle of Rest in the Treatment of Gastric Ulcer.—Francis D. Boyd believes that the immediate treatment of acute gastric ulcer, with or without hematemesis, resolves itself into the most desorable method of obtaining physiological rest for the stomach, thus permitting healing of the ulcerated surface. Rectal alimentation has the decided disadvantage that there is a very marked increase in intestinal putrefaction while it is practised. Clinically, it is common to find considerable pain and vomiting following the administration of nutrient enemata. The treatment of acute gastric ulcer can be carried out with benefit to the patient in the majority of cases, without the use of rectal alimentation. First, a mild but efficient aperient is given. During the period of physiological rest of the stomach, no food is given by the mouth. Every six hours a pint of warm normal saline solution is syphoned into the bowel by means of a soft catheter and a filter funnel. The craving for water is obviated in this way. In case of any irritability a little morphia may be introduced into the rectum. During the rest period no fluid should be swallowed. The condition of the mouth is of the greatest importance. When it is septic, hematemesis and epigastric hyperesthesia will persist until the condition is improved. An antiseptic mouth wash should be prescribed and the patient should be warned to swallow as little of the buccal secretions as possible. In cases of simple ulcer, treated by rest, all pain and epigastric hyperesthesia should disappear in twenty-four, or, at most, forty-eight hours. If these symptoms persist after three days, the healing process is not going on, and there are probably adhesions. The period of complete rest should extend over from four to six days. Then small quantities of milk should be given. It should be diluted with water, and a little bicarbonate or phosphate of sodium should be added. The lime salts may be precipitated by treatment with citrate of potassium. At the end of the second week the patient can take sufficient milk to maintain nutritive balance. The diet is gradually increased, until at the end of four weeks, an ordinary convalescent diet can be taken without any discomfort. The treatment of gastric hemorrhage, when it is not violent or repeated, is simply the treatment of acute gastric ulcer. The patient with chronic gastric ulcer with stenosis may improve if treated by lavage and careful diet. Lavage, however, will not effect a cure. The relief which surgery affords in these cases seems insufficiently recognized. In cases of chronic gastric ulcer, with no pyloric stenosis, medical treatment may give relief. To get a satisfactory result, the patient must be prepared for at least two months' rest in bed, and for a carefully restricted diet over a much longer period. The circumstances under which the physician should advise surgical interference seem to depend upon the locality of the ulcer. The writer sums up the circumstances under which one would advise surgical interference in chronic gastric ulcer as follows: In chronic gastric ulcer with pyloric stenosis, gastroenterostomy by relieving the pyloric stenosis and resting the ulcer will effect a cure. In chronic gastric ulcer without pyloric stenosis, if the ulcer be situated on the pyloric third of the stomach, gastroenterostomy may effect a cure by giving the ulcer rest. It does not tally with present experience that gastroenterostomy will effect the cure of an ulcer situated outside the pyloric third. The routine performance of gastroenterostomy as has been advocated by some surgeons, irrespective of the situation of the ulcer, is to be deprecated. Such patients improve under the careful dieting and rest of the stomach which follow operation, but relapse of the ulcer may be expected. If the ulcer can be excised, benefit may result. A simple gastroenterostomy will probably result in disappointment.—*The Scottish Medical and Surgical Journal.*

Eclampsia.—Gilman reviews the prominent theories which have been advanced as to the cause of this condition. He makes a plea for the more careful and systematic examination of the urine in pregnant women. He believes that an estimate of the total solids passed in twenty-four hours is fully as valuable as the urea test and may be substituted for it. This total amount may be found by multiplying the number of ounces of urine passed in twenty-four hours by the last two figures of the specific gravity and adding 2 per cent. of the result.—*Boston Medical and Surgical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended April 22, 1905:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
Florida, Jacksonville	Apr.	8–15	5	..
West Tampa	Apr.	8–15	2	..
Illinois, Chicago	Apr.	8–15	9	..
Kansas, Topeka	Apr.	1–8	2	..
In 46 Counties	Mar.	1–31	1123	5
Kentucky, Louisville	Apr.	6–13	3	..
Louisiana, New Orleans	Apr.	1–15	39	..
Maine, Portland	Apr.	1–8	1	..
Michigan, Ann Arbor	Apr.	1–8	1, Imported.	
Detroit	Apr.	8–15	1	..
Grand Rapids	Apr.	8–15	2	..
At 42 Localities	Mar.	25–Apr. 1	(Present.)	
Missouri, Saint Louis	Apr.	8–15	24	1
New York, New York	Apr.	8–15	2	1
Ohio, Cincinnati	Apr.	7–14	1	..
South Carolina, Charleston	Apr.	8–15	2	..
Greenville	Apr.	1–8	3	..
Tennessee, Nashville	Apr.	8–15	1	..
Washington, Mason County	Mar.	1–31	1	..
Snohomish County	Mar.	1–31	2	..
Wisconsin, Milwaukee	Apr.	15	8	..
SMALLPOX—INSULAR.				
Philippine Islands, Manila	Feb.	18–25	2	1
SMALLPOX—FOREIGN.				
Argentina, Buenos Ayres	Jan.	1–31	..	28
Brazil, Rio de Janeiro	Mar.	19–26	4	5
Bahia	Mar.	11–25	16	2
Great Britain, Birmingham	Mar.	18–25	1	..
Cardiff	Mar.	18–25	2	..
Liverpool	Mar.	25–Apr. 1	1	..
London	Mar.	18–25	3	..
Southampton	Mar.	25–Apr. 1	9	Contacts from an imported case.
India, Bombay	Mar.	14–21	..	143
Calcutta	Mar.	11–18	..	9
Karachi	Mar.	12–19	13	2
Madras	Mar.	11–17	..	5
Mexico, City of Mexico	Apr.	1–8	4	3
Russia, Moscow	Mar.	18–25	4	4
Straits Settlements, Singapore	Feb.	5–Mar. 4	..	1
Uruguay, Montevideo	Feb.	6–24	56	8
YELLOW FEVER.				
Brazil, Rio de Janeiro	Mar.	19–26	14	3
Ecuador, Guayaquil	Mar.	21–28	..	4
Panama, Colon	Jan.	23–Apr. 2	6	3
Panama	Jan.	1–Mar. 28	44	18
CHOLERA.				
India, Calcutta	Mar.	11–18	..	30
PLAGUE—INSULAR.				
Philippine Islands, Manila	Feb.	18–25	1	2
PLAGUE—FOREIGN.				
Africa, Cape Colony	Mar.	4–11	4	3
Arabia, Adon	Mar.	17–24	45	34
Argentina, San Nicolas	Mar.	18–20	(Present.)	
Brazil, Rio de Janeiro	Mar.	19–26	1	1
Chile, Atacama	Mar.	16	(Present.)	
Copiapo	Mar.	15	(Present.)	
Port Montt	Mar.	16	(Present.)	
Valparaiso	Mar.	16	(Present.)	
India, General	Mar.	4–11	52504	45541
Bombay	Mar.	14–21	..	648
Calcutta	Mar.	11–18	..	405
Karachi	Mar.	12–19	102	91
Rangoon	Mar.	18	(Increasing.)	
Peru, Chiclayo	Mar.	12–19	23	10
Guadalupe	Mar.	12–19	1	1
Lambayeque	Mar.	12–19	1	..
San Pablo	Mar.	12–19	2	4
Mollendo	Mar.	12–19	11	4
Lima	Mar.	12–19	2	2

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Original Articles.

SYSTEM AND EXPEDITION IN OFFICE PRACTICE. OFFICE PLANS AND DETAILS.*

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NEW YORK.

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A DOCTOR is handicapped beyond all other men in professional and business careers by being only one-man power. He is able to delegate little. Organization of work by unloading on partners or assistants finds less play than in other livelihoods calling for equal brain power. The more need, therefore, of system and intelligent planning in whatever matters these may expedite and simplify. A man in whose operating room and hospital wards complicated machinery works with smoothness and celerity often fails to engineer the details of his office work with the same executive skill. Yet this is no unimportant matter. The petty annoyances of a long office hour may tell on the nerves more than the same time spent over well organized major operations. It is the sense of hurry, the consciousness of impatience on the part of waiting people, and particularly the chafing at needless delay, that wears on the man in the office. Even for the beginner facilities for quick work will pay. Though he have only a few patients, they have a fashion of bunching at the start or the finish of his office hour, and every one of them begrudges the time lost in the waiting room.

Office Plans.—1. In no way can the doctor save more time than by wise arrangements of his quarters. By an outlay moderate in proportion to its returns, one's efficiency may be doubled. This statement applies less forcibly to the general practitioner than to the surgeon and specialist. Yet even with the physician who abjures throat work, gynecology and minor surgery—if there be any such—annoying delays occur, and there is always the man with a bill to pay, or the crying baby, or a doctor, or the very nervous or very rich patient for whom extra office room will furnish convenience out of all proportion to cost. If the general practitioner does minor surgery or simple gynecology, his office requirements are much the same as those of the surgeon or specialist. Not only in undressing and dressing is time wasted, but in waiting until cocaine takes effect, or bleeding stops, or plaster dries, or pain passes. Not uncommonly, for lack of room, one sends patients home at once who would do better if watched for a short period.

Expedition in office work may be effected in several ways:

1. By well-planned quarters.
2. By completeness of outfit.
3. By appointments, and by selection among waiting patients.
4. In history taking.
5. By proper assistance.

The *general principles that bear on the planning of offices* may be stated as follows:

(a) The offices should be as independent as possible of residential parts of the house. (Figs. 3 and 4.)

(b) The waiting room should be attractive, cheerful and well lighted; with sufficient cubic air space and ventilation, and supplied with comfortable seats, books, pictures, etc.

(c) The different offices should be accessible from the hall without passage through each other (and without necessarily passing through the waiting room), so that entrance or exit is possible for each independently. (Figs. 1 to 8.)

(d) The desk office should be separate from the examining room.

(e) For the busy man two small waiting rooms are better than one large one; two small examining rooms better than one large one. (Fig. 7. Fig. 8.)

(f) The offices should be located in the natural order of progress of the patient, viz., hall, waiting room; desk office; dressing room, with toilet room; examining room; recovery room or dressing room; hall. (Figs. 1, 3, 5, 6, 7, 8.)

(g) Ten feet square is a minimum, but sufficient floor space to accommodate a single office (as distinguished from waiting room or dressing room).

(h) The water closet and the telephone closet should be accessible from both waiting room and offices, preferably by way of the hall. (Figs. 3, 4, 6, 7, 8.)

(i) Walls and doors should be measurably soundproof.

(j) Doors should be so hung that, when partly open, they screen the occupants of the room, and not primarily for appearance or convenience in entering. (Figs. 2, 5.)

(k) Provision must be made for the elimination of odors of drugs, gas, steam, etc.

(l) Hand washing, after vaginal and rectal examinations, should be possible out of sight of the patient.

(m) Objects likely to trouble or alarm patients should be screened or under cover.

Sound-proof Walls and Doors.—Nowhere are precautions to deaden walls better worth while. In building or altering, the best methods to employ are these: In fire-proof buildings, such as apartment houses or hotels, use fire-proof blocks of terra cotta or asbestos from 2 to 4 inches thick, plastering these with the ordinary hard finish of ⅞-inch plaster. These asbestos and fire-proof blocks are usually set between channel irons in order to stiffen them. Where the story height is not over 9 feet, it is safe to use them without such stiffening.

Where cheaper construction is desired light channel irons may be used, to which are laced two thicknesses of Cabot's deafening felt. On either side of these channel irons is set a wire lath as a backing for plaster. This forms a thin sound-proof partition of great efficiency.

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*Read before the Medical Association of the Greater City of New York, June 9, 1902.

Another and still cheaper form of sound-proof partition is made by using the ordinary wooden studs, setting over them on each side a thickness of Cabot's sheathing quilt. Over this quilt is nailed 1x2-inch strips and on this again wooden lath is placed.

Sackett's wall board, a composition of card board and plaster of Paris, to be had in sheets of 32x36 inches, ¼-inch thick, is a very good substitute for lath in sound-proof partitions, and makes, wi ⅝-inch of plaster applied to it, a satisfactory dea ener of sound. It saves the extra cost of the qui

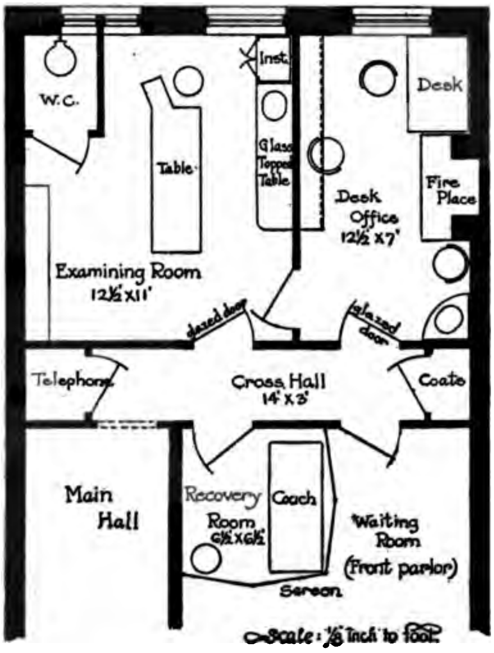

Fig. 1.—Ordinary 20-ft. house without extension altered for offices. Observe the rotation. The door between cross hall and waiting room is opened, and a patient taken into the desk office. When she is sent on to undress in the examining room a second patient may be taken into the desk office. The doctor can get out into his house, or one of the family approach him without going through waiting patients and without disturbing either a patient at the desk, on the table or on the recovery couch—one or all. The toilet is not accessible from the waiting room. The glazed door lights the dark cross hall, but shows figures dimly through, which is undesirable. The plumbing is scattering.

There is a sink in the "glass-topped table," and shelves above it. A stool stands at the foot of the examining table the other circles representing chairs. One of these is shown beneath the overhead shelves in the desk office. In a desk office as narrow as this the fireplace would better have been torn out.

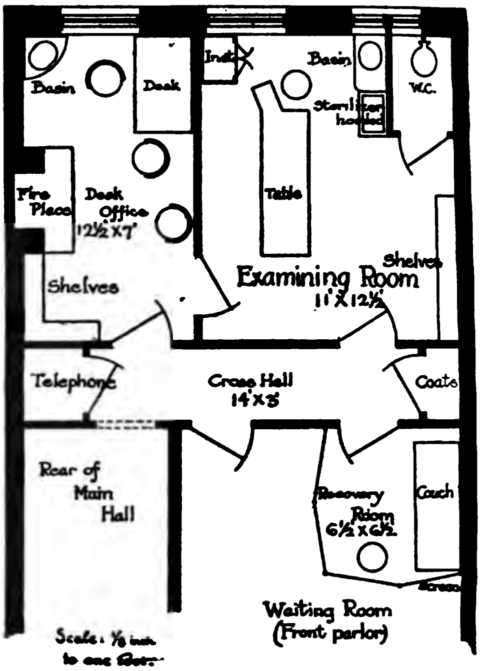

Fig. 2.—20-ft. house, without extension, altered for offices. Alternat plan to Fig. 1. Cross hall better lighted, but toilet still further from mai hall; also, doctor, if called to door of his office, can be seen down the mai hall. The plumbing is better grouped.

In all the plans the desk office has its own basin, so that after vagin or other examination, the physician can clean up out of sight of th patient, or can do a minor dressing in either room. In this plan a hig window between examining room and cross hall lights the passag without showing any sign of occupants.

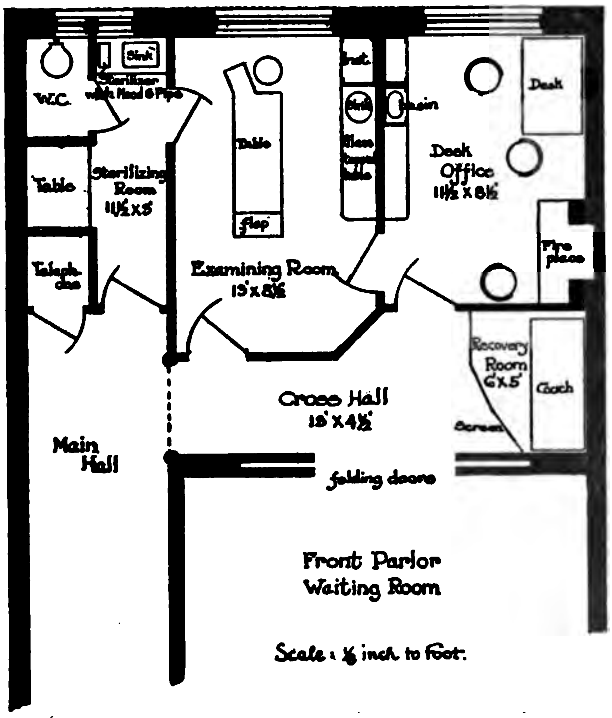

Fig. 6.—Ordinary 25-ft. city house without extension, altered for offices. The cross hall is not well lighted, but has a window near the recovery couch. The cross hall has been widened to give room for couch. The toilet is fairly accessible. Pipes should stand clear of rear wall to avoid freezing.

In all these plans the telephone has been placed in a closet or booth when feasible because a physician's telephone talk should not be overheard. There may be a desk set also. Doors are seen to open awkwardly, apparently, but really in order to screen the patient when the doctor is called to receive a message.

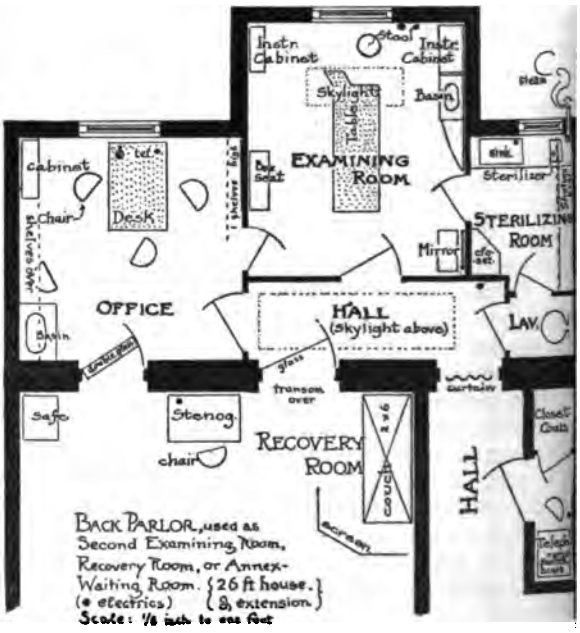

Fig. 7.—Extension on 26-ft. house, being an alteration of an old 11- extension. With this arrangement one patient can be dressing, anoth undressing, while a third is in the desk office. All rooms and lavato open into hallway. The success of this office and the many commen on it led to the writing of the article. In bitter weather the plumbing cut off at night by cocks in the coat closet. All the cuts on the opposi pages are placed for convenience of comparison.

The plan looks crowded, but this is owing largely to the extensi labelling. The watercloset (Lav.) should be enlarged somewhat at t expense of the sterilizing room. The overhead shelving does not tren on floor space, as might appear from the plan. The skylights give fi effects for photography. They have double sash in winter. Such extension needs its own separate furnace unless neighboring hous project quite as far and a laundry runs beneath. The extension ro should be lower than ceiling of back parlor to allow lighting this da room through transoms or low windows.

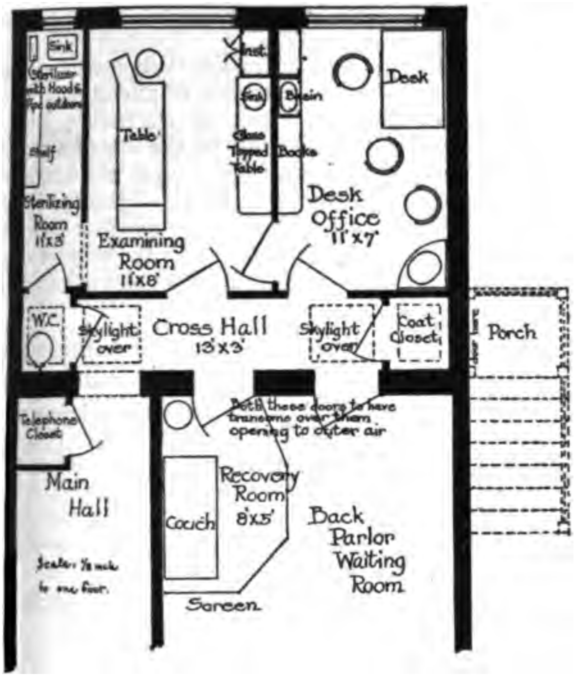

Fig. 3.—Extension on ordinary 20-ft. house. Extension roof is lower than ceiling of waiting room, and transoms light the waiting room. This is a flexible plan, because back parlor can be used as a second examining room if desired, putting waiting patients into the front parlor, either regularly or on occasion. These sizes are all minimum, as 7x11 for desk office is the bigness of a hall bedroom. The plumbing is scattered. The table would stand close to the wall. For a 25 or 30 foot house this arrangement is a good one. For a corner house, or a country house with side entrance, the vestibule will replace the coat closet on this floor.

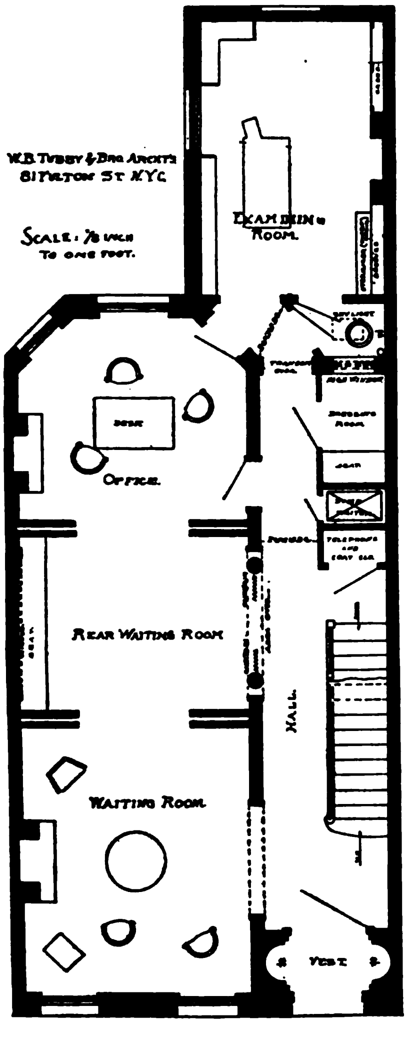

Fig. 8.—Twenty-one-foot city house with narrow extension. Finely proportioned rooms of a leading gynecologist. Double access to desk office and to examining room and to toilet; three rooms can be thrown into one for receptions. Extension, not easy to warm, has fireplace. Desk office should have washstand.

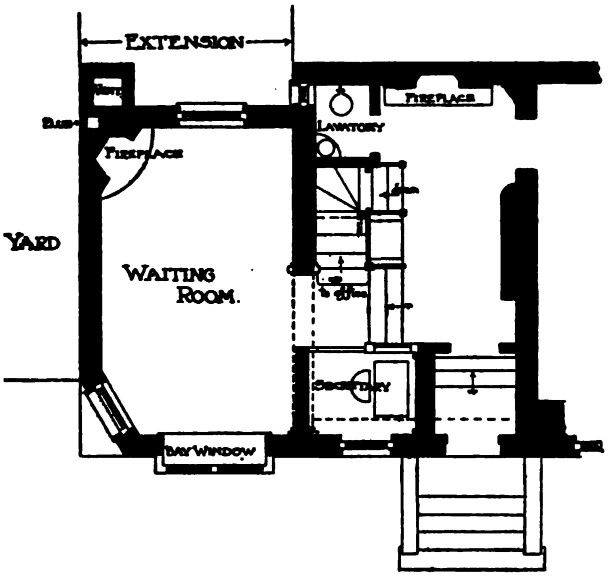

Fig. 4.—Plan of rear end of corner house. Physician's offices are at the rear of second floor of main part of the house. This is a comely plan, with an agreeable waiting room, in the house of a prominent surgeon.

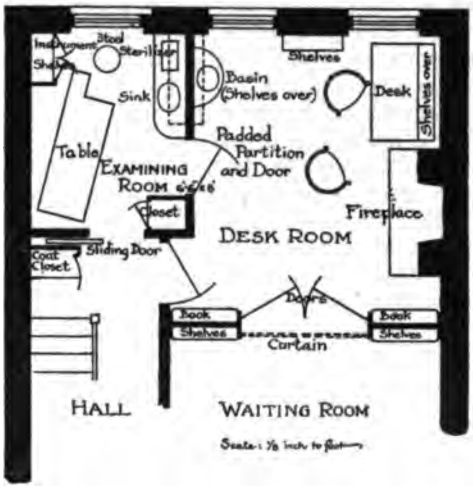

Fig. 5.—A tiny examining room with padded partitions in 18-ft. house, devised by a specialist of small means. It was as compact and handy as the cabin of a ship, and infinitely better than any screen or curtain. There is no toilet nor telephone booth, but entrance to each room from the hall. The examiner's stool at the table might be a boxed-in watercloset seat if the vent could be arranged.

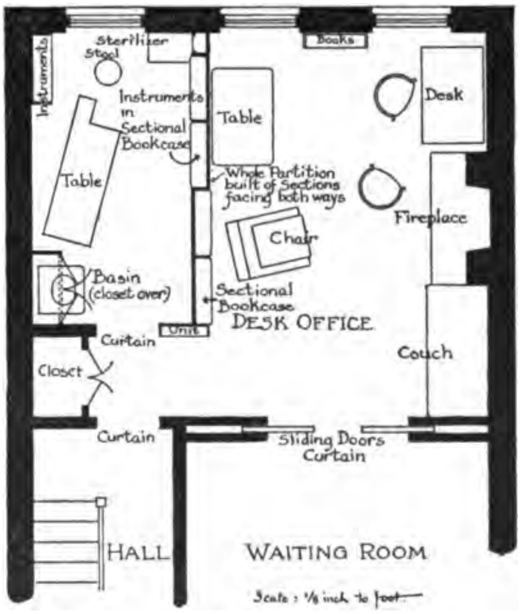

Fig. 9.—The usual 20-foot house with simplest form of division of offices. The partition is built of bookcase units, one-half facing each way. A one-patient office, since one can overhear in the examining room all that goes on in the desk office. A toilet is suggested.

over wooden partitions and is nearly as good in deadening sound. In other words, Sackett's wall board with ⅝-inch of plaster costs about the same as ordinary wood lath with ⅞-inch of plaster.

In two different offices I have seen walls efficiently deadened at small expense by ordinary cheap wadded quilts placed between two thicknesses of wood. The same material tacked on a door and covered with painted burlap is satisfactory. As with all doors, weather strips are necessary. Double sliding doors are more difficult to deal with. A curtain on each side has a good effect. These curtains may be wadded and stiffened if the rooms are small or patients must sit close to the doors. If the upper part of the door opening is arched, a stained glass window can be fitted that will prevent sound passing through this space above the curtain rod.

The doors between waiting room and office should be padded on the inside or hung on one or both sides with relatively heavy curtains, and weather-strips should stop the cracks. Doors may need to be rehung so that a patient on the table or with bared chest may not be in sight when a knock calls the doctor to the door. The screen or curtain enables a patient to dress under cover. It conceals the suggestions of trouble to come, the examining table, the instrument case, and also the disorder left after examination or treatment.

This screen or partition may be of wood, or of wood and leaded glass, or better still, a book shelf of considerable length, but of little thickness. The common error of useless protrusion of shelves is to be avoided. A nine-inch shelf holds even heavy dictionaries, and seven inches is wide enough for most large medical books.

The bookcase units now advertised in every magazine are most useful, whether for books, cards, instruments, dressings or bottles. Some of the newer models do away with the unsightly metal joints. Of these a comely and practical partition may be built, yet it can be altered or shifted at need. (See Fig. 9.)

There are three companies which manufacture special prism glass for throwing light into a room: The Luxfer Prism Company, the New York Prism Company, and Jones & LeBaron. These prisms can be arranged to throw the light at any angle. They are very useful for lighting dark portions of rooms, and well repay their moderate cost.

Glass for covering desks and tables and for shelving, and proper brackets for supporting such shelving with rubber washers, etc., can be obtained of the surgical supply houses or at any of the wholesale plumbers' establishments. The J. L. Mott Company of 88 Beekman street, New York City, keep a full line of these goods.

Flooring.—Carpets are to be condemned, but rugs are allowable in waiting rooms, halls and desk offices. In these hard wood flooring is best. Its first cost is no more than good Brussels carpet, and its life is infinitely longer. Better putty and paint an old board floor than lay carpet. Hard wood costs 9 to 12 cents a square foot. To prevent slipping of rugs in hallways there are sockets let into the floor, with inconspicuous brass pins that go through the rugs at their corners. Matting too, may well be used in the form of rugs. Strips of cocoa matting with rubber binding at the ends, and held by the pins, is very suitable for halls.

For the examining room, the ideal flooring material should probably be listed in this order: Honed glass floor; Mosaic, set in cement; quarry red tile; lignolith; hard wood; linoleum, painted wood.

For the desk office, hard wood is best. For the hallways, mosaic comes first (costing about 70 cents a square foot), then hard wood, costing 9 to 12 cents per square foot.

Plans Grouped.—The ordinary house in city or suburb or country is susceptible of alteration at moderate cost. In these days of electricity, interior rooms have become available by the use of a method of illumination that does not vitiate the air, aided by light wall coloring and bright lighting; by the headlight that is often better than window light, and by the use of the rotary fan. For the sake of clearness we shall try to throw the problems into three groups:

I. The simplest plan consists of two apartments:
    1. Waiting room (parlor or wide hall).
    2. Office (desk office and examining room and sterilizing room in one). (Fig. 9.)

II. An intermediate plan calls for:
    1. Hall.
    2. Waiting room.
    3. Office.
    4. Inner office (including sterilizing and instrument room and laboratory).
    5. Toilet.

III. A complete plan may involve:
    1. Main waiting room.
    2. Small special waiting room.
    3. Desk office.
    4. First examining room.
    5. Second examining room.
    6. Recovery room, or dressing room.
    7. Sterilizing and supply room (laboratory).
    8. Water closet.
    9. Telephone closet. All with independent access to
    10. Private hallway, with separate entrance and vestibule.

I. With the first plan the minimum needs are:

Desk, with light from the left when writing at the desk, and over the doctor's back when he is facing the patient.
Patient's chair, facing the window.
A third seat.
Screen or curtain, to divide office into two parts.
Operating table (or chair) in the best light.
Instrument table.
Wash stand.
Earth closet (if toilet is at a distance).
Medicine shelves.
Book shelves.

In selecting simple quarters of two rooms, it is preferable to pick those with entrance to each room from the hall, and intercommunication between the two rooms.

II. With the second plan a good degree of privacy, speed and convenience are secured. The ordinary house is usually susceptible of this treatment. The rear room or extension of a house 18 or 20 feet wide may be divided by a screen or partition into two offices, and a toilet may also be contrived in the same space. (Figs. 1 to 4.) With a width of 25 feet the problem is simpler, as it is easy to provide for the sterilizing and supply room with its odors and disorders, and the toilet room. A number of examples are given, in the accompanying diagrams, of ordinary town houses of various widths. (Figs. 1 to 8.) Some of these plans represent offices long in successful operation. In all the designs the deliberate intent has been to give the fullest schemes that the writer and the architects, W. B. Tubby & Brother (of 81 Fulton Street, New York City) could devise, because it is easier for the reader to lop off any particular feature than to plan to place it.

An apartment answers many of the requirements very well, furnishing a number of small rooms, all communicating with the corridor, some of them intercommunicating. A basement on a corner may be thus planned, while the semidetached house, or the country house, presents still easier solutions. In these cases the patients' entrance is best kept separate from the house entrance, even though this makes the matter of attendance on the office door more complicated.

In treating the problem in a house only 18 feet wide, the writer once had a solid partition built and well padded, to be sound-proof. The little room at the rear end of the hall was thus widened to 6½ feet, and was only 8 feet long. A 2-foot door at one end led into the hall, a second door in the side wall led into the desk office, and the window nearly filled the far end. (Fig. 5.) The table stood along the further side wall, a washstand was placed on the near side wall, and above, courses of six-inch shelves with narrow doors, shoulder high. The instrument shelves close to the window on one side and the washstand on the other, faced each other. One of the table drawers held a water closet seat covering a bed pan, to allow a woman to empty her bladder, or furnish a sample of urine. When the doctor sat with his back to the window at the foot of the table, the patient lying on the table and the nurse standing beside it, that room was filled. But the very fact that without moving he could reach all over one end of the room, made the arrangements ridiculously convenient. At any rate, that office has been twice copied in toto by other men. In it one could shout to a deaf lady, without being overheard, those things which may not be said aloud.

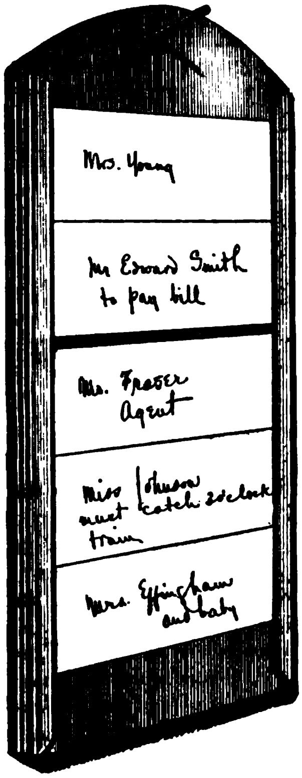
Mrs. Young
Mr Edward Smith to pay bill
Mrs. Fraser Agent
Miss Johnson must catch 2 o'clock train
Mrs. Effingham and baby

Fig. 10.—The slip to hold cards bearing names of patients in the order of their arrival, hung on nail at door of office.

III. An example of a relatively complete plan working well under limitations common to cities is shown in Fig. 8. A 26-foot house was altered so that the natural order of progress was possible. Multiple small rooms were preferred to fewer large apartments. Spaciousness in offices was deliberately sacrificed to accessibility. Thus we may find, during an office hour, the following apparently complex, but really orderly proceeding. The surgeon or specialist is sitting at his desk stating his opinion to the family physician. The patient about whom they confer is dressing, after examination in one examining room, helped by the first office nurse. The second office nurse, the attendant of the door and the telephone switchboard in the main hall, is getting ready, on the table in the second examining room, a patient directed to appear for inspection of her pessary or her heating anal fissure. These quick treatments or reports are run off during the necessary waits of long first visits. Perhaps the toilet is being used by a patient from the waiting room, and one of the two telephone trunk lines by another. Or, possibly, the patient who was first seen is faint. She lies down for awhile on the recovery couch, but work in one examining room goes steadily on, the patients not coming in contact with each other. Each nurse has access to the sterilizer. The middle room (Fig. 8) is adaptable, at times being second waiting room, at times second examining room, at times recovery room, at times stenographer's office. Thus there are none of those unproductive waits on the part of man in the office which, in most offices, have to be made good by shortening the verbal interviews or abbreviating the time spent in examination, cocainization, and history-taking.

Waiting Room.—It goes without saying that cheerful outlook and furnishings, books and pictures are desirable. The furniture can be attractive and yet washable if made all of wood, or of wood cane-seated or covered with leather or pantasote. One is less than happy when a lad with unsuspected scarlet fever has wandered about in his waiting room, or if erysipelas handles upholstery—unless one can scrub. A carpet is not liable to infection by contact, but wood floors and rugs are to be preferred. Better than sash curtains in the lower part of the window is a figured or carved screen or lattice of wood, which allows those within to look out, but prevents the passerby from looking in. The Japanese stores contain a selection of these at low cost. No clock should stand in the waiting room. People must forget time. To this end books of short stories pay, and the best are good enough. Magazines grow frowsy. One can do much good teaching by attractive books on hygiene, like Fletcher's "Menticulture," Livingston and Adams' "Grace of Form and Beauty of Vesture," Anne Payson Call's "Power through Repose," Weir Mitchell's "Essays," and the like. Mechanical puzzles are much played with by grown people as well as by children. A wood fire in winter, an electric fan and ice water in summer, a table with writing conveniences for the busy man or woman, a plate of fruit, with finger bowls and napkins—these merely need to be mentioned. He who can afford them will.

To light that portion of the waiting room farthest from the windows, so that one may read by fairly diffused illumination, a device of value is an open grille work or carving in the upper part of the windows. Better still is leaded glass, either clear or of a light or white color. It does not cost much. Beneath this the shade roller is placed, and the curtain is hung from the same level.

A heavy portière at the hall door of the waiting room is a necessary screen, not only to the private life of the family, but also to those who, while obliged to seek advice from the doctor, do not desire to be observed by the ladies of his family or their guests.

Temptations for thieves, such as clocks, fine vases, or expensive books, are unnecessary. Plaster casts decorate, and books are protected by bookplates or by the name on the inside of the front cover.

A patient leaving the office should not be obliged to pass through rooms where other people are waiting in order to make his exit from the house.

Managers of department stores are learning the value of rest rooms at once comfortable and attractive. The newer railroad stations have well-equipped parlors. The doctor who receives invalids should extend a cordial welcome, remembering how much first impressions count. Short-sighted indeed is that doctor's wife who lets patients wait in cramped hall or dark passage for the sake of the furniture of the empty parlor.

Selection among Patients.—Independent entrances to the offices permit one to call in a doctor, or a man who wants to pay his bill, or a convalescent whose report is brief, while a patient is being made ready or is dressing. It is often desirable to see a feeble or suffering or captious patient out of her turn.

In order to select, a list of arrivals is necessary. A simple and effective plan is as follows: The attendant takes down the names at the door on cheap cards or slips. These, hung in the order of arrival on a simple rack outside the door of the desk office, keep the list in order. This plan also records the business done during an office hour, at the end of which entry may be made on the visiting list. The rack is a simple slip of tin of the width of any cheap standard card, the edges turned over to catch the ends of eight or ten cards. A number of these tin slips hang on a peg. One slip is taken into the office as soon as it is partly filled. (Fig. 10.)

Desk Office.—The few requisites of the history room, to wit, desk, chairs, book shelves, and provision for histories and accounts, make this the least important of the offices. Yet to it is often given space more needed for the equipment required for examinations and treatment. It is rare that there are in the desk office more people than the doctor, the patient, and one or two others, therefore four seats suffice. A washstand placed in the desk office enables one to leave a patient after an examination to clean up out of her sight. This detail is a matter of comment by women.

All this can go into 10x10 or less. A smaller space is not easy to ventilate without draughts. Much room may be saved here by placing the book shelves so that the lowest shelf is five feet from the floor. This will leave all the wall space, except where doors and windows come, available for chairs, desk, and passage room, and at the same time provide generously for books. Three tiers of books may thus be within reach. It should not be forgotten that a shelf nine inches deep will hold big books. Such shelves, flat against the wall, are decorative, and yet out of the way, because they are placed above shoulder height. At the desk, the first requisite is to have histories, accounts, and stationary easily accessible. The main drawer may be partitioned so that the cards are directly under the hand. Vertical files can be bought that will fit any deep drawer, and card catalogue outfits are planned to adjust to any desk space.

The Examining Room.—The best lighted, best ventilated room should be chosen, preferably one facing north. Direct sunlight is desirable neither in summer nor winter. Therefore, the man with morning office hour, if he must choose between east and west, should face west, and the man with the long afternoon hour face east. In building or in reconstructing an extension a skylight should be put in. For photography it is invaluable, also for summer ventilation, and for lighting inner rooms. A light finish on wall and ceiling reflects and diffuses light, and is economical in night illumination. A washable wall, painted or tiled, is best. The light tinted and enamel woodwork should be warm in tint—cream white, for example, not bleak blue white or a cold green. This tinting makes a good reflector of light and a good background for photography. The trim should be as flat and free from dust catching panels or beads or mouldings as possible, yet the room need not look bare or lose that architectural beauty which comes from good and sufficient relief. Chairs, stools, table and stands may be enamel white or iron. Glass must cover the tops of stands or tables. The new milk tint glass is good. Glass shelves save much perpendicular space, for the eye can follow the hand back to the rear of a lower shelf, looking through the shelves above, thus allowing close layering of the transparent shelves. Instruments, I hold, should be hidden. It smacks of the charlatan to exhibit rows of gleaming steel horrors. The man who does it should hang in his waiting room the picture of Paré vivisecting the legs of struggling soldiers with red hot soldering irons at his feet, or that of Vesalius posing before a ghastly dissection.

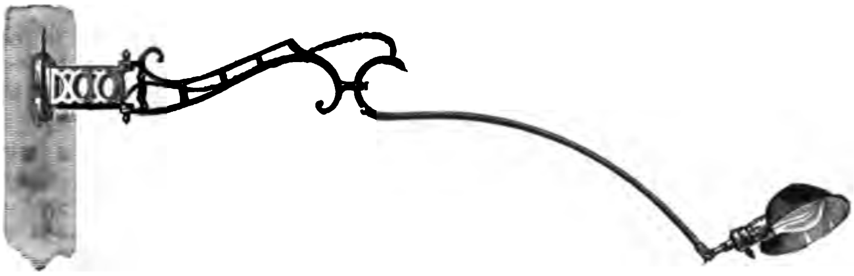

Fig. 11.—Swinging bracket carrying electric light to various heights and angles.

As to the table, individual preferences will always rule. It must be steady, yet on large rollers to move about readily. It must be comfortable to lie on, yet easily cleaned. I prefer enameled wood for its steadiness and simplicity. Patients are somewhat fearful of the iron machines. The best of these is the new Boldt table. Its top adjusts to a variety of inclinations, desirable now that a large proportion of pelvic examinations include the bladder and rectum.

Artificial Light vs. Daylight.—It holds as true for the gynecologist as for the man who deals with the larynx or the ear drum, that artificial light is better than daylight. And for these reasons: Looking into the vagina, we look into a dark cavity, whose surroundings are necessarily pure white. Now, the more brilliant the light that falls upon the coverings of sheet and towel, the more the pupil contracts and the less it can make of the non-actinic red in the cavity. Let but direct sunlight fall upon the sheet and the cervix disappears. This paradox holds good: The more light, the less one can see. Moreover, when light from a window is used, the patient must adapt herself to the direction of the light. With the head lamp the light follows up and adapts itself to the patient's position, and may sweep about a cavity which is narrowest at its entrance. The same is true of the head mirror, but in a less degree. Both the latter methods differ from window light in directing the greatest intensity of illumination to the spot where it is most needed.

The head mirror is the only quick and simple method of illuminating the female bladder. The head light works perfectly well for the rectum and vagina, is easier to manipulate than the mirror, and does not need handling, as the mirror does. Through a hymen so narrow that the finger tip cannot pass we may painlessly treat a raw cervix, take off a polyp, or dilate a cervix, because we have perfect illumination, tiny specula, and a skill born of the training of the last few years in difficult bladder work.

Electric Head Light.—The band should set firmly without disarranging the hair, and have a light cable long enough to permit the wearer to stand up or move to his washstand without pulling away. The lamp light bears a focussing device. Nothing is better for vaginal work and rectal treatments. The lamp may be connected with a storage battery (generally a troublesome affair) or with any electric light outlet. A Vetter tap goes under any incandescent light, and there is another that permits regulation of the light. This latter is a cylinder ½ inches by 5 inches in length.

Head Mirror.—For examination of the female bladder or through a tiny opening in the hymen the head mirror is generally used. I have abandoned my complicated and expensive and pain-producing cystoscopes, except in special cases, for the simple tube. The handling of the head mirror is facilitated by substituting a band of flexible metal for the ribbon, so that the hand which twists the swabs need never touch the mirror, one hand putting it on or manipulating it. This support, by means of what might be called a metal hat band, is steadier, but no heavier than the Phillips sagittal suture device. The metal can be rendered sterile, as the ribbon cannot.

To place a light for the head mirror over against the operator, an electric bulb on a handle at the end of a long cord has been used. A far better method employs a light arm swinging from the wall, so jointed that it stays in any desired position. The Paries bracket used by dentists, to be had of the S. S. White Dental Co., is entirely satisfactory and is cheap. There are also brackets for a lamp or a Welsbach or Argand burner, but these are less convenient.

The new electric outfits are exceedingly convenient. From one board connected with the street current galvanic and faradic currents are taken, the head light and cautery can be run, and the electric drill.

Minor Conveniences.—Among the many items that make for comfort and clean work I mention a few that have been tested and found most desirable. The soap jar, which delivers liquid soap, is safer and more convenient than any other method of supplying soap. The Lee jar, in the later egg-shaped pattern, is entirely satisfactory. The tincture of green soap is still the best of the formulas. An infected hand makes no contact with the supply by taking the fluid first on the brush.

In making applications, whether of iodine, carbolic acid, chromic acid, silver nitrate solutions, or whatever is called for in small quantity, I find the dainty little glass receptacle made by McKesson & Robbins for the dentist's peroxide very handy. It is a low, conical glass, with a broad base, holding ten minims. If a dropping tube stands in each bottle and its contents are squirted into the pyrozone cup, and the application is made from this cup, which is boiled afterward, no infection is probable, as it would be when a swab is dipped directly into the bottle of solution. (Fig. 13.) The quarter-grain hypodermic cocaine tablet dropped into this ten minims makes a 5 per cent. solution, just enough for an ordinary local anesthesia.

Duplicate Outfits.—To save time there should be one or more duplicate sets of those instruments which a surgeon or specialist needs constantly. Then one set may be in its tray in the sterilizer while another stands in its own tray or rack, ready for use. A sample group would comprise a set of dressing instruments,—for the surgeon, scissors, forceps, probe, pipette; for the gynecologist, a Sims and bivalve speculum, dressing forceps, applicators, sound and instillation tube; or, for the female bladder, No. 7 and No. 8 Kelly cystoscopes and applicators. Such a set stands, after boiling and covering, ready for use.

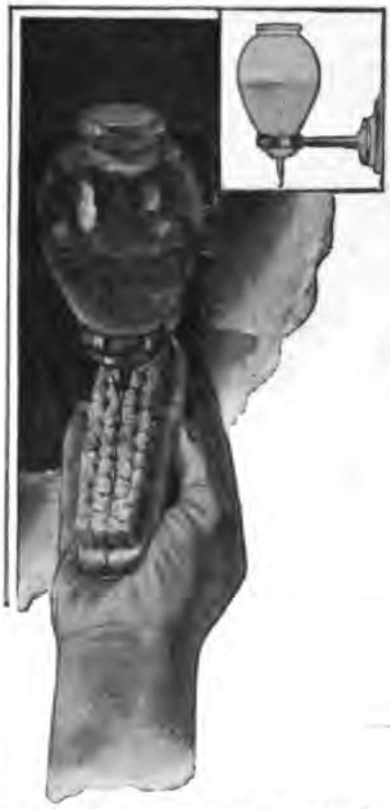

Fig. 12.—Soap jar delivering tincture of green soap into sterile brush.

Sterilizing-Laboratory-Supply Room.—A space not much wider than a corridor—enough for a wide shelf, a chair before it, and for passage behind the chair—will serve for the unkempt room of the plan. Here, in shelves above, supplies are kept. Doors, not hinged on the side, but that slide sidewise or turn upward, protect from dust.

The sterilizer and its steam is best kept out of the offices, even if it has to go into a box of a closet. Wherever it is placed, it should have a hood and a pipe leading outdoors through wall or window to carry off gas, steam, and heat. The cost is slight, the comfort great.

If the boxing-in is defective a small tube may run upward from the top of the sterilizer into the metal pipe that acts as chimney to carry off the gases, made to fit so snugly as to hold the top out of the way when telescoped by being shoved upward. (See Fig. 14.)

Down to the shelf on which the stove stands the zinc boxing runs on all sides, except in front, where a flap or door is hinged to give access to the stove and boiler within. A two-inch zinc pipe runs up to the cornice, and thence to the outer air through wall or window. A counterpoise or catch holds the flap up. An asparagus kettle meets all ordinary needs for boiling instruments, and may be kept going throughout the office hour. The hood need not be large enough to cover the large sterilizer used for gowns, douche bags, Kelly pad, etc., because such use is only occasional.

Toilet Closet.—A minimum size for a water closet is 2½ x 3 feet. (Fig. 4.) One 3 x 4 feet gives ample space. If it has two doors, one opening from the hall and one from the office (Figs. 3 and 7), they can be locked at one motion by the person within by means of a long hook reaching from the inside of one door to an eye on the inside of the other. Neither door of the toilet room should be in full view of hall or waiting room, nor should it open only into the examining room or office, otherwise persons who are waiting will not have access to it. (Compare plans 3, 7, 8 with the others.)

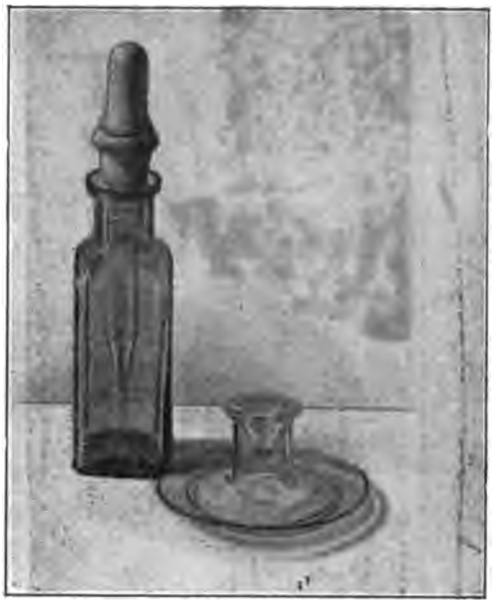

Fig. 13.—Bottle containing fluid for application, with a pipette that acts as cork; glass cup, on watch glass, to receive the needed portion of the solution.

One closet may wisely be adapted for a telephone booth. A coat closet may be so used, or a corner of the hall is easily cut off diagonally to close in the telephone. Many of the doctor's messages over the wire are of a nature that renders it desirable for him to be able to shut himself in. The desk set may be on an extension of the same line. Furthermore, this telephone in a hall closet makes it unnecessary for servants to enter the office to answer calls during the doctor's absence.

The Recovery Room.—It is supposed to be unwise for a doctor to have a couch of any form within the closed doors of his office. At any rate, it is unnecessary. Thus all appearance of evil may be avoided. In the rear of the waiting room a screen drawn around a narrow couch or divan gives the necessary privacy and quiet, or the end of a hallway will do. A part or all of what constitutes the secretary's quarters during other parts of the day may be used in this way, as shown on more than one plan. The safe for the ledger is more conveniently placed here also, except that it is well to consider which is likely to be the least hot place in case of a fire. Some men deem their case histories of sufficient value to fit up a safe for them.

Assistants.—By doing special work only on special days, many young men can well afford assistance. In some cases a discreet housemaid acts as offic nurse. At the next step the attendant becom stenographer, accountant, secretary, and nurse i one. For office work a conscientious woman wh has learned shorthand can easily be taught surgic cleanliness and the keeping of accounts, becau the round of duties is a narrow one, the possibilit of error few, and the supervision constant. The ex perience and training of the hospital nurse are no necessary as a preparation for ordinary office wo unless the office nurse is also called upon to assist a outside operations. There is all one nurse can d in a busy one-man office, as of a gynecologist, in th care of offices, instruments, supplies, and dressings in the preparation of the ever ready operating bags in keeping the accounts, and typewriting letters an manuscript, to say nothing of attendance at the doo and the telephone outside of office hours. She ma be trained to the routine of urinalysis. Indeed, it i a matter of no small surprise to the ordinary sys tematic business man to see the busy doctor himsel performing the simple routine duties of laboratory instrument room or accounts, at a loss of valuabl time needed for rest and study or for those things which he alone can do.

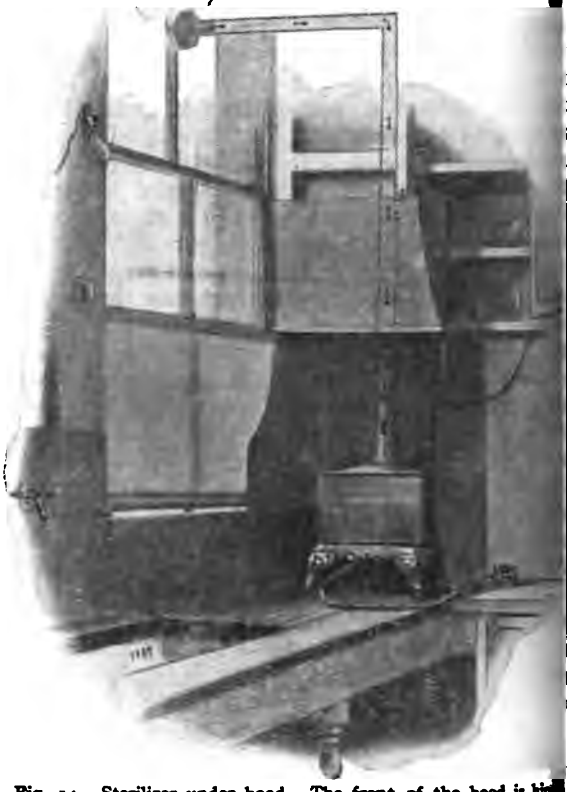

Fig. 14.—Sterilizer under hood. The front of the hood is hin From the lid of the sterilizer a tube leads into the pipe.

Appointments.—As soon as a waiting room get into the habit of being well filled, and wheneve patients persistently complain of the delays, th inauguration of a system of appointments will mar a long step forward in everybody's comfort. It need not be exclusive. That is, a space may be left unoccupied at the beginning, another at the close, and, if the hours are long, one at the middle part. These arrangements apply to the man whose time in the office covers two or three hours. The patient on leaving the office is simply told by the physician to return in four days, or fourteen, and the door attendant does the rest, entering on a diary the day and hour satisfactory to the patient. In case of inability to keep the appointment, notice is expected, by telephone or mail. Thus the work spreads, even and unhurried, over the time, instead of following the feast-or-famine plan. People do not bunch at the very end of the hour, prolonging it beyond all reason, and in case of an emergency summons or operation the physician can call off his appointments, since his callers are listed.

Printed Directions.—For the surgeon time is saved and exactness insured by a printed list of directions to the nurse for preparation for operation. For all medical men the printed diet lists are essential, as they cover every condition. For children of any age or with almost any disease full diet lists are published. One tears off a page and alters it readily to suit the particular patient.

In addition to the above, every specialist has his own particular set of instructions, which he is forever reiterating. A few simple printed slips economize time, and, while impressing the patient, clinch the instructions, otherwise likely to be ill-remembered. Thus much time is saved, and thus only is accuracy insured.

Rubber Stamps.—An outline of any region or organ on a rubber stamp may now be obtained. Speed and accuracy are served. To make an entry on a diagram takes one-tenth the time that is required to jot down a description and dimensions. A printed outline on the history card of the specialist may serve his purpose better.

Card Ledger and *Card Histories.*—I have written at length on this matter, and shall do so again. Here it will only be in place to urge that the first is of the utmost value, whether to the beginner or to the busy man, and that the second is the only method of record that combines portability, neatness, elasticity, orderliness, and readiness of access.

In closing, let me say that the suggestions here given are not based on theory, but on years of use.

168 CLINTON STREET, BROOKLYN.

THE PRESENT LIMITATIONS OF SERUM THERAPY IN THE TREATMENT OF THE INFECTIOUS DISEASES.*

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ONE of the earliest practical results of the studies concerning acquired immunity was the wonderfully successful antitoxin serum therapy in diphtheria. This practical application of the principles upon which acquired immunity depends was in reality premature, evolved by the genius of Behring and his confrères some years before the principles themselves were more than vaguely understood. But while, thanks to the work of Metchnikoff, Ehrlich, and a host of others, the knowledge concerning immunity, antitoxic and bacteriolytic sera has been rapidly developed and amplified, serum therapy has not advanced with anything like equal rapidity. While the logical clinician is now able to understand the *raison d'être* of the success of serum therapy in diphtheria, the broader knowledge of the laws upon which immunity depends has not yet increased the number of infectious diseases which are amenable to curative and prophylactic treatment by antitoxic or antimicrobic sera.

To understand the reason for this it is necessary to recall some essential facts. The pathological bacteria which have been hitherto identified with specific infectious diseases naturally fall into three groups, as far as the production or non-production of toxins is concerned.

First, those bacteria which produce in living cultures outside of the body, best shown in fluid media, as a free secretion, a virulent real toxin. The chief members of this group are the diphtheria and tetanus bacilli. A subsidiary member is *B. pyocyaneus.*

Second, those bacteria which secrete little or no free toxin in living cultures, but do contain a powerful toxin, known as an endotoxin (Buchner-Oppenheim) in the living bacterial cell, which is partly set free only upon the death and disorganization of the bacterial cells. To this class belong by far the largest number of known pathogenic bacteria. Good examples are the pneumococcus, the typhoid bacillus, the streptococci, etc.

Third, those bacteria that produce no free toxins, nor have in the bacterial cells endotoxins of any power, but in which the cell plasma contains other poisons in addition to the protein poisons which all bacterial cells in common contain. For our purpose the most important member of this group is the tubercle bacillus.

The importance of such a classification will be evident when it is recalled that in the diseases with the causation of which the bacteria belonging to the first group have been identified, there is present a local growth of the specific bacteria at some favorite site, together with a more or less general toxemia to which are due the constitutional manifestations of the disease. The toxic products are absorbed by the lymphatics and blood vessels and carried throughout the system. This does not preclude the spread to new centers of bacterial growth either by direct extension or by a limited dissemination of the bacteria themselves by means of the circulation. But the toxin and its dissemination are the important factors. On the other hand, in those numerous diseases in which bacteria belonging to the second group are the pathogenetic factors, there is practically no free toxin produced, to be absorbed and carried through the circulating and lymphatic vessels. The pathological changes in the cells, tissues, and organs are due to the bacteria themselves, and while endotoxins are set free on the destruction of the bacteria, and their absorption does give rise to toxic symptoms, it is evident that its quantity depends upon the quantity of bacterial growth. Furthermore, these endotoxins are not as toxic as the real toxins produced by the bacteria belonging to the first group. In a word, in this group the microbes are the important and direct pathogenic element, as are the free toxins in the first group.

In the third group the symptoms of the disease are due to the bacterial growth, poisons in the cell's plasma and protein contents of the bacteria and the pathological changes which result from their influence. There are no toxins or endotoxins.

It is unnecessary to say here that all three groups of these infections may be complicated by mixed infections in which organisms of various kinds may take part.

Studies of the methods by which an acquired immunity can be induced in the living body which has become the seat of an infectious disease have shown that the diseases due to the bacteria of the first group can be logically treated by antagonizing the free toxin, by the injection of the blood serum of an animal which has been immunized to that toxin. Such immunization is accomplished by repeated injections of the toxin until the animal no longer reacts to the largest and most virulent possible doses. The serum of such an animal contains antitoxins which enter into chemical combination with the toxins in the blood of the diseased animal and neutralize it. Diseases due to the bacteria of the second group can *not* be treated by such antitoxic sera, because the bacteria belonging to this group do not secrete a free toxin in the course of their growth, or practically do not, or at least no toxin of sufficient virulence for purposes of immunizing animals. Apart from that, in the diseases produced by this group the pathogenetic factors are the bacteria, and antitoxic sera would not antagonize them nor inhibit their growth. For example, even the diphtheria bacillus grows excellently in diphtheria antitoxic serum, as does also the diplococcus of Weixelbaum. So that in these diseases we are logically forced to rely upon antimicrobic sera which produce immunity in an infected animal by producing a bacteriolytic or destructive action upon the bacteria in the tissues and fluids of the body. Such a curative serum is produced by immunizing animals to repeated injections of virulent pure cultures of the bacteria against which it is sought to immunize the animal. The blood serum of such an animal contains an anti-body, comparatively stable, known as the immune body, which is bacteriolytic, however, only in the presence of an unstable body present in the blood serum in the living body and in freshly drawn serum; this is called the alexin, or complement. This alexin, so necessary to the bacteriolytic action of the antimicrobic serum, is present in very small quantity in the blood serum of the living body, hence one of the reasons for the inefficiency of the antimicrobic sera. For the alexin is rapidly destroyed when the blood serum has left the living body, so that the antiserum soon contains none of it, while that present in the body of the patient is insufficient to enable the antimicrobic serum to neutralize more than a limited quantity of the bacteria. Wassermann has advised that the necessary alexin be supplied by injecting with the antisera fresh normal ox or horse serum—surely a difficult thing to accomplish.

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* Read before the Medical Association of the Greater City of New York, April 10, 1905.

As to the diseases dependent upon bacteria belonging to the third group, medicine has as yet received so little encouragement in the treatment of such diseases, as tuberculosis by a therapeutic serum, that so limited a paper as this may well leave this portion of the subject to more minute and special investigation.

In the case of both the antitoxins and antimicrobic sera, the therapeutic action, both curative and prophylactic, is only potential, and not positive in any individual case. It is true that, for instance, in the laboratory experiment a given fixed quantity of diphtheria antitoxin will safely antagonize and neutralize the effect of a fatal dose of diphtheria toxin when both are injected simultaneously into an animal, or when the injection of the antitoxin immediately follows the injection of the toxin. Yet it is apparent that the conditions present in the laboratory experiment are not duplicated in the sick room. First and foremost is the element of time; the injection of the antitoxin does not immediately follow the infection of the patient. Even were the antitoxin injected on the first appearance of pseudo membrane in the throat, the antitoxic injection would still be as many days behind the laboratory experiment as is indicated by the duration of the incubation period of the infection in the given patient. Indeed, when this fact is taken into consideration, it is marvelous that such magnificent results from the antitoxin treatment of diphtheria are obtained. For it is essential that the antitoxin of the injected serum come in contact with the toxin in such a condition that it can enter into chemical combination with it. In other words, it can only bind the toxin which it finds free in the blood and tissues. That which has already entered into firm combination with the body cells, for some of which it has a selective action, is no longer amenable to neutralization by antitoxin. Hence one of the important practical limitations to the efficiency of the antitoxic sera in therapy is the length of time that has elapsed since the infection has occurred. The Ehrlich side chain theory enables us to comprehend why it is that in spite of considerable lapse of time, the antitoxic sera are effective. The toxin molecule becomes anchored to the body cell by a certain atomic group or side chain which Ehrlich terms the haptophore group; but its toxic action upon the cell does not take place until after some time (the incubation period), when it is further attached to the body cell by another atomic group, the toxophore group. The body cell, on the other hand, possesses corresponding side chains to unite with those of the toxin molecule. These side chains are termed the haptophile and toxophile groups. If the antitoxin enters the circulation before the toxin molecule has become attached to the cell by its toxophore group, the toxophile group of the antitoxin molecule chemically binds the toxophore group of the toxin molecule, and thus prevents the union with the toxophile group of the cell. In this case, and that is the usual condition in the curative use of antitoxin sera, a much larger amount of antitoxin is needed than would have been required if the toxin were free in the circulation and no union with the living cell had taken place. Our present clinical and bacteriological knowledge, therefore, enable us to lay down certain limitations to the use of antitoxic sera in the treatment of diseases produced by the toxic bacteria belonging to our first group. These are:

(1) That the bacteriological cause of the disease must be positively identified and known.

(2) That it must be an organism which produces a free specific toxin, and virulent enough to be effective in the immunization of animals.

(3) That the experimental injection of the antitoxic serum in sufficient quantities be successful in saving animals from death when injected with or immediately after a fatal dose of the toxin specific to the organism.

(4) The bacterial cause and its toxin being both specific, the specificity of the action of the antitoxic serum follows as a natural sequence and must be recognized.

(5) The combination between toxin and antitoxin being a chemical one, there must be an absolute quantitative relation between the amount of toxin injected and the quantity of antitoxin required to neutralize it.

(6) That the antitoxin, when used for curative purposes, must be injected before the union of the toxin with animal cells, has become sufficiently firm to cause pathological and destructive changes in the body cells, tissues and organs. For the antitoxin only antagonizes and neutralizes free or partly free toxin. The time element is, therefore, of importance in antitoxic serum therapy. It must be remembered, however, that even where pathological changes have already occurred, the neutralization by antitoxin of

subsequent toxin that may be developed prevents further pathological changes and enables the system to cure those that have already occurred. The process is further aided in diphtheria by the use of local therapy to the site of the bacterial growth for the destruction of it and its pseudo-membranous deposit.

It is on account of this last limitation that tetanus antitoxic serum therapy is so much less efficacious than the antitoxic serum therapy of diphtheria. In the latter disease the local throat lesion, with its clinical symptoms, appears somewhat before or early in the toxemia, so that the antitoxin is enabled to successfully antagonize the free toxin in the blood and tissues. In tetanus, on the other hand, the infection occurs, but gives rise to no clinical symptoms until the toxin has entered into a close combination with the nerve cells of the brain and spinal cord, for which this toxin has a selective affinity. Then only are clinical symptoms manifested, and this is too late for the tetanus antitoxin to have any effect Experimentally it has been shown that a very short time (a few seconds) after tetanus toxin has been injected into the blood of animals it rapidly disappears from the circulation and becomes fixed in the central nervous system. As I have said before, this seems to be the keynote of the non-success of antitoxin serum therapy in the treatment of tetanus.

The first and second of the limitations which we have laid down require no amplification. It goes without saying that the identification of a bacterium is necessary before its toxin can be isolated or known, and such bacterium and its toxin must be identified as the specific bacteriological cause of a disease, before immunity can be established in an animal and a specific antitoxic serum be produced. Infectious diseases whose bacteriological cause is not known can not be treated by antitoxic sera. The use of diphtheria antitoxin, *e.g.* for the cure of infectious diseases of undetermined bacteriological pathogenesis would be futile and illogical, however much empirically supported by misleading statistics. It follows, too, that the effective preparation of antitoxic sera from immunization of animals with culture products obtained from non-toxin producing bacteria is impossible, as, for instance, the failure to produce a streptococcus antitoxic serum, although antistreptococcus serum is a logical and therapeutically somewhat effective product in certain diseases.

The logic of the third limitation follows from the nature of the chemical antagonism between toxin and antitoxin. Surely if the life saving effect does not occur under conditions present in the laboratory experiment on animals, it cannot occur under the conditions present in disease.

The fourth limitation, that the action of the antitoxic sera is absolutely specific, follows from the biological data which enter into its production. He is an enemy to the future progress of serum therapy who advocates the therapeutic utility of the antitoxic serum specific to one organism for the cure of the toxic or microbic ravages of another. There is no logic in such a recommendation. Rather is it the worst kind of empiricism. Preferable by far to adhere to the symptomatic treatment of disease than rend asunder the complete logical chain upon which legitimate serum therapy depends. Such therapeutic experiments as the use of diphtheria antitoxin in the treatment of pneumonia, or diphtheria antitoxin in the treatment of cerebrospinal meningitis epidemica have no bacteriological groundwork upon which to rest, and are repugnant to the principles of scientific serum therapy. Both pneumonia and cerebrospinal meningitis vary from time to time in severity and in their death rate. The results in a number of cases, even if large, treated on such illogical and inconclusive serum therapeutic basis, teach nothing as to the efficiency of such therapy. Such methods fall into disuse long before they have gained even a limited vogue. It is true that the injection in limited quantity of a heterologous serum, like horse serum, whether it is from an immunized or non-immunized animal, has a tendency, as Metchnikoff has shown, to stimulate phagocytosis, and may thus aid secondarily in the disintegration of any pathogenic organism that happens to be floating in the blood. But this would be as readily accomplished by the injection of non-immunized horse serum. Even this is not probable, for reasons which we have no opportunity of discussing here.

The fifth limitation as to the absolute quantitative relation between toxin and antitoxin would give us exact indications for the dosage of antitoxic sera did we but know how much toxin has been produced and remains in the body of the patient. This we have at present no clinical means of estimating. The therapeutic indication is, therefore, to inject sufficient antitoxin to produce the desired result, provided no symptoms contraindicating further injections occur. The element of the duration of time that the patient has been suffering from the disease becomes an important factor. For it is found in diphtheria that the longer the patient or animal has been suffering from the disease the larger the quantity of antitoxin required to produce a beneficial effect. And it appears that an arithmetical progress in the time since the infection requires a geometrical progressive increase in dose of antitoxin necessary to antagonize the toxin that causes the disease. This is partly due to the increased amount of toxin in the body, but far more to the fact that toxin molecules that have entered into *partial* combination with the body cells require a large excess of antitoxin to drag them away from their union with the living cell.

Thus also clinical and bacteriological data derived from studies in immunity from infections due to organisms belonging to our second group permit the formulating of certain essential prerequisites to the use of antimicrobic or bacteriolytic sera in the treatment of such infectious diseases. These are:

(1) The bacteriological cause of the disease must be positively identified and known.

(2) The experimental injection of the bacteriolytic serum in sufficient doses must be successful in saving animals from death when injected with or immediately after a lethal dose of a living corresponding bacterial culture.

(3) The bacterial cause of the disease being specific, the specificity of the bacteriolytic serum follows as a natural sequence.

(4) Since the antiserum has a destructive or bacteriolytic action upon the pathogenetic bacteria, their action being dependent upon the combined presence of two known substances, namely, the alexin or complement (an unstable substance present in the normal living body and in fresh serum) and the immune body (present in bacteriolytic sera), and since only a small amount of the alexin is present in the body, in quantity sufficient to produce only a very limited bacteriolysis, it follows that, unless the antibacterial serum be freshly drawn, thus securing the unchanged alexin present in the blood of the immune animal, the antimicrobic action of the bacteriolytic sera is limited by the insufficient amount of alexin present in the body of the patient. Wassermann, recognizing the impossibility of having the bacteriolytic sera freshly obtained for each case, advises for this purpose the injection of the fresh serum of non-immunized horses or oxen in addition to the antiserum itself. This recommendation, however, can

hardly, for obvious reasons, be considered as having solved the problem.

Under all circumstances it is absolutely necessary that the bacteriolytic serum be fresh.

(5) The bacteriolytic sera have a quantitative relation to the amount of bacteria which they can destroy. At best the antisera protect only against a limited amount of bacterial infection. When this increases beyond a certain figure no amount of antiserum will protect or cure the animal. Hence very large doses are necessary, sometimes repeated. Thus the antistreptococcus serum is used in doses of 150 to 250 c.c., repeated if symptoms do not improve.

(6) While enthusiasts might claim that the bacteriolytic action of the antisera seen in animals which are the subject of experimental infections occur also in patients suffering from infectious diseases, no curative effect can possibly occur with regard to pathological changes which have already been produced by the bacterial infection. So that the later the antiserum is used the less the chance of its having any curative effect.

Bacteriolytic sera have been prepared for the serum therapy of a number of the infectious diseases, but such sera have hitherto had little or no efficacy. Thus an antistreptococcus serum has been prepared for use in cases of septic infection by streptococcus pyogenes or erysipelatis. Pane has prepared an antipneumococcic serum, Calmette an antiplague serum, and antisera have been prepared for the treatment of typhoid fever, cholera, tuberculosis, anthrax, yellow fever, suppurations due to pyogenes aureus, and infections with the colon bacillus and the bacillus dysenteriæ. Attempts have been made to produce antisera in almost every infectious disease the bacterial cause of which is known. It is safe to generalize and say that none of these sera have been therapeutically effective, an occasional report of one or more apparently hopeless cases brilliantly cured to the contrary notwithstanding. These failures are probably due to one or more of the limitations inherent in all bacteriolytic sera, especially to the impossibility of providing sufficient alexin complement, and the difficulty of recognizing most of the infectious diseases until symptoms depending upon gross pathological changes have occurred. The serum therapy is thus applied too late. Finally, even the largest practicable doses of the bacteriolytic sera can destroy only a limited amount of bacteria, entirely insufficient to free the patient from the bacterial infection.

Such automicrobic sera have, however, been prepared for use even in diseases the bacterial causes of which have not yet been identified or positively recognized, as, for instance, the antiserum prepared for the treatment of syphilis, which may be dismissed from serious consideration. Time enough to speak of such a serum when the bacteriological cause of syphilis is known.

In scarlet fever, too, notwithstanding that the bacterial cause is not yet generally recognized, an antiserum has been prepared which may not thus summarily be dismissed from consideration, owing to the fact that eminent clinicians have ascribed to it remarkable efficacy in the treatment of this disease. Marmorek and Aronson both used an antistreptococcus serum in the treatment of scarlatina. The former used an erysipelas streptococcus, the virulence of which had been increased by repeated passage through animals. With this virulent culture of streptococcus horses were immunized and the serum of such immune horses used for the treatment of scarlet fever, with the object of preventing the complications due to mixed infections with the streptococcus, and thus diminishing the death rate. Aronson's serum was prepared in a similar way, except that the original culture was from a streptococcus obtained from the bone marrow of a patient dead from scarlet fever. He also increased the virulence of the organism by repeated passage through animals. Tavel, and, later, Moser, prepared an antistreptococcus serum in which the streptococcus was taken from the blood of patients dying of virulent scarlatina. They did not attempt to increase the virulence of the organism by repeated passage through animals, claiming that such frequent passage through animals altered the biological character of the streptococcus, so that it was no longer identical with the species of streptococcus which complicated the scarlet fever. Neither Tavel nor Moser claims that the streptococcus is the bacteriological cause of scarlet fever; nevertheless Moser ascribes to the antistreptococcus serum which he has thus prepared brilliant curative virtues in the treatment of scarlet fever. In the St. Anna Kinderspital in Vienna there were cases of this disease:

				Died.	Per cent.
Treated without serum in	1898	171	of which	22	12.86
	1899	268	"	44	16.41
	1900	265	"	33	12.45
Treated with serum (Moser) in	1901	389	"	35	8.99
	1902	368	"	25	6.70

Escherich reports (*Wiener klinische Wochenschrift*, No. 23, 1903) 112 cases of varying severity treated by serum with 17 deaths, equal to 15.17 per cent.

Pospischill (*Wiener klinische Wochenschrift*, No. 15, 1903) reports 26 severe cases treated, of which 12 died, almost 50 per cent. Moser himself reports 48 cases of varying severity treated by serum with 13 deaths, over 25 per cent. (*Wiener klinische Wochenschrift*, No. 44, 1903).

I may be permitted to compare these statistics with those of the Riverside Hospital, of which I am an attending physician. At that institution we treated during the year 1904 899 cases of scarlatina of every grade of severity, with 75 deaths; 17 of these deaths occurred within twenty-four hours of admission, the cases being admitted in practically hopeless condition. They should properly be excluded, leaving us a death rate of 6.45 per cent., or, if included, a death rate of 8.34 per cent.

From the statistics I have quoted it will be seen that our death rate, on classical lines of treatment and in a very large number of cases, is lower than the results from the Moser treatment in the St. Anna Kinderspital for 1901. And, excluding our 17 practically moribund cases, the 6.45 per cent. death rate is better than the best reported results from the Moser treatment in the St. Anna Kinderspital, those for 1902. It must not be forgotten that the Riverside service cannot select its cases, but must take all that are offered, the hospital being in charge of the Health Department.

Notwithstanding, however, that the statistics are not convincing nor impressive in favor of the Moser treatment, we should not be disposed to condemn this method of treating scarlet fever were there other good reasons in favor of its adoption. But there are unfortunately none such.

This serum violates the first logical essential for the production of an antiserum. The bacterial cause of scarlet fever is unknown, and while many of the complications are due to mixed infections with the pus organisms, surely the death rate in scarlet fever is not due wholly to the mixed infections. It is begging the question to inject a serum for the prevention of complications and leave the primary disease untreated. Indeed, Moser, in his later reports, claims far more for his serum. He records a few temperature charts in which he shows that the fever curve in these few cases, twenty-four hours after the injection, underwent a critical drop, by which he implies, although he does not so state, that his serum antagonizes or neutralizes the toxic or bacterial cause of the fever in scarlet fever; in other words, antagonizes the bacterial cause of the disease. In a few cases treated in the Reception Pavilion of the Willard Parker Hospital in 1902 I did not observe any such effect produced on the temperature curve by the injection of the serum. While it is the rule for the fever in scarlet fever to be maintained at the maximum temperature for the given case until the eruption has covered the body, and then gradually to resolve by lysis, it is not at all rare to observe in a case that begins with a high temperature a critical drop before the third day, when the eruption has scarcely covered the body. In these cases it will generally be found that the abnormally high temperature was due to the severity of the throat manifestations, and that the subsidence of these results in a critical drop of the temperature.

Furthermore, what has been said concerning the necessity of adding the unstable alexin to enable the immune body to be effective in bacteriocidal serum therapy must not be forgotten. If the labors of Buchner, Ehrlich, Morgenroth, and Metchnikoff are of any value, the Moser or other similar sera must be absolutely worthless unless such antisera are accompanied by injections of fresh non-immunized horse serum to supply the alexin or complement. Again, while Moser uses large doses of his serum, 150 to 250 c.c., owing to the proven fact that the antisera only antagonize a limited amount of bacteria, yet in severe cases the bacterial mass must be so great that no amount of the bactericidal serum will antagonize it. It is true also that small quantities of a heterologous serum exert a phagocytic activity, yet large quantities of a heterologous serum, like horse serum, exert henolytic properties. I believe that the body of even our youngest patient is able to dispose of 200 c.c. of a heterologous serum; nevertheless it does seem reasonable to believe that in such large doses of a foreign serum injected into our young patients, there is much that is objectionable. These and many other considerations prove the unscientific basis upon which the anti-streptococcus serum therapy of scarlet fever rests.

These are some of the limitations of serum therapy at the present time. Many of them will be removed by future advances in bacteriological and biological knowledge. Let us not as clinicians hamper the master minds devoted to the solution of the intricate problems involved, and discredit the scientific structure which they are carefully erecting, fact on fact, by the empirical and premature use of such antisera in the treatment of disease for which there is no known scientific basis, but which, on the contrary militate against the fundamental principles of immunity.

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THE PRESENT STATUS OF RONTGEN RAY THERAPY.*

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A wide divergence of opinion exists among physicians in regard to the uses of the x-ray as a therapeutic agent. Notwithstanding the vast amount of work that has been done in the past four years with Röntgen rays, it is really astounding how little physicians know what can be actually accomplished by their use. That results have not been more positive and the claims for the x-ray set forth with a greater degree of positiveness as regards its effect as a therapeutic agent for certain diseases, is no doubt due largely to the fact that every physician has more or less confined himself to his own work, and has not digested thoroughly all that has been done in the same field by others. The time has come, however, when every one practising medicine must realize the value of the x-ray, both as a diagnostic and as a therapeutic agent. Radiotherapy has a broad field of usefulness, and it is essential to the best interests of the patient that a certain few diseases be treated by its means.

The x-ray has been abused by a few physicians in applying it, by a certain few who have overestimated its value, and by a large number of skeptics, who could not see how the x-ray could produce any results whatever in diseased tissues. If the opinion of skeptics were accepted, no advancement in medicine would have ever taken place. How many scoffed at the idea of vaccination, and how slow were many in adopting antitoxin as a therapeutic agent! The x-ray at the present time is going through a similar test, and even now, with exact and proper technic, it has attained a place in medicine as important as either of the agents mentioned.

Either success or failure in many cases of carcinoma, as well as other diseases, must be attributed to technic. Even at the present time no one's technic is perfect; but there is a standard by which effective work can be accomplished. With the best apparatus and meters to register the current from the time it passes through the primary induction coil until it goes into the tube, it is possible to account for a few of the failures which have occurred in the past; but still the experience of the operator is a better guide than all the meters to determine the penetration and the amount of chemical rays which are being given off from a tube. On applying the rays it is absolutely necessary to know what quantity and quality of rays are absorbed, and this can be accomplished only by an operator of judgment and experience. Among experienced operators and those who are attaining results, it is a well-known fact that scarcely any two diseases require the same therapeutic dose. If the operator can judge the quality of the rays, as well as the quantity absorbed, then he can administer the same therapeutic doses, and be sure of obtaining similar results in each condition. Too much work is done in a careless manner. I know a few surgeons who are having every case of carcinoma treated after operation, and as I have had the privilege of examining many of these cases, I have only seen a few in which a therapeutic dose was given. By this I mean that, after twenty treatments were given, no tanning or effect of the rays could be seen. I want to emphasize the necessity of giving a therapeutic dose. In deciding upon this, too much dependence must not be put upon the Röntgen ray ammeter. While this is a valuable instrument, it will not do everything claimed for it by the manufacturers. At a certain high vacuum a tube will practically give off very few chemical rays, and if a patient were exposed a long time to such a light, very little, if any, action on the diseased tissues, could, except a slight stimulation, be produced, while if the tube should pass a volume of current, a large number of rays would be given off and a curative effect would result. It is just as reasonable to expect to force a large amount of water through a pipe one-eighth of an inch in diameter, and do this in a time which, by mathematical calculations, would be impossible, as it is to attempt to force a volume of current through a tube so high that the internal resistance is so great that the amount of current which passes can scarcely be measured by the Röntgen ray ammeter, and at the same time expect the tube to give off a large quantity of chemical rays. This is what many are attempting.

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*Read before the Detroit Academy of Medicine, January 10, 1905.

A great deal has been written in regard to the detrimental effect of the *x*-ray upon the operator. That the *x*-ray will affect the operator, unless he uses the necessary caution, is a well-known fact, and if he did not do this it would be useless to apply the rays to diseased tissues. Any effect which has been produced upon the operator in the past two years shows that he has not familiarized himself with what is going on in the *x*-ray world, or else he has been exceedingly careless, and carelessness is not permissible in any branch of medicine. If a physician were careless he might cut his fingers, but the surgeon would not condemn the knife he used. In regard to Edison's assistant and a few others who were injured by the *x*-ray, it is only necessary to state that they did not understand the action on tissues of the energy with which they were working. A few years ago it was nothing unusual for the operator to sit before the fluoroscope for a considerable length of time studying the light, its effect on tissues being comparatively little known at that time. It was then claimed that the tanning produced by the rays protected the patient from further injurious effects, in the same way that sunburn protects the skin from further irritation. It is scarcely necessary to state that every one knows this to be untrue. Two years ago, at the time of the meeting of the American Röntgen Ray Society in Chicago, I was considerably burned, and when I saw the effects of the *x*-ray on various operators I realized the necessity of every operator abandoning the fluoroscope, because standing continually before the tube will produce harmful effects upon the operator's body. A fluoroscopic examination usually consumes considerable time, is really practically useless except for the purpose of testing tubes and making minor examinations, and since it is dangerous to the operator, this method should be discarded. Besides, a fluoroscopic examination is not a positive means of diagnosis, and if one takes into consideration the mistakes which have been made by using the fluoroscope instead of making a radiograph, it will readily be seen that results obtained by such methods are practically useless.

Many physicians using the *x*-ray have stated that since they did such a small amount of work (not making more than one or two fluoroscopic examinations a week), it would not affect them in the least. Most fluoroscopic examinations will consume at least ten minutes, and if the operator exposes himself, for this length of time, to an active tube twice a week, he receives what should be a sufficient quantity of *x*-rays to cure a case of lupus, and still these operators think that they can take such dosage every week without its having any injurious effect. This shows that physicians who make such rash statements know very little about the energy they are employing. I cannot impress it too strongly upon every physician to discontinue the use of the fluoroscope for diagnostic purposes, first, on account of the injurious effects produced by its continued use; second, on account of the number of mistakes which have been made. In regard to whether the *x*-ray has any injurious effects on the patient's health when being treated, I have made inquiries from almost all the physicians applying the rays to any extent, and the following, by a very prominent physician of broad experience, covers very well all the answers: "I have not found that the *x*-ray has had the slightest injurious effect on the general health of any patient, although some patients have been treated for from four to six months at intervals." A few physicians have remarked that at least one-half of the patients treated by the rays gain in weight during the first six weeks of treatment. I have noticed this frequently. Therefore, in the hands of a competent operator, the *x*-ray is just as safe a therapeutic agent as morphine or strychnine.

The *x*-ray as a diagnostic and curative agent must be used in a scientific manner if results are to be expected. It is absolutely necessary that the laws which govern light must be taken into consideration, and if the tissues are to be deeply affected, the law must be observed that the intensity of the *x*-ray, like that of light, decreases inversely as the square of the distance. Then, if tissues below the surface of the skin are to be affected, it is necessary to use a different technic from that which is employed for the treatment of skin diseases. In the treatment of the deeper tissues we should not produce a light which will burn the skin three or four times as much as the diseased structures situated two or three inches below the surface. It is necessary in the treatment of such conditions to use a light and such technic that the tissues will be affected nearly uniformly, otherwise very little effect will be produced. On the other hand, in treating a skin disease it is not necessary to burn the tissues two inches below the surface, unless these also are involved. The method of application accounts for many of the failures and successful treatment with the *x*-ray.

Carcinoma.—Sufficient evidence has been produced to gice radiotherapy a very prominent place in the treatment of carcinoma. That the rays should be adopted as the only treatment for carcinoma is a great mistake, and I can positively state that no conservative therapeutist would condemn surgery, any more than a conservative surgeon would condemn the Röntgen rays as a therapeutic agent. All cases of carcinoma, whenever operable, should be referred to the surgeon, and have the mass, or as much of it as possible, removed, and then a series of *x*-ray treatments given. I believe I can safely state that sufficient evidence has accumulated up to the present time to say that if the best interest of the patient is considered, such treatment should be adopted. It is a well known fact that beyond certain points surgical interference in the treatment of carcinoma is useless, and that recurrence in a particular situation after one or two operations leaves the patient without further hope, unless from the Röntgen rays; but even then the rays have done a great deal when the proper technic has been used. Still, the agent must not be overestimated in this class of cases. Now, if the *x*-ray will reduce the size of the tumor, cause the cessation of pain, the disappearance of offensive odors, and arrest the invading progress, why should it not be combined with surgery and the cases rayed before they have become hopeless? Many patients when they come to their physician are hopeless, and the surgeon hesitates or states that the case is very likely to have a recurrence, and that an operation might prolong the patient's life. Now, in these cases, if the combination of surgery and Röntgen ray can cure even a small percentage, it certainly is worth adopting as a routine treatment. At present a number of such cases so treated apparently have been cured. The severity of carcinoma of the breast is shown in Kuttsner's report of 41 operations during twelve years. In each of these 41 cases the supraclavicular glands were enlarged, and not a single case was cured. In this class of cases I am almost positive that, with the combination of Röntgen ray with surgery, at least from 10 to 25 per cent. of these hopeless cases would have been apparently cured and the lives of the remainder prolonged. Up to the present time there has not been much success in the treatment of deep carcinoma. By this I mean carcinoma of the stomach, rectum, or uterus, although the inhibitory action and relief from pain has been marked and reported by a large number of operators. The Röntgen ray occupies an important place in the treatment of epithelioma, as it is effective and leaves very little scar. Still, the cases must be selected, and the general opinion at the present time is that some of the patients should be referred to the surgeon and some treated by the *x*-ray. A safe method, unless the physician has had considerable experience with the treatment of epithelioma, would be to consult a surgeon before the treatment is decided upon.

Tuberculosis.—Sufficient evidence has been given in a number of cases reported by conservative physicians (Murphy, Rodman, Burdick, Pfahler, and others) to give the *x*-rays a place in the treatment of all forms of tuberculosis. However, in making this statement, I wish to warn the physician not to be carried away by the fact that the rays have apparently cured a large percentage of favorable cases, and that it is not advisable to discard any of the older methods, but only to employ the rays as an auxiliary in the treatment. Of tubercular cases, glands and fistulæ are most benefited, and bone lesions the least. Even pulmonary tuberculosis is more susceptible to treatment than when the disease is situated in bone. In the cases of pulmonary tuberculosis in which tubercle bacilli are found, a large percentage of apparent cures have been effected in the early stages, but when the sputum contains not only the bacilli, but also streptococci, the rays, as a rule, have given very poor results. Burdick reports a few instances of this mixed type in which he has had favorable results by the use of the antistreptococcic serum and the Röntgen rays.

Skin Diseases.—It has been six years since skin diseases were first treated by the *x*-ray, and while a large number are benefited by the application of the rays, it is certainly advisable to treat only the most obstinate diseases in this manner, as trivial affections can be relieved by other measures, with less expense to the patient. However, in the treatment of many diseases such as acne, eczema, psoriasis, keloid, nevus, lupus vulgaris and erythematosus, mycosic fungoides, sycosis, and a few others, the Röntgen ray should certainly stand first as a therapeutic agent. A number of cases reported by various men, among them being Allen, Montgomery, Hyde, Fraund, Schiff and Pusey, verify the above statement.

Probably one of the reasons why the *x*-ray is effective when other stimulating agents have failed is that the rays penetrate and reach the affected area. Ordinarily in the treatment of cutaneous disorders the remedies have only a very superficial action.

Conclusions.—(1) that the wide difference of opinion as to the value of the rays is largely due to the manner in which they are applied.

(2) That if the best interests of our patients are to be considered, the rays must be given a place as a therapeutic agent.

(3) That injury to the operators from the rays during the past two years has been due to thoughtlessness or lack of familiarity with what is going on in the *x*-ray world.

(4) That in applying the rays it is essential to know the quality as well as the quantity of the rays absorbed, and that this must be varied to suit each individual case.

(5) That unless the operator has had a wide experience in the treatment of carcinoma, he should always consult a surgeon in each case, as it is certainly by the combination of surgery and *x*-ray that the best results are to be obtained.

RECTAL ABSCESS CONTAINING GONOCOCCI WITHOUT ANY ACCOMPANYING GONORRHEA.

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The following very interesting case I saw in consultation with Dr. Arthur L. Root of this city, on January 16, 1895, and to his courtesy I am indebted for being able to report the case. The patient was suffering from an abscess about the portour of the anus, right side, which Dr. Root opened in November, 1894, and which was secreting an abundance of apparently laudable pus. No fistulous track could be detected, nor did there seem to be any opening into the bowel. It was simply a medium sized periproctitic abscess which had been discharging for about two months before I saw him. At that time it struck me as being very possibly a case of tuberculous abscess about the anus. On inquiring into his history I obtained the following facts: In February, 1887, he had his first attack of gonorrhea, which lasted for two weeks, and which he treated himself by the use of some patent injection. In July of the following year, 1888, he had a second attack of gonorrhea, followed by an epididymitis of the right side, which, according to the usual custom, checked the discharge, and when the testicle recovered the discharge did not return. Soon after, a small abscess formed in his epididymis, which was treated by Dr. Root and which finally got well.

In 1891 another epididymal abscess occurred in the same place and on the same testicle, which Dr. Root treated by puncturing, and which healed up quickly. Concomitant with this attack of the epididymis, the patient had a perineal abscess, which quickly healed up. Neither abscess was, apparently, accompanied by any gonorrheal discharge. In 1894, at or about the time that he had his periproctic abscess, he had another swelling in his perineum, which was opened and which healed up kindly. This perineal abscess had no connection with the urethra, and at the time of my visit to him, on January 16, 1895, had apparently healed up, for the only lesion that he had was this periproctic abscess which had formed in the latter part of 1894, about two months before I saw him. On inquiring into his sexual habits, I learned that for thirteen months previously he had had no sexual intercourse, and on examination of his genitals no disease of any kind could be detected. He had had no abscess of the prostate, his bladder seemed to be in good condition; indeed, all his genitourinary apparatus seemed to be in working order. The thought occurred to both Dr. Root and myself that he might possibly be addicted to unnatural practices, and the question was asked as to whether he had ever practised pederasty, activelv or passively, which he vehemently denied, nor did the anus show any evidences of unnatural practices. The anus was not relaxed or dilated, nor were the folds obliterated. No purulent discharge came from the rectum, the matter being entirely confined to the abscess around the anus.

Some of the pus was taken for examination, and it was believed by both of us that the result of this examination would reveal the presence of the tubercle bacillus. The report of the examination, however, made by Dr. Sondern on the 21st to the 25th of January, showed it to be absent. The report is as follows:

Report No. 1242.

Pus from Periproctic Abscess.

Remarks: Staining for bacteria shows following results: Repeated search for tubercle bacilli by ordinary method (dried on cover glass) also sediment by v. Sehlen and centrifuge failed to reveal any.

Staining by Zeihl Neilsen and Ehrlich both repeated in 24-hour processes.

Gram's method shows numerous groups of pyogenic organisms (streptococci and staphylococci) in each specimen.

Staining by methylene blue shows numerous groups of gonococci which were decolorized by Gram's method, substantiating the view that they are Neisser's diplococci. These were repeated on account of unusual occurrence, considering the origin of the pus, with the same result.

Respectfully submitted,

(Signed) Frederic E. Sondern.

The report surprised both Dr. Root and myself, for the last thing we suspected was the possibility of gonorrheal infection. In order to make perfectly sure that no mistake had been made, another specimen of the pus was collected on February 4, and this was examined between the 4th and the 8th, with the following report:

Report No. 1272.

Pus from Periproctic Abscess.

Remarks: Staining for bacteria shows following results: Regular cover glass dried specimen, as well as some of sediment by centrifuge. Staining by Zeihl Neilsen method, fails to show tubercle bacilli.

Culture on glycerine agar of specimen No. 1242 (first one examined) also shows negative results.

Gram's method shows numerous groups of pyogenic organisms, as in last specimen.

Staining by methylene blue, Eosin shows besides many eosinophilia, also some groups of diplococci, which I believe to be Neisser's and which are decolorized by Gram's method, which would tend to substantiate this view.

Respectfully submitted,

(Signed) Frederic E. Sondern.

This latter report appeared to confirm the correctness of the previous one, and no further examinations were made, inasmuch as what had been done was deemed sufficient for the purpose, and the patient was put upon local treatment, the abscess being cleansed with a solution of hydrozone, and in the course of a month's treatment the abscess healed up entirely without any complications, except that on inquiring of Dr. Root as to the ultimate result, he told me that the abscess had destroyed a portion of both sphincter muscles, producing more or less incontinence of feces. In consequence of this statement, I obtained Dr. Root's permission to examine the patient, who very obligingly called upon me on March 14, 1905, and he confirmed the statements made above, and also afforded me an opportunity to examine his rectum. I found some slight loss of tissue on the right side, but not very much. The anus had a curious infundibuliform appearance, and was patulous. On the outside, and surrounding the anus entirely, were excrescences which resembled very much condylomata. This condition of affairs was evidently due to the loss of the external sphincter, and although there was some incontinence, it was more especially marked if the bowels were at all loose; if they were regular, and the stools were normal in size, he was able to retain his feces pretty well. In order to avoid accidents, however, he was obliged to wear a napkin. There was no evidence of any old fistulous track, and what ulceration there had been was entirely external, and not running up into the bowel at all.

I am well aware that this is a most extraordinary history; indeed, it is so extraordinary that I have not dared to publish it until the present time, and only do so now in order to place it on record in the hope that other similar cases may be reported and not leave this as a unique specimen of its kind.

Here we have practically a man who has been free from any gonorrheal attack for 6½ years. Three years after his last attack of gonorrhea he had an abscess of the epididymis associated with a perineal abscess, which apparently came on spontaneously; from that time until I saw him in 1895, 3½ years later, he had been in apparently perfect good health, I mean in a general sense. Then he is attacked with a periproctic abscess. Pederasty is denied, nor were any signs present which would warrant a belief that the patient falsified. This abscess was opened by Dr. Root, and the pus which exuded from it was abundant and apparently laudable. Two examinations of this pus revealed the presence of diplococci which presented all the morphological attributes of the gonococcus and which responded to the bacteriological tests peculiar to this bacterium. Where did these gonococci come from? Is it possible that the gonococcus may be retained in the tissues or in the circulation, to reappear in various portions of the body; or is there a diplococcus, which, to all intents and purposes, resembles the gonococcus in every way, and yet is not a gonococcus? I frankly confess I am unable to answer the question. As I have said, I simply report the case because it is such an extraordinary one—so unlike anything that I have ever seen or that I have been able to find after a careful review of the literature on the subject—and because I hope that similar cases may have happened in the experience of others, who may be disposed to report them. Certainly, the more closely I become acquainted with the gonococcus, the more disposed am I to regard it as a stumbling block unto the bacteriologist, and unto the clinician, foolishness.

16 West Thirty-second Street.

THE CAUSE OF CEREBROSPINAL MENINGITIS.

By STEPHEN J. MAHER, M.D.,

NEW HAVEN CONN.

The pus from the spinal canal of a comatose adult, sick with cerebrospinal meningitis, was taken warm to the laboratory. A platinum loop brought up from the depths of the tube a thickened particle a third of an inch long and wide and an eighth of an inch thick. This fragment was used to inoculate tubes of sheep serum, human serum, milk, bouillon, and white of egg, and was then smeared over glass slides which were stained by Gram's, Wright's, Gabbett's, and Neisser's methods. To the original tube containing the spinal fluid, was then added an equal amount of sterile milk. The cultures were growing in the incubator within fifteen minutes of the time the pus had left the tossing body of the patient.

The smears gave beautiful pictures of the intracellular diplococcus of Weichselbaum. The organism was always of biscuit shape, and it decolorized with Gram. No other organism appeared in the direct smears from the pus. In direct smears taken from the sordes on the patient's teeth, I found many biscuit diplococci, a few lance-ended diplococci, and many bacilli, all of which stained with Gram. The rod was as long as an average Klebs-Loefler bacillus, and often seemed a little more deeply stained at the poles. Unfortunately, I made no cultures from the sordes, and stained the direct smears only after the Gram and Gabbett methods.

On examining the cultures, fourteen hours later, I found nothing in the human-serum tube, nor in the white-of-egg tube, but in the other tubes, growths had begun. In the liquid media were only biscuit diplococci, but in the sheep serum there was a pure culture of a lance or blunt-ended diplococcus, often capsuled and often showing in each of its halves biscuit diplococcus. The conclusion that these pneumococci had been developed from the biscuit diplococci of the pus cells seemed inviting. The next day however, the blunt and lance shapes had almost disappeared, and later they did disappear entirely, leaving characteristic pure cultures of the Weichselbaum diplococcus. At the end of forty-eight hours, on the human serum there was a pronounced growth of the biscuit diplococcus on the surface and in the depths of the hard medium. This growth has not at any time contained rod or lancet shapes, but it resisted decolorizing more strongly than the diplococcus grown on sheep serum.

Subcultures, most of them from the tubes of sheep serum, were made at the end of twenty-four hours on various media. The resulting growths, except in two tubes of sheep serum, were characteristic pure cultures of the biscuit diplococcus or a slight admixture of the lancet diplococcus, which, in the course of a few days disappeared and left the field free to the biscuit shapes. Now as to the two excepted tubes. At first they seemed to contain no growth, and I took no smears from them, but on the sixth day, while looking through the basket containing them, I noticed a slight softening and an increase in the water of condensation, and I investigated. To my surprise, I found no biscuit diplococci, but apparently a pure culture of a rather large rod, a rod as large as *B. coli communis.* It decolorized by Gram. I satisfied myself that it could not be a contamination. By the usual methods, I made sure to get the organism in pure culture. It did not change litmus milk. It grew readily on ordinary media, developing ovoidal spores on agar, and lengthening out in milk into worm shapes, having at one almost pointed end a coccal granule of the size and shape of the meningococcus.

After a few days I injected two rabbits intraperitoneally with some of these rods taken from a poured agar plate and shaken up in bouillon. The rabbits had a slight increase of temperature for a couple of days, but, to my disgust, they soon showed only the symptoms of perfect health. After twelve days I killed one of the animals. The spleen looked large and rather gray, and the kidneys contained five little soft nodules, otherwise there was nothing abnormal. Direct smears from these nodules showed them to be made up of rather large lymphoid cells. No bacterial forms were discovered. I inoculated some tubes of sheep serum with this soft matter, and in fourteen hours I found a few granular rods not unlike the ones injected; and stranger still, after twenty-four hours more the serum was covered with creamy, isolated colonies that were made up entirely of a biscuit diplococcus that stained blue by Gabbett, orange with a black central point by Neisser, and did not decolorize by Gram. In subcultures on sheep serum, human serum, and agar the diplococci decolorized perfectly by Gram.

These findings were so surprising that I made very thorough search at the autopsy of the second rabbit which took place three days after the first. I found nothing abnormal except a small glistening pearl on the surface of the liver and a large, granular spleen. With sterile instruments I picked out the spleen and dropped it into a tube of milk, and made smears and cultures from the blood, the contents of the spinal canal, and the liver nodule. The direct smears revealed no bacteria. The liver nodule was made up of immense cells containing other bodies that suggested small yeast cells.

At the end of fourteen hours there was no change apparent in any of the tubes except in that containing the spleen. In this, the milk was entirely digested into a thin, reddish fluid surmounted by a mass of foam that reached almost to the cotton plug and that enwrapped the spleen. Smears showed the milk full of a bacillus morphologically like the one injected into the rabbit fifteen days before.

Subcultures from this tube, on either solid or liquid media, gave in twenty-four hours invariably, except in the potato tube, no rods but either small lancet or biscuit diplococci that decolorized by Gram.

On potato, the growth was always of a blunt rod, many times longer than the diplococcus, but shorter and thicker than the forms found in the original spleen-milk tube, and divided transversely. After forty-eight hours the sheep-serum tubes inoculated from the spinal canal showed a pure culture of a rather lancet-ended diplococcus that decolorized with Gram.

The gross and microscopic appearance of colonies in poured agar plates is the same for the original bacillus injected into the rabbit and for the bacillus recovered from the spleen. Under the low power the deep colonies have at first egg shapes which later give off glistening irregular branchings.

One distinct difference that I found was in the power of changing milk. The original bacillus, as I have said already, neither curdled nor digested milk, whereas the bacillus planted from the spleen, or rather with the spleen, digested the milk and rendered it intensely acid. But as perhaps throwing some light on that point, I might add that the diplococcus fresh from the patient's pus, had the power of curdling milk, a power that it lost gradually by subculturing.

In looking over the old tubes to-day, seven weeks after the first plantings, I find that in the original cultures from the spinal pus there remain only biscuit diplococci, a few of which have swollen almost to the size of yeast cells; that in the blood-serum tubes in which the rods were first discovered there are still fine rods in pure culture but of differing lengths, some empty, some entirely stained, and some showing contained biscuit diplococci at poles or centers; that in a tube of incubated sugar gelatin the original bacillus has grown into great coils of lines like those in a yeast film; and finally that in the litmus milk planted with the original rod and for a long time containing only that rod, there are now, besides the rod, many small clumps of biscuit diplococci.

In the epidemic of queer sore throats that we had in New Haven at the same time as our visitation of cerebrospinal meningitis, besides finding the biscuit diplococcus and the pneumococcus, I have been interested to see that in a large proportion of my cases, there were. in the direct smears from the tonsils or pharynx clumps of *Saccharomyces cerevisiæ* or some similar yeast, and rods similar to those that I injected into the rabbits. I have not worked this point out thoroughly, but as a result of my efforts to get pure cultures of the yeasts and the bacilli and the diplococci, I find myself drifting to the conclusion that the yeasts may break up into rods and the rods into coccal or diplococcal forms, and that the yeasts may again be formed by the swelling of individual cocci.

He would be daring who would generalize on so large a subject from his work on one case, but may I be permitted to conclude by saying that my findings seem to show that the diplococcus of Weichselbaum is only one phase in the life cycle of an organism, which at times is larger and rod shaped, at others small and of the shape of the pneumonia diplococcus, and probably at others of yeast shape.

218 Orange Street.

PRIMARY EPITHELIOMA OF THE EPIGLOTTIS.

By D. BRYSON DELAVAN, M.D.,
NEW YORK.

Mr. X, aged 62, was brought to me in consultation early in December, 1902. At that time there appeared upon the left side of the posterior (laryngeal) face of the epiglottis an area of hyperemia about a quarter of an inch in diameter and circular in shape. The color of this area was only slightly deeper than that of the surrounding tissue, but its edges were sharply defined and it appeared to be faintly elevated.

During several months subsequent to this the congestion steadily increased and the elevation became more pronounced; the area of the base, however, remained limited to about its original dimensions. As the condition advanced it became evident that it probably indicated the beginning of a new growth upon the epiglottis. Meanwhile the central part of the elevation became slightly depressed and yellowish in color and the appearance assumed more and more that of a definite neoplasm.

In June, 1903, the patient was again seen and the condition found to have assumed such definite characteristics that the diagnosis epithelioma was hazarded and the excision of the diseased area was advised. As the patient was about to go abroad, and expected to spend the summer near Vienna, where he was well acquainted, he determined to be operated upon there. Before his departure the question of an extensive removal of the parts adjacent to the growth was discussed and radical operation was objected to, first, because the patient was in feeble health, a man of intensely nervous temperament and one not likely to resist well the shock of an extensive operation upon the larynx or to endure with success the conditions attending convalescence. Moreover, it appeared possible that the removal of the diseased area itself might be sufficient to effect a cure, as there was no evidence visible that any extension of the disease had taken place.

On reaching Vienna, June 22, 1903, the patient at once placed himself under the care of Privat-Docent M. Hajek who fully concurred with the opinions expressed above and excised a small fragment of the growth for microscopical examination. This was sent to the pathological department of the University of Vienna, which reported that the specimen showed epithelioma. During the course of the week which followed the slight operation for the removal of the above-mentioned specimen the progress of the growth which had hitherto been very slow became so rapid that immediate operation was insisted upon. Accordingly, about one-third of the epiglottis was removed, including the diseased area. The operation was a very simple one, accomplished at two sittings under cocaine anesthesia, with the aid of Hermann Krause's laryngeal cutting forceps. It was attended with no bleeding or other feature of note excepting slight dysphagia for two days, and was followed by prompt recovery. At no time since has any difficulty in swallowing been experienced.

Microscopical examination of the excised fragments again showed the presence of epithelioma, the disease involving all of the structures from the surface of the mucous membrane down to the cartilage. Its superficial extent, however, was clearly limited, so that its complete removal by the operation seemed to have been successfully accomplished. The patient again reported to me in October, 1903. Healing had quickly followed the removal of the growth and the parts, save for the loss of the substance of about one-third of the epiglottis, appeared to be in normal condition. It has continued so up to the present time, without the slightest indication of any extension or recurrence of the trouble, the patient meanwhile being in excellent general health.

This case presents several points of unusual interest:

1. Epithelioma of the epiglottis is of very rare occurrence.

2. In this case the disease was studied from its earliest inception and it was possible to note the progress of the growth from one stage to another until almost up to the time when ulceration might have been expected to take place.

3. The limitation of the area of the growth was a matter of interest. For a long while there was not the slightest tendency apparent for it to spread beyond the original limits of its base.

4. The occurrence of the growth upon an organ composed of soft tissue and cartilage, originating near the margin of the organ and in such a position as to make possible its complete and thorough removal.

5. The striking change which took place in the rate of progress of the growth after the removal of the first specimen for examination.

6. The failure of recurrence to have manifested itself after a period of nearly two years.

Several of the same phenomena observed in this case have been seen not infrequently in cases of epithelioma in other parts of the body, notably in the helix of the ear, a structure somewhat similar anatomically to the epiglottis, where simple excision of a small epitheliomatous growth has often effected permanent cure. The study of these and analogous cases suggests an important deduction with regard to intrinsic carcinoma of the larynx, namely, that in certain localities of the body early involvement of the lymphatic system does not seem to be a necessary occurrence. In consequence of this complete early excision of the diseased area may be followed by permanent cure. Clinically, the practical application of this theory to intralaryngeal carcinoma has often resulted in success. It is fair to believe, therefore, that intrinsic laryngeal carcinoma, recognized early and early removed, may be fairly considered a remediable condition. This proposition, in fact, has been abundantly proved by the experience of many surgeons during the past fifteen years. The report of the case herein quoted, however, is made worth while as being corroborative of it, as well as by the very unusual character of the case itself.

1 East Thirty-third Street.

Mucous Colitis.—De Wolf says that of the many drugs tried for this condition, the only ones he has thought were of benefit were castor oil and salol, five minims and gr. ii, in a capsule, three or four times a day. Given over a long period (if they do not disturb the stomach) they have seemed to play some part in lessening the amount of mucous discharges. More valuable than any one factor, however, is the persistent use of high enemata, hot water or better normal saline, once or twice daily. This should be taken on the back or side, with a rectal tube, one pint at a time, the injection being used twice. The first pint brings away fecal matter and some mucus; the second pint, clear mucus and often in large quantities. The enemata should be continued for at least two weeks after the disappearance of the mucus.—*Providence Medical Journal.*

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THOMAS L. STEDMAN, A. M., M D., EDITOR.

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THE ETIOLOGY OF CANCER.

AN interesting debate on cancer was recently held in the Berlin Medical Society, several evenings being occupied with the discussion of this important subject. Orth read the first paper, entitled "The Morphology of Cancer and the Parasitic Theory." He said that many of those who had announced alleged important discussions regarding the etiology of malignant growths, had often ignored the all-essential anatomical facts. Cancers are epitheliomas because they are composed chiefly of epithelial cells, but not all epitheliomas are cancers. The cells of the metastases resemble, although not always completely, the cells of the primary tumor. This fact, Orth maintains, affords positive proof that the metastatic cells have their origin in the primary tumor. While tubercles need bacilli for their development, cancer metastases need cancer cells for their growth. The experiments to produce cancer in animals prove only the possibility of a transplantation of cancer tissue analogous to Thiersch's skin transplantation. He who believes that parasites cause cancer, ought to be able to prove that a tissue without the specific cells can produce cancer, and he should be able to produce the parasites characteristic of the different varieties of malignant growth. Orth concluded by saying that he was not an adversary of the parasitic theory, but before he could accept it he must require more convincing proof than had yet been offered by its advocates.

Hansemann read the second paper entitled "What Do We Know Concerning the Etiology of Cancer?" He stated that there are three theories current in the literature as to the origin of cancer: (1) The theory of infection; (2) the theory of heredity, and (3) the traumatic theory. The theory of infection is the oldest and is based on (*a*) inoculation experiments; (*b*) clinical observations; (*c*) statistics, and (*d*) parasites. Hansemann has for many years performed experimental inoculations but without success. It is not sufficient for a tumor to develop after an inoculation with microscopical material, but this must be followed by the development of a true cancer and cachexia. The so-called successful experiments which have been reported of transferring infection from animal to animal of the same kind, are not examples of infection, that is of the transference of infectious germs, but they are pure transplantations. The implanted tumor is surrounded and penetrated by inflammatory tissue, and is nourished in this way; but the new tumor is limited in its growth and gives rise to no metastases. Clinical observations are said to be an evidence of the parasitic theory, because of the reported occurrence of epidemics of cancer, but such are merely chance occurrences, as in the case of a married couple both suffering from cancer. It may also happen that husband and wife both suffer with gout or diabetes, diseases more rare than cancer. As to the fact that statistics prove that the death-rate of cancer is increasing, the speaker said that this might be due to the fact that many people used to die before the cancer age, from diseases which were formerly not under such good control as they are now, such as diphtheria. Debovy has demonstrated that the increase concerns only internal cancers, and that the prevalence of skin cancers has remained stationary. It is not necessary then to be alarmed on account of these reports. As to the protozoan theory, it must be remembered that little is known concerning these organisms. The case is parallel with that of bacteria. The disease in rabbits caused by coccidia has no tumor formation, and the affection of the bladder by bilharzia is preceded by a chronic inflammation of this organ, so that the lesions are not caused directly by this microorganism. Those who are convinced that parasites are the cause of cancer, ought to be able to prove that this is true. The speaker was not convinced that any one of the parasites which have been described as being the cause of cancer is the real cause. Those who believe in the theory of heredity are obliged to depend upon the uncertain statement of the patients, and the still more uncertain transmission. The medical history of the Bonaparte family, for example, is always quoted in support of this theory. But this family has remained free from cancer, with the exception of the great Napoleon and his father, both of whom suffered from this disease. If cancer were inherited, then it should be possible to find cancerous degenerated teratomata which are congenital tumors. But such a condition is never observed. However, Hansemann admitted that the disposition for the development of cancer might be inherited.

As to the traumatic theory, the speaker said that acute trauma did not produce cancer, but was capable of making the disease worse, or of attracting attention to a cancer already established. Chronic traumata doubtless assist in the development of cancer, for we know that cancer favors localities in which traumata most usually occur. No one of the three theories covers all kinds of cancer. The one accepted fact is that declared by Virchow that cancer and all other tumors originate from the combined effect of an irritation and a special susceptibility in the patient. What this irritation is we do not yet know.

The most noteworthy contribution to the discussion was that of v. Leyden, not because this eminent clinician demonstrated the parasitic nature of cancer, but because of his frank avowal of a firm belief in the truth of the parasitic theory. He drew entirely different conclusions from those of the pathologists, and declared his conviction that cancer was an eminently infectious disease. When an individual who formerly was quite well, suddenly falls ill with cancer, quickly declining, and when the internal organs are affected through the lymphatics, then the physician must admit that cancer is a parasitic disease. He presented several facts as evidence of his opinion. The first argument was drawn from animals, cancer being found in those only which are associated with man—the dog, cat, horse, ox, mouse, and rat—and among these the most frequently attacked are those living near laboratories or postmortem rooms. Very rarely or never are wild animals affected. Several localities, such as the antarctic region, are free from cancer. Cancer was unknown among the negro tribes in Africa until they came in contact with the whites, but now, in America, the negro is often attacked by this disease. The number of cases in large towns is on the increase, and several epidemics in smaller places have been reported. Such an occurrence should not be attributed to chance, he said, when we are not able to prove it. The parasitic theory must suggest itself when it is observed that those parts most frequently attacked are such as are accessible from without, such, for example, as the tongue, larynx, intestine, lungs, vagina, and skin.

Of the greatest importance are the cancer implantations of Dagonet, who performed these experiments on rats, and the implantations from man to man. Van Bergmann saw a case of cancer of the lip, manifestly due to contact. These transferred tumors gave rise to metastases. Now, when a disease is transmitted by means of living cells, we call it infection, and, therefore, the transmission of cancer from one individual to another by means of cancer cells is an infection. Michaelis was able to transmit cancer in mice in 50 per cent. of all cases. There is unquestionably a decided characteristic of election in the cancer parasite, because the implantation does not always succeed. But the fact that transplantation is possible and the constant aptitude of cancer to give rise to metastases, proves that the cells are infectious. The bacteria which have been hitherto described are justly rejected, but v. Leyden himself has found cell inclusions which he believed to be the cancer parasite. Other investigators have taken them for degenerated leucocytes or vacuoles, but they are very distinct from these. The speaker thought that probably, but not certainly, these cell inclusions belong to the class of protozoa. The researches of Blumenthal, Bergell, and Wolff, he said, support the parasitic theory. By chemical investigations they proved that cancerous tissue contains more albumin and less globulin than all other organic tissues, and they had succeeded in producing a ferment which decomposed not only the cancer albumin but also the albumin of all other tissues, while elsewhere the single tissue ferment decomposed only its own special albumin.

Olshausen and Benda, the pathologist, also upheld this theory for the not very scientific reason that none of the others offered a sufficient explanation. Benda did not think, however, that the fear of cancer was justified, even if the disease was caused by parasites, because there was a difference between contagion and parasitic transference. Endocarditis, trichinosis, malaria, and leprosy were parasitic diseases, but they could scarcely be called infectious ones. O. Israel contested the possibility of a parasite. He assumed that the tumors grow because the body offers an abundance of material for them. Parasites are not necessary for this. Besides, a cell itself containing a living parasite never divides; either the cell or the parasite perishes. B. Fränkel stated that as long as the true etiology was unknown, individuals should not be exposed to the possibility of infection. He said that it was well known that benign tumors could be infectious.

It is interesting to learn the conflicting views of these well-known Berlin pathologists and clinicians and to hear the arguments with which each one endeavors to defend his position, but we cannot see that the discussion has brought us any nearer the longed-for solution of the problem. We would fain believe with v. Leyden that malignant neoplasms are of parasitic origin, for the demonstration of that as a fact would inspire to greater therapeutic efforts, but it must be admitted that the weight of scientific opinion is as yet adverse to this theory.

THE CARE OF RESPIRATION IN INFANCY AND CHILDHOOD.

The *British Journal of Children's Diseases* for April, 1905, publishes two lectures on this subject delivered at St. George's Hospital by Dr. William Ewart. These lectures enter fully into what the speaker terms respiratory pediatrics. The practical object of respiratory pediatrics is defined as an improved knowledge (1) of the causes and mechanism of the various respiratory defects; (2) of the means of preventing the latter or the diseases which produce them; and (3) of the methods best calculated to cure or correct them. Gastrointestinal affections are most prevalent during the first eighteen months of life, but when the child begins to stand and walk, complaints of the respiratory system prevail, together with the "civilization disease" of infancy—rickets.

Referring to the medical supervision of infancy and childhood and its opportunities, Dr. Ewart says that the whole of pediatrics is governed by the central fact that the disorders to be treated occur during the stage of rapid growth of the organism, and this has two important aspects: (1) The tender age of the individuals renders them peculiarly susceptible to the damaging effects of disease, and makes more stringent our duty to protect them: (2) The *vis medicatrix*, inherent to the most active periods of growth lends considerable assistance to any suitable curative methods that we may adopt. A synopsis of the chief respiratory affections to which the child is subject is then given, after which the author deals with the infantile chest, infantile respiration, thoracic deformities, and some of the pulmonary lesions due to infantile or puerile diseases. Attention is drawn to the fact that chief among the so-called "trivial" ailments of childhood are the obstructive affections of the pharynx, nose, and nasopharynx, and, as it seems, the increasingly frequent evils of overgrowth of tonsils and adenoid tissue. The duty of the pediatric physician in this connection is sketched as follows: (1) Prevention is obviously the first indication. It will never cease to be the pediatrist's duty to try to forestall this evil until he shall have finally succeeded. Unfortunately we have not yet even cleared up the mystery of its origin. Timely treatment is a special indication in all affections liable to have sequelæ; and for that purpose the first essential is early diagnosis. The writer urges that in the future a study of adenoids in infants should be made before the condition is established. In other words, one should examine infants from the point of view of their future liability. Babies with narrow air-passages and thick mucous membranes are not unlikely to be the future sufferers from adenoids. After-treatment is the next task before the pediatrist, and it should not be too long delayed, as then it may not be completely successful. The removal of the overgrowths often comes rather late, and not in time to obviate the deformity, or the deafness, or the backwardness; but perhaps even then a more assiduous after-treatment might produce a greater effect. This means that when the obstruction has been removed one must not shrink from the trouble of a systematic reeducation on the lines laid down by Desgrange, Rosenthal, Harry Campbell, and many others. Already laudable efforts have been made to cure the evil of mouth-breathing; but much remains to be done in this direction and in that of defective articulation, and also in the teaching of free and deep breathing.

The remainder of the lecture is devoted to a consideration of the infantile chest, of the normal type of infantile respiration, of the respiratory function of the spine in infancy and childhood, of the inspiratory forces, of the expiratory forces, of abdominal respiration, and of the puerile type of respiration.

In reference to the art of breathing, Dr. Ewart says that awkwardness of breathing or faulty breathing prevails more largely in large towns than among the country population because of the greater prevalence of adenoid affections. Therefore, in towns pathological types of respiration have to be unlearned and physiological breathing has to be taught like a lost art. For this a first essential is the systematic inspection of all children by highly competent observers, capable of recognizing, not only manifest cases where chest deformity coincides with faulty function, but also those less advanced where the latter tends to bring about insidiously pulmonary as well as thoracic impairment. This is said to be, in civilized countries, an age of physical deterioration, and particularly so in those countries whose population is chiefly centered in large towns. That town life under the conditions in which the bulk of the people live does not tend to physical advancement, is obvious, and indeed the manner in which the inhabitants of civilized lands are massed together in towns is one of the most serious problems of the times. There can be no doubt that respiratory efficiency is an essential factor in the development of a healthy body, and further that such efficiency is sadly lacking in the young population of present day towns. Dr. Ewart's advice, therefore, that proper breathing should be taught to children, and respiratory defects of all kinds among the young should be remedied as far as is possible, is timely and pertinent.

LUPUS PERNIO.

BESNIER was the first to describe a peculiar rare form of lupus, limited usually to the nose, ears, and hands, but affecting at times also the feet or other parts. Kreibich in the *Archiv für Dermatologie und Syphilis*, LXXI, in reporting three instances of the affection, gives a good description of the onset with diffuse somewhat raised spots, at first red, but changing to reddish blue. Infiltrated areas of pin-head size project above the surface in the form of papules of brownish yellow hue. Upon the hands the dorsal surface of the fingers are mostly involved in a deep bluish red infiltration, consisting of epithelioid cells. This marks the histological distinction from the lupus vulgaris infiltration, which shows a peripheric infiltration of round cells, making the limitation of the papule or tubercle from the surrounding connective tissue indistinct. The foci, which are located for the most part above the deeper vascular network, contain capillary vessels about their periphery and center. Tubercle bacilli have not been found, and the author uses this as an argument against the affection being in reality a lupus; a further point against which is that no reaction follows the use of tuberculin. He would, however, retain the name and group it along with the indurated erythema among the cutaneous tuberculoses.

THE PRICE IS TOO HIGH.

ASSEMBLYMAN HACKETT from this city has introduced a bill in the Legislature providing for the erection of a 700-bed public hospital on the West Side of New York City, between Twentieth and Forty-second streets. We trust the bill will be promptly killed either by adverse votes in the Assembly, or by the Governor's veto. This is not because a city hospital in that part of the town will not be of service, but because the bill provides that the institution shall be under the control of the Commissioner of Public Charities. The experiment was made two or three years ago of taking the control of the public hospitals away from the Charity Commissioner and giving it to a special board of "Trustees of Bellevue and Allied Hospitals." This board, under the most efficient leadership of Dr. John W. Brannan, has done excellent service and it is the universal testimony of those best fitted to judge, that the hospitals were never better managed. No new public hospital should be established that is not to be under the same control. This is not to be taken as a reflection upon the present Commissioner of Charities, who is a capable public official, and is, himself, a member of the board of trustees of the city hospitals. It is simply that we would protest against this opening wedge for a return to the old and most vicious system of hospital management that formerly prevailed in New York City. The price which Assemblyman Hackett asks for his new hospital is too high.

News of the Week.

Medical and Chirurgical Faculty of Maryland.—At the 107th annual meeting of this society in Baltimore, April 25-27, Dr. William Osler delivered an address on "Unity, Peace, and Concord," in which he depicted the potent influence of these essentials when practiced by the medical profession, not alone upon the members of the latter but more especially for the good of suffering humanity. He dwelt specially upon "charitableness among physicians." An address on the "Physiological Basis and Clinical Effects of Hydrotherapy in Chronic Disorders," was delivered by invitation, by Dr. Simon Baruch of New York. Prof. Clarence Blake of Harvard, addressed the members on "Uniformity of Medical Education," advocating the consolidation of medical colleges, which would inure to the benefit of students, physicians, and the public, and giving an excellent historical sketch of American colleges in the early days of our history. At a farewell dinner given to Dr. Osler at the Stafford House, on the evening of April 28, the Governor of the State and the Mayor of Baltimore spoke approvingly of the action taken by the faculty, with regard to building a complete system of sewers by the city. Governor Warfield, in a spirited after-dinner speech, expressed the regret of all in the loss of Dr. Osler. He referred to the Osler joke, and its dire results, and related a somewhat similar misfortune that had befallen him. "It was my misfortune," he said, "to advise some young women graduates in an address, not to marry early. I did not and could not advis them at what age to marry, but jestingly told th that my wife married at the age of 26. Immedi hardly, for obvious reasons, be considered as having solved the problem.

Under all circumstances it is absolutely necessary that the bacteriolytic serum be fresh.

(5) The bacteriolytic sera have a quantitative relation to the amount of bacteria which they can destroy. At best the antisera protect only against a limited amount of bacterial infection. When this increases beyond a certain figure no amount of antiserum will protect or cure the animal. Hence very large doses are necessary, sometimes repeated. Thus the antistreptococcus serum is used in doses of 150 to 250 c.c., repeated if symptoms do not improve.

(6) While enthusiasts might claim that the bacteriolytic action of the antisera seen in animals which are the subject of experimental infections occur also in patients suffering from infectious diseases, no curative effect can possibly occur with regard to pathological changes which have already been produced by the bacterial infection. So that the later the antiserum is used the less the chance of its having any curative effect.

Bacteriolytic sera have been prepared for the serum therapy of a number of the infectious diseases, but such sera have hitherto had little or no efficacy. Thus an antistreptococcus serum has been prepared for use in cases of septic infection by streptococcus pyogenes or erysipelatis. Pane has prepared an antipneumococcic serum, Calmette an antiplague serum, and antisera have been prepared for the treatment of typhoid fever, cholera, tuberculosis, anthrax, yellow fever, suppurations due to pyogenes aureus, and infections with the colon bacillus and the bacillus dysenteriæ. Attempts have been made to produce antisera in almost every infectious disease the bacterial cause of which is known. It is safe to generalize and say that none of these sera have been therapeutically effective, an occasional report of one or more apparently hopeless cases brilliantly cured to the contrary notwithstanding. These failures are probably due to one or more of the limitations inherent in all bacteriolytic sera, especially to the impossibility of providing sufficient alexin complement, and the difficulty of recognizing most of the infectious diseases until symptoms depending upon gross pathological changes have occurred. The serum therapy is thus applied too late. Finally, even the largest practicable doses of the bacteriolytic sera can destroy only a limited amount of bacteria, entirely insufficient to free the patient from the bacterial infection.

Such automicrobic sera have, however, been prepared for use even in diseases the bacterial causes of which have not yet been identified or positively recognized, as, for instance, the antiserum prepared for the treatment of syphilis, which may be dismissed from serious consideration. Time enough to speak of such a serum when the bacteriological cause of syphilis is known.

In scarlet fever, too, notwithstanding that the bacterial cause is not yet generally recognized, an antiserum has been prepared which may not thus summarily be dismissed from consideration, owing to the fact that eminent clinicians have ascribed to it remarkable efficacy in the treatment of this disease. Marmorek and Aronson both used an antistreptococcus serum in the treatment of scarlatina. The former used an erysipelas streptococcus, the virulence of which had been increased by repeated passage through animals. With this virulent culture of streptococcus horses were immunized and the serum of such immune horses used for the treatment of scarlet fever, with the object of preventing the complications due to mixed infections with the streptococcus, and thus diminishing the death rate. Aronson's serum was prepared in a similar way, except that the original culture was from a streptococcus obtained from the bone marrow of a patient dead from scarlet fever. He also increased the virulence of the organism by repeated passage through animals. Tavel, and, later, Moser, prepared an antistreptococcus serum in which the streptococcus was taken from the blood of patients dying of virulent scarlatina. They did not attempt to increase the virulence of the organism by repeated passage through animals, claiming that such frequent passage through animals altered the biological character of the streptococcus, so that it was no longer identical with the species of streptococcus which complicated the scarlet fever. Neither Tavel nor Moser claims that the streptococcus is the bacteriological cause of scarlet fever; nevertheless Moser ascribes to the antistreptococcus serum which he has thus prepared brilliant curative virtues in the treatment of scarlet fever. In the St. Anna Kinderspital in Vienna there were cases of this disease:

				Died.	Per cent.
Treated without serum in	1898	171	of which	22	12.86
	1899	268	"	44	16.41
	1900	265	"	33	12.45
Treated with serum (Moser) in	1901	389	"	35	8.99
	1902	368	"	25	6.70

Escherich reports (*Wiener klinische Wochenschrift*, No. 23, 1903) 112 cases of varying severity treated by serum with 17 deaths, equal to 15.17 per cent.

Pospischill (*Wiener klinische Wochenschrift*, No. 15, 1903) reports 26 severe cases treated, of which 12 died, almost 50 per cent. Moser himself reports 48 cases of varying severity treated by serum with 13 deaths, over 25 per cent. (*Wiener klinische Wochenschrift*, No. 44, 1903).

I may be permitted to compare these statistics with those of the Riverside Hospital, of which I am an attending physician. At that institution we treated during the year 1904 899 cases of scarlatina of every grade of severity, with 75 deaths; 17 of these deaths occurred within twenty-four hours of admission, the cases being admitted in practically hopeless condition. They should properly be excluded, leaving us a death rate of 6.45 per cent., or, if included, a death rate of 8.34 per cent.

From the statistics I have quoted it will be seen that our death rate, on classical lines of treatment and in a very large number of cases, is lower than the results from the Moser treatment in the St. Anna Kinderspital for 1901. And, excluding our 17 practically moribund cases, the 6.45 per cent. death rate is better than the best reported results from the Moser treatment in the St. Anna Kinderspital, those for 1902. It must not be forgotten that the Riverside service cannot select its cases, but must take all that are offered, the hospital being in charge of the Health Department.

Notwithstanding, however, that the statistics are not convincing nor impressive in favor of the Moser treatment, we should not be disposed to condemn this method of treating scarlet fever were there other good reasons in favor of its adoption. But there are unfortunately none such.

This serum violates the first logical essential for the production of an antiserum. The bacterial cause of scarlet fever is unknown, and while many of the complications are due to mixed infections with the pus organisms, surely the death rate in scarlet fever is not due wholly to the mixed infections. It is begging the question to inject a serum for the prevention of complications and leave the primary disease untreated. Indeed, Moser, in his later reports, claims far more for his serum. He records a few temperature charts in which he shows that the fever curve in these few cases, twenty-four hours after the injection, underwent a critical drop, by which he implies, although he does not so state, that his serum antagonizes or neutralizes the toxic or bacterial cause of the fever in scarlet fever; in other words, antagonizes the bacterial cause of the disease. In a few cases treated in the Reception Pavilion of the Willard Parker Hospital in 1902 I did not observe any such effect produced on the temperature curve by the injection of the serum. While it is the rule for the fever in scarlet fever to be maintained at the maximum temperature for the given case until the eruption has covered the body, and then gradually to resolve by lysis, it is not at all rare to observe in a case that begins with a high temperature a critical drop before the third day, when the eruption has scarcely covered the body. In these cases it will generally be found that the abnormally high temperature was due to the severity of the throat manifestations, and that the subsidence of these results in a critical drop of the temperature.

Furthermore, what has been said concerning the necessity of adding the unstable alexin to enable the immune body to be effective in bacteriocidal serum therapy must not be forgotten. If the labors of Buchner, Ehrlich, Morgenroth, and Metchnikoff are of any value, the Moser or other similar sera must be absolutely worthless unless such antisera are accompanied by injections of fresh non-immunized horse serum to supply the alexin or complement. Again, while Moser uses large doses of his serum, 150 to 250 c.c., owing to the proven fact that the antisera only antagonize a limited amount of bacteria, yet in severe cases the bacterial mass must be so great that no amount of the bactericidal serum will antagonize it. It is true also that small quantities of a heterologous serum exert a phagocytic activity, yet large quantities of a heterologous serum, like horse serum, exert henolytic properties. I believe that the body of even our youngest patient is able to dispose of 200 c.c. of a heterologous serum; nevertheless it does seem reasonable to believe that in such large doses of a foreign serum injected into our young patients, there is much that is objectionable. These and many other considerations prove the unscientific basis upon which the antistreptococcus serum therapy of scarlet fever rests.

These are some of the limitations of serum therapy at the present time. Many of them will be removed by future advances in bacteriological and biological knowledge. Let us not as clinicians hamper the master minds devoted to the solution of the intricate problems involved, and discredit the scientific structure which they are carefully erecting, fact on fact, by the empirical and premature use of such antisera in the treatment of disease for which there is no known scientific basis, but which, on the contrary militate against the fundamental principles of immunity.

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THE PRESENT STATUS OF RONTGEN RAY THERAPY.*

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A wide divergence of opinion exists among physicians in regard to the uses of the *x*-ray as a therapeutic agent. Notwithstanding the vast amount of work that has been done in the past four years with Röntgen rays, it is really astounding how little physicians know what can be actually accomplished by their use. That results have not been more positive and the claims for the *x*-ray set forth with a greater degree of positiveness as regards its effect as a therapeutic agent for certain diseases, is no doubt due largely to the fact that every physician has more or less confined himself to his own work, and has not digested thoroughly all that has been done in the same field by others. The time has come, however, when every one practising medicine must realize the value of the *x*-ray, both as a diagnostic and as a therapeutic agent. Radiotherapy has a broad field of usefulness, and it is essential to the best interests of the patient that a certain few diseases be treated by its means.

The *x*-ray has been abused by a few physicians in applying it, by a certain few who have overestimated its value, and by a large number of skeptics, who could not see how the *x*-ray could produce any results whatever in diseased tissues. If the opinion of skeptics were accepted, no advancement in medicine would have ever taken place. How many scoffed at the idea of vaccination, and how slow were many in adopting antitoxin as a therapeutic agent! The *x*-ray at the present time is going through a similar test, and even now, with exact and proper technic, it has attained a place in medicine as important as either of the agents mentioned.

Either success or failure in many cases of carcinoma, as well as other diseases, must be attributed to technic. Even at the present time no one's technic is perfect; but there is a standard by which effective work can be accomplished. With the best apparatus and meters to register the current from the time it passes through the primary induction coil until it goes into the tube, it is possible to account for a few of the failures which have occurred in the past; but still the experience of the operator is a better guide than all the meters to determine the penetration and the amount of chemical rays which are being given off from a tube. On applying the rays it is absolutely necessary to know what quantity and quality of rays are absorbed, and this can be accomplished only by an operator of judgment and experience. Among experienced operators and those who are attaining results, it is a well-known fact that scarcely any two diseases require the same therapeutic dose. If the operator can judge the quality of the rays, as well as the quantity absorbed, then he can administer the same therapeutic doses, and be sure of obtaining similar results in each condition. Too much work is done in a careless manner. I know a few surgeons who are having every case of carcinoma treated after operation, and as I have had the privilege of examining many of these cases, I have only seen a few in which a therapeutic dose was given. By this I mean that, after twenty treatments were given, no tanning or effect of the rays could be seen. I want to emphasize the necessity of giving a therapeutic dose. In deciding upon this, too much dependence must not be put upon the Röntgen ray ammeter. While this is a valuable instrument, it will not do everything claimed for it by the manufacturers. At a certain high vacuum a tube will practically give off very few chemical rays, and if a patient were exposed a long time to such a light, very little, if any, action on the diseased tissues, could, except a slight stimulation, be produced, while if the tube should pass a volume of current, a large number of rays would be given off and a curative effect would result. It is just as reasonable to expect to force a large amount of water through a pipe one-eighth of an inch in diameter, and do this in a time which, by mathematical calculations, would be impossible, as it is to attempt to force a volume of current through a tube so high that the internal resistance is so great that the amount of current which passes can scarcely be measured by the Röntgen ray ammeter, and at the same time expect the tube to give off a large quantity of chemical rays. This is what many are attempting.

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*Read before the Detroit Academy of Medicine, January 10, 1905.

A great deal has been written in regard to the detrimental effect of the *x*-ray upon the operator. That the *x*-ray will affect the operator, unless he uses the necessary caution, is a well-known fact, and if he did not do this it would be useless to apply the rays to diseased tissues. Any effect which has been produced upon the operator in the past two years shows that he has not familiarized himself with what is going on in the *x*-ray world, or else he has been exceedingly careless, and carelessness is not permissible in any branch of medicine. If a physician were careless he might cut his fingers, but the surgeon would not condemn the knife he used. In regard to Edison's assistant and a few others who were injured by the *x*-ray, it is only necessary to state that they did not understand the action on tissues of the energy with which they were working. A few years ago it was nothing unusual for the operator to sit before the fluoroscope for a considerable length of time studying the light, its effect on tissues being comparatively little known at that time. It was then claimed that the tanning produced by the rays protected the patient from further injurious effects, in the same way that sunburn protects the skin from further irritation. It is scarcely necessary to state that every one knows this to be untrue. Two years ago, at the time of the meeting of the American Röntgen Ray Society in Chicago, I was considerably burned, and when I saw the effects of the *x*-ray on various operators I realized the necessity of every operator abandoning the fluoroscope, because standing continually before the tube will produce harmful effects upon the operator's body. A fluoroscopic examination usually consumes considerable time, is really practically useless except for the purpose of testing tubes and making minor examinations, and since it is dangerous to the operator, this method should be discarded. Besides, a fluoroscopic examination is not a positive means of diagnosis, and if one takes into consideration the mistakes which have been made by using the fluoroscope instead of making a radiograph, it will readily be seen that results obtained by such methods are practically useless.

Many physicians using the *x*-ray have stated that since they did such a small amount of work (not making more than one or two fluoroscopic examinations a week), it would not affect them in the least. Most fluoroscopic examinations will consume at least ten minutes, and if the operator exposes himself, for this length of time, to an active tube twice a week, he receives what should be a sufficient quantity of *x*-rays to cure a case of lupus, and still these operators think that they can take such dosage every week without its having any injurious effect. This shows that physicians who make such rash statements know very little about the energy they are employing. I cannot impress it too strongly upon every physician to discontinue the use of the fluoroscope for diagnostic purposes, first, on account of the injurious effects produced by its continued use; second, on account of the number of mistakes which have been made. In regard to whether the *x*-ray has any injurious effects on the patient's health when being treated, I have made inquiries from almost all the physicians applying the rays to any extent, and the following, by a very prominent physician of broad experience, covers very well all the answers: "I have not found that the *x*-ray has had the slightest injurious effect on the general health of any patient, although some patients have been treated for from four to six months at intervals." A few physicians have remarked that at least one-half of the patients treated by the rays gain in weight during the first six weeks of treatment. I have noticed this frequently. Therefore, in the hands of a competent operator, the *x*-ray is just as safe a therapeutic agent as morphine or strychnine.

The *x*-ray as a diagnostic and curative agent must be used in a scientific manner if results are to be expected. It is absolutely necessary that the laws which govern light must be taken into consideration, and if the tissues are to be deeply affected, the law must be observed that the intensity of the *x*-ray, like that of light, decreases inversely as the square of the distance. Then, if tissues below the surface of the skin are to be affected, it is necessary to use a different technic from that which is employed for the treatment of skin diseases. In the treatment of the deeper tissues we should not produce a light which will burn the skin three or four times as much as the diseased structures situated two or three inches below the surface. It is necessary in the treatment of such conditions to use a light and such technic that the tissues will be affected nearly uniformly, otherwise very little effect will be produced. On the other hand, in treating a skin disease it is not necessary to burn the tissues two inches below the surface, unless these also are involved. The method of application accounts for many of the failures and successful treatment with the *x*-ray.

Carcinoma.—Sufficient evidence has been produced to gice radiotherapy a very prominent place in the treatment of carcinoma. That the rays should be adopted as the only treatment for carcinoma is a great mistake, and I can positively state that no conservative therapeutist would condemn surgery, any more than a conservative surgeon would condemn the Röntgen rays as a therapeutic agent. All cases of carcinoma, whenever operable, should be referred to the surgeon, and have the mass, or as much of it as possible, removed, and then a series of *x*-ray treatments given. I believe I can safely state that sufficient evidence has accumulated up to the present time to say that if the best interest of the patient is considered, such treatment should be adopted. It is a well known fact that beyond certain points surgical interference in the treatment of carcinoma is useless, and that recurrence in a particular situation after one or two operations leaves the patient without further hope, unless from the Röntgen rays; but even then the rays have done a great deal when the proper technic has been used. Still, the agent must not be overestimated in this class of cases. Now, if the *x*-ray will reduce the size of the tumor, cause the cessation of pain, the disappearance of offensive odors, and arrest the invading progress, why should it not be combined with surgery and the cases rayed before they have become hopeless? Many patients when they come to their physician are hopeless, and the surgeon hesitates or states that the case is very likely to have a recurrence, and that an operation might prolong the patient's life. Now, in these cases, if the combination of surgery and Röntgen ray can cure even a small percentage, it certainly is worth adopting as a routine treatment. At present a number of such cases so treated apparently have been cured. The severity of carcinoma of the breast is shown in Kuttsner's report of 41 operations during twelve years. In each of these 41 cases the supraclavicular glands were enlarged, and not a single case was cured. In this class of cases I am almost positive that, with the combination of Röntgen ray with surgery, at least from 10 to 25 per cent. of these hopeless cases would have been apparently cured and the lives of the remainder prolonged. Up to the present time there has not been much success in the treatment of deep carcinoma. By this I mean carcinoma of the stomach, rectum, or uterus, although the inhibitory action and relief from pain has been marked and reported by a large number of operators. The Röntgen ray occupies an important place in the treatment of epithelioma, as it is effective and leaves very little scar. Still, the cases must be selected, and the general opinion at the present time is that some of the patients should be referred to the surgeon and some treated by the *x*-ray. A safe method, unless the physician has had considerable experience with the treatment of epithelioma, would be to consult a surgeon before the treatment is decided upon.

Tuberculosis.—Sufficient evidence has been given in a number of cases reported by conservative physicians (Murphy, Rodman, Burdick, Pfahler, and others) to give the *x*-rays a place in the treatment of all forms of tuberculosis. However, in making this statement, I wish to warn the physician not to be carried away by the fact that the rays have apparently cured a large percentage of favorable cases, and that it is not advisable to discard any of the older methods, but only to employ the rays as an auxiliary in the treatment. Of tubercular cases, glands and fistulæ are most benefited, and bone lesions the least. Even pulmonary tuberculosis is more susceptible to treatment than when the disease is situated in bone. In the cases of pulmonary tuberculosis in which tubercle bacilli are found, a large percentage of apparent cures have been effected in the early stages, but when the sputum contains not only the bacilli, but also streptococci, the rays, as a rule, have given very poor results. Burdick reports a few instances of this mixed type in which he has had favorable results by the use of the antistreptococcic serum and the Röntgen rays.

Skin Diseases.—It has been six years since skin diseases were first treated by the *x*-ray, and while a large number are benefited by the application of the rays, it is certainly advisable to treat only the most obstinate diseases in this manner, as trivial affections can be relieved by other measures, with less expense to the patient. However, in the treatment of many diseases such as acne, eczema, psoriasis, keloid, nevus, lupus vulgaris and erythematosus, mycosic fungoides, sycosis, and a few others, the Röntgen ray should certainly stand first as a therapeutic agent. A number of cases reported by various men, among them being Allen, Montgomery, Hyde, Fraund, Schiff and Pusey, verify the above statement.

Probably one of the reasons why the *x*-ray is effective when other stimulating agents have failed is that the rays penetrate and reach the affected area. Ordinarily in the treatment of cutaneous disorders the remedies have only a very superficial action.

Conclusions.—(1) that the wide difference of opinion as to the value of the rays is largely due to the manner in which they are applied.

(2) That if the best interests of our patients are to be considered, the rays must be given a place as a therapeutic agent.

(3) That injury to the operators from the rays during the past two years has been due to thoughtlessness or lack of familiarity with what is going on in the *x*-ray world.

(4) That in applying the rays it is essential to know the quality as well as the quantity of the rays absorbed, and that this must be varied to suit each individual case.

(5) That unless the operator has had a wide experience in the treatment of carcinoma, he should always consult a surgeon in each case, as it is certainly by the combination of surgery and *x*-ray that the best results are to be obtained.

RECTAL ABSCESS CONTAINING GONOCOCCI WITHOUT ANY ACCOMPANYING GONORRHEA.

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The following very interesting case I saw in consultation with Dr. Arthur L. Root of this city, on January 16, 1895, and to his courtesy I am indebted for being able to report the case. The patient was suffering from an abscess about the portour of the anus, right side, which Dr. Root opened in November, 1894, and which was secreting an abundance of apparently laudable pus. No fistulous track could be detected, nor did there seem to be any opening into the bowel. It was simply a medium sized periproctitic abscess which had been discharging for about two months before I saw him. At that time it struck me as being very possibly a case of tuberculous abscess about the anus. On inquiring into his history I obtained the following facts: In February, 1887, he had his first attack of gonorrhea, which lasted for two weeks, and which he treated himself by the use of some patent injection. In July of the following year, 1888, he had a second attack of gonorrhea, followed by an epididymitis of the right side, which, according to the usual custom, checked the discharge, and when the testicle recovered the discharge did not return. Soon after, a small abscess formed in his epididymis, which was treated by Dr. Root and which finally got well.

In 1891 another epididymal abscess occurred in the same place and on the same testicle, which Dr. Root treated by puncturing, and which healed up quickly. Concomitant with this attack of the epididymis, the patient had a perineal abscess, which quickly healed up. Neither abscess was, apparently, accompanied by any gonorrheal discharge. In 1894, at or about the time that he had his periproctic abscess, he had another swelling in his perineum, which was opened and which healed up kindly. This perineal abscess had no connection with the urethra, and at the time of my visit to him, on January 16, 1895, had apparently healed up, for the only lesion that he had was this periproctic abscess which had formed in the latter part of 1894, about two months before I saw him. On inquiring into his sexual habits, I learned that for thirteen months previously he had had no sexual intercourse, and on examination of his genitals no disease of any kind could be detected. He had had no abscess of the prostate, his bladder seemed to be in good condition; indeed, all his genitourinary apparatus seemed to be in working order. The thought occurred to both Dr. Root and myself that he might possibly be addicted to unnatural practices, and the question was asked as to whether he had ever practised pederasty, activelv or passively, which he vehemently denied, nor did the anus show any evidences of unnatural practices. The anus was not relaxed or dilated, nor were the folds obliterated. No purulent discharge came from the rectum, the matter being entirely confined to the abscess around the anus.

Some of the pus was taken for examination, and it was believed by both of us that the result of this examination would reveal the presence of the tubercle bacillus. The report of the examination, however, made by Dr. Sondern on the 21st to the 25th

What is the best climate for such cases? he says that in which the patient can pass most of his time out of doors, in a pure atmospere. A moderately warm, equable temperature, an abundance of sunshine, freedom from chilly winds and dust, are the essential climatic elements. The humidity is of secondary importance, although if the cough be irritative and the secretion scanty and tenacious, a rather moist atmosphere with warmth is desirable. He gives a chart showing the climatic characteristics of most of the well-known winter resorts.

New York Medical Journal, April 29, 1905.

Gallstone Disease; Remote Effects and Treatment.—S. P. Gerhard calls attention to the frequency of this class of maladies. It is often latent, but trouble is apt to begin as soon as the calculus gets out of the gall-bladder, unless it is so small as to give no inconvenience. If lodgment occurs in the cystic duct or neck of the bladder, we may have empyema or even gangrene of the viscus. If it stops in the common duct, near its orifice, the bile may be dammed back on the liver, causing cirrhosis, cholemia, and inflammation. Adhesions may result between neighboring viscera, causing vague gastrointestinal symptoms. Pressure on the head of the pancreas may cause inflammation of that organ (simple or hemorrhagic) and fat necrosis. In the bowel, the stone may irritate the wall and cause reflex contraction and ulceration. We know not how to prevent the formation of gall-stones. We may manage the diet, habits, and dress of our patients in the endeavor to prevent any interference with the bile flow. Deep breathing encourages the clearing out of the gall-bladder. There is no solvent which will disintegrate the stones when once found in the bladder. All patients subject to recurring biliary colic are advised by the author to submit to operation, but many refuse. Each case thus refusing must be carefully watched, and if a crisis arises, the case must be decided upon from its own conditions. Large quantities of alkaline waters are recommended. Excessive purgation is to be avoided. The catarrhal condition in the duodenum about the orifice of the common duct after a stone has passed out or after an operation can be very nicely overcome by the administration of tincture of colocynth in doses of ten to twenty drops three times daily before meals.

Primary Epithelioma of the Uvula.—Harmon Smith refers to previously reported cases and reports one personal experience in which occurrence took place after two operations for removal. His patient was a man of fifty-one years, who had been a heavy pipe smoker. The uvula was excised with a portion of the soft palate. Recurrence began about a month after operation, and a second intervention was made; this time the lower and right border of the palate as far as the right pharyngeal pillars being removed. Three months later a small, recurrent mass appeared in the upper angle of the wound, when a third operation was done. At the time of reporting the case, five months after the third operation, the patient was in good condition, with no evidences of recurrence. Full histological findings are given of the tissues removed. Smith finds that epithelioma of the uvula occurs at a comparatively early age.

American Medicine, April 29, 1905.

Adaptation and Tuberculosis.—J. G. Adami emphasizes the fact that in infectious diseases in general while the bacteria grow more particularly in one organ or tissue the successful counteraction of the disease is not a local matter. In fact, the tissues of the infected organ are so injured that they cannot themselves play any very active part. The counteraction is by the rest of the organism; in part by the leucocytes developed in the bone marrow and elsewhere, in part by other tissues, which discharge into the blood diffusible antitoxic and bactericidal substances. He calls attention particularly to the recent observations of Wright and Douglas that the phagocytic activity of the leucocytes is not called into play to any extent unless the blood serum contains certain substances which activate the leucocytes. These substances appear to be developed apart from the leucocytes, that is to say, by other tissues of the body. Applying these considerations to tuberculosis, he points out that when the tubercle bacilli grow locally there is a slow diffusion out of their toxins, and it is by the adaptation of the rest of the tissues to these toxins that the leucocytes and these other tissues become accustomed to produce diffusible antibacterial substances. In favorable cases these are present in amounts so considerable that the local growth of the tubercle bacilli is arrested and healing tends to ensue. Post-mortem observations show that this arrest is the rule rather than the exception. Applying these considerations to the treatment of tuberculosis, he shows first, that the tuberculin treatment is but an attempt to carry out the natural process; that turbculin is merely a concentrated extract of the toxins of the bacilli, and these now are injected into the organism at a distance from the site of local growth of the bacilli. Their action must be to stimulate the cells of the rest of the organism, and to produce increased amounts of antibacterial substances. The cells, however, may be in a state of low vitality so that they do not react, and hence this treatment is by no means constantly successful. Modern treatment similarly, he points out, is a carrying forward of the same idea. The disease as such is left severely alone, every attempt is made to improve the general tone of the organism by rest, good food, and fresh air. The cells gain improved tone and respond to the toxins, producing increased quantities of the antitoxic and antibacterial substances. Here, again, it is the body as a whole and not the local reaction that brings about arrest of the tuberculous process. The adaptive processes on the part of the bacilli are next considered. These also are capable of being modified according to alterations in their environments so that by passage they are found to adapt themselves more and more to the organism of any particular species. By passage through the organism of one species the bacilli become more and more virulent for that species and thus may become less and less adapted to growing the organism of another species. Dr. Adami is of the opinion that this is the case in general, and with tubercle bacilli grown in the human and bovine organisms respectively in particular.

A Case of Chorea, Apparently Fatal, from Excessive Muscular Action.—J. P. Crozer Griffith refers to the fact that death from chorea is unusual, the Collective Investigation Committee of the British Medical Association finding only 9 deaths in 439 reported cases, and Sinkler finding but 64 occurring in Philadelphia during 74 years. In the great majority of cases the fatal issue depends upon some complication, especially endocarditis, and deaths depending directly upon exhaustion from enormous muscular action must be considered a rarity. He repots an instance of this occurring in a boy of 11 under his care at the Children's Hospital of Philadelphia. The child had had a previous attack of chorea two years before. The cause of development of the present attack was not known. A month before, he commenced to show restlessness, which advanced to choreic movements and grimaces. For a week the movements had been excessive. On admission to the hospital nothing could be found abnormal in the organs, except the presence of a systolic murmur in the mitral area. The boy could not speak, although he seemed to understand perfectly. The movements were so excessive that the child was thrown violently about the bed, and was bruised all over. Sleep was almost absent. The condition was relieved to a certain extent by hyoscin hydrobromate hypodermically given, the administration of morphine, potassium bromide and chloral hydrate having been entirely ineffective. The excessive movements continued and exhaustion finally ensued, and death. The autopsy showed the presence of an endocarditis with microorganisms in the heart muscle and in the mitral leaflets. While it cannot be affirmed positively that death did not follow from endocarditis, yet the case bore all the evidences of death from exhaustion, the result of the enormous muscular activity.

Journal of the American Medical Association, April 29, 1905.

Autopsy Findings in Epilepsy.—B. Onuf reports the results of careful autopsies on sixteen epileptics at the New York State Institution for Epileptics. In twelve cases there were valvular changes of the heart, most frequently of the mitral valve (80 per cent.), less so of the aortic, and still less frequently of the tricuspid valves. These he considers generally as secondary results of the special strain due to the major epileptic attacks. Capillary changes, tortuosity, and aneurysmal dilatations were observed in several cases, and were attributed to the same causes. In eight of the cases where the lungs were examined there was acute pneumonia as a contributory cause of death. The cerebral changes were very striking. In ten cases there was a marked thickening of the pia, chiefly over the frontoparietal lobe. In other cases there were vascular lesions, circumscribed atrophy of one frontal lobe, subdural hemorrhage (one case), internal hydrocephalus (one case), cerebellar cyst (one case), and shrinkage of convolutions of vermis and adjoining cortex (three cases). The most striking changes, however, were noted in the thalamic region. These were in the nature of atrophy, sometimes the pulvinar, sometimes the other portions being most markedly affected. There was also an apparent discrepancy in the proportions of the geniculate bodies. Onuf discusses the possible relations of these thalamic changes to the epilepsy, but does not venture to express an opinion as to whether they are directly connected with the seizures or are only part of a general pathological condition of the brain. He suggests that there was probably an optic atrophy in some of these cases, and hence the importance of fundal examination in epileptics. The importance of good clinical histories in these cases is also emphasized.

Treatment of Gonorrheal Arthritis by Hyperemia.—Johannes von Tiling has secured excellent results from Bier's method of damming back the circulation with elastic bands in several painful cases of gonorrheal arthritis. He advises the use of a thin, pliant rubber bandage, applied so as not to cause discomfort, but sufficient to produce very perceptible hyperemia. Blueness and coldness of the limb, white or vermilion spots, and pain or paresthesia indicate that the bandage is too tight and should be loosened. Properly applied, the most marked first effect is relief of pain, but this is not all; damming, he claims, has a bactericidal effect, and dissolves away the adhesions, which are completely removed by massage after the removal of the bandage. At first the bandaging should be of short duration, a few hours at a time, but later it should be increased until it reaches ten hours a day and ten hours at night. After removal of the bandage massage lightly, then have the patient stand and move the joints. He claims that this method gives better results in most cases of gonorrheal arthritis tending to stiffness of the joints than any other.

Smokeless Powders.—C. F. Kieffer reports an investigation on the pathological effects of the fumes of the high explosives now so generally in use. A number of different powders were tested regarding the gases given out and the effects on the human system. The latter series was carried out in a room. Dr. Kieffer experimented on himself and on several members of the hospital corps by exploding a carefully measured quantity of the powder in a sealed room containing about twelve hundred feet of air space and observing the effects. The chief symptom was the well-known "dynamite headache," and the fumes seemed to have marked effects on the circulation and heart, with secondary effects on the nervous system. In some cases there was incoordination and diminution of hearing and of vision. Low tmperature seemed to aggravate the conditions, and at least one person was found who appeared to be immune. In most cases a certain amount of tolerance is gradually established. Kieffer also mentions a patient seen in Da Costa's clinic who could take six hundred and fifty drops of spiritus glonoini without serious effects. According to his findings, the gases to which the effects are attributable are carbonic oxid and nitrogen peroxid, especially the latter, though the symptoms are due to the combination of both. To meet the nitrite poisoning endeavor should be made to restore the vasomotor tonus, and strychnia is indicated in full doses. The carbonic oxid will be eliminated rapidly in moderate cases, but in severe intoxications oxygen inhalations and artificial respiration may be required. For the headache, coal-tar anodynes are not only useless, but dangerous. The best remedies are strong coffee and a linseed poultice to the nape, as advised by Key. The danger from these fumes is a real one, as numerous fatal cases testify.

Sterile Water Anesthesia.—F. W. Stevens has employed Dr. Samuel G. Gant's technic with sterile water for the production of local anesthesia in a number of operations for hemorrhoids, in other minor surgical procedures, and in one exploratory laparotomy, with the best results. In the latter case, as haste was required, the operation was finished under ether. By this method he anesthetizes the skin over the line of incision by repeated small injections followed by deeper ones for the underlying tissue. The advantages he claims for the method are rapidity of effective local anesthesia; absence of need of elaborate preparations; absence of toxic effects—nausea, vomiting, or straining; no fear from lung, kidney or heart complications; no after pain; and its value in emergencies in which other methods are not available. Operations for hemorrhoids can be performed in the office or at the patient's home, and need not cause loss of time or interruption of business. He recommends that the method be given a thorough trial, and thinks that when it has become more familiar its advantages will be apparent and its employment general.

Apparatus for Applying Hot Air to the Ear.—Albert C. Heath describes an electrical apparatus that can be used with any cautery battery for applying heat to the ear. He claims for it the advantage of proper graduation of the temperature by means of the rheostat; the possibility of definite application by means of the ostoscope simultaneously employed; lack of danger of burning; simplicity of construction and management, etc. The air is heated by the cautery apparatus and forced through a rubber tube into the ear. By this means he claims the application of heat to the ear is made a definite therepeutic procedure, the amount being controlled and the application directly observed.

The Lancet, April 22, 1905.

Gallstones and Cancer.—G. R. Slade gives abstract histories of eight cases of carcinoma of the gall-bladder in association with calculi of that organ. His paper is illustrated by several photomicrographs. From a study of thirty other cases of calculi he found that sixteen contained stones while the bladder walls were smooth and healthy. In the other seventeen (ten being carcinomatous) there was evidence of chronic inflammation in the bladder walls, and in the majority of these cases the calculi were rough. The conclusions from the foregoing would seem to be that a smooth stone is not insufficeint to set up malignant change, and that we must have either a rough calculus causing persistent irritation or an infective cholecystitis with or without suppuration or possibly a combination of these conditions. As to the surgical significance of the above-named facts any preliminary investigation as to the existence of a "pre-cancerous" stage is manifestly impossible. The only fact is the presence of gall-stones, and in view of the very frequent association of gall-stones with carcinoma and of the impossibility of recognizing the early stages of carcinoma at the time of operation, the author thinks it would be sound practice, wherever it is surgically feasible and no obstruction of the common duct exists, to remove the gall-bladder in all cases where "chronic inflammatory thickening" is found in association with gall-stones. There is here no possible objection on the score of mutilation such as might deter one from making a simliar proposal with reference to the tongue and possibly also the female breast, and the gall-bladder, like the appendix cæci, though doubtless serving some useful purpose in the human organism, must still be considered, according to Slade, rather a luxury than a necessity of existence.

Three Cases Illustrating the Condition of the Small Intestine Some Years After Extensive Enterectomies.—A. E. J. Barker calls attention to the peculiarly distastrous effect of bowel paralysis in advanced intestinal obstruction. These show themselves to the operator in many ways, both before, during and after the relief of the obstruction. It has recently happened to the operator to observe the effect of the paresis on the living bowel some years after the relief of the obstruction, and several pertinent cases are reviewed. Three are reported, two of them being instances of hernia with gangrenous bowel, calling for exsection, are reported. In both the abdomen was opened after a long interval, once for another hernia and the other for some intestinal obstruction. In both it was possible to locate the sites of the anastomoses of the former operations. In both it was noted that while peristalsis on both sides of the anastromotic site was evident, the distal portion was far more active than the proximal, while the latter was considerably dilated over the normal lumen of the bowel. It was evident that the original paralysis above the obstruction had left behind it a certain want of tone in the muscular wall of the proximal portion, or blunted nervous irritability. Barker says that the paralysis is due in cases such as he narrates—not only to the exhaustion of the muscular coats from overstrain, but also results from the salination of all the layers of the bowel with toxins developed in the fermentary contents. This latter fact is evidenced from the common experience of finding the bowel edematous (in a case of bad obstruction) for several feet on the proximal side of the strangulation.

Plague in Cats.—A series of experiments nerformed by William Hunter leads him to offer the following conclusions: (1) Cats suffer from plague. (2) The disease may be acute or chronic. (3) The type of the disease is septicemic. (4) These animals may occasionally play a part in the dissemination of plague. (5) In plague-infected districts possible plague infection in cats is of great importance from a domestic point of view. (6) In plague-infected areas cats probably become infected through plague rats and mice which they devour as food.

British Medical Journal, April 22, 1905.

A Case Simulating Intracranial Tumor in Which Recovery Was Associated with Persistent Cerebrospinal Rhinorrhea.—T. R. Glynn and E. E. Glynn report this case. The patient, an electrical engineer, twenty-one years of age, had suffered from paroxysmal pain in the head and vomiting for a year. Both family and personal histories were excellent. In June, 1898, he suffered from ammonia poisoning, due to the bursting of a pipe in a refrigerating store. For a day or two he had headache and vomiting, and was unable to work for a fortnight. Later he struck the top of his head and remained at home for two weeks. When he tried to resume his duties, the headache and vomiting returned, and he had to give up work. For twelve months before his visit to the writer, in 1899, the headache generally occurred about ever fourteen days. At first it was limited to the forehead, but was later confined to the back of the head. It continued for three to four days and was associated with vomiting, giddiness, and depression. The reflexes were disturbed, and there was marked optic neuritis. The next note, dated January, 1900, states that during the past twelve months he had been better and sometimes almost fit for work. Any attempt to stoop caused him to fall forward. During the next twelve months he became distinctly worse. His memory became very defective, and he grew lethargic and childish. He reeled

What is the best climate for such cases? he says that in which the patient can pass most of his time out of doors, in a pure atmospere. A moderately warm, equable temperature, an abundance of sunshine, freedom from chilly winds and dust, are the essential climatic elements. The humidity is of secondary importance, although if the cough be irritative and the secretion scanty and tenacious, a rather moist atmosphere with warmth is desirable. He gives a chart showing the climatic characteristics of most of the well-known winter resorts.

New York Medical Journal, April 29, 1905.

Gallstone Disease; Remote Effects and Treatment.—S. P. Gerhard calls attention to the frequency of this class of maladies. It is often latent, but trouble is apt to begin as soon as the calculus gets out of the gall-bladder, unless it is so small as to give no inconvenience. If lodgment occurs in the cystic duct or neck of the bladder, we may have empyema or even gangrene of the viscus. If it stops in the common duct, near its orifice, the bile may be dammed back on the liver, causing cirrhosis, cholemia, and inflammation. Adhesions may result between neighboring viscera, causing vague gastrointestinal symptoms. Pressure on the head of the pancreas may cause inflammation of that organ (simple or hemorrhagic) and fat necrosis. In the bowel, the stone may irritate the wall and cause reflex contraction and ulceration. We know not how to prevent the formation of gall-stones. We may manage the diet, habits, and dress of our patients in the endeavor to prevent any interference with the bile flow. Deep breathing encourages the clearing out of the gall-bladder. There is no solvent which will disintegrate the stones when once found in the bladder. All patients subject to recurring biliary colic are advised by the author to submit to operation, but many refuse. Each case thus refusing must be carefully watched, and if a crisis arises, the case must be decided upon from its own conditions. Large quantities of alkaline waters are recommended. Excessive purgation is to be avoided. The catarrhal condition in the duodenum about the orifice of the common duct after a stone has passed out or after an operation can be very nicely overcome by the administration of tincture of colocynth in doses of ten to twenty drops three times daily before meals.

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The skin was soft, smooth, and unctuous. There was but little perspiration. The nails of the fingers and toes were only about one-half the normal length, and their distal extremities were irregular and longitudinally rugous. This appearance had been the same since birth. The condition here reported is exceedingly rare. The writer has found only a few similar cases in the literature to which he refers. Ziegler ascribes the failure of the hair to develop to local alterations in the external sheath of the hair root below the level of the excretory duct of the sebaceous gland. Pinkus uses the term hypotrichosis to designate the condition here reported. He believes the affection to be a developmental defect and not properly a disease.

Three Cases of Poisoning by Potassium Cyanide.—John Irvine McKelway describes these cases, saying that they are not frequent in this country. The first patient was a hair-dresser, and had stained her hands with a dye. A clerk gave her some pieces of potassium cyanide, to take off the stains, not telling her of the poisonous qualities of the drug. She went into the bathroom, which was small and imperfectly ventilated, where she rubbed the cyanide vigorously on her hands. In a few minutes, before she had an opportunity of washing her hands, she was attacked with vertigo and fell unconscious. She was carried into the fresh air, where she revived. Whiskey was administered. A little later she became much worse. Strychnine and atropine were then given, and improvement again took place. Recovery was uneventful. The other two patients took the drug internally, and both died. In the first case, poisoning took place by two methods—by inhalation in a close room and through the skin. The minimum lethal dose of potassium cyanide is generally fixed at from two to five grains. Recovery often takes place even after the ingestion of large doses. Unconsciousness generally persists from two to six or eight hours. The stomach is often found to be much inflamed, especially toward the pyloric end. Sometimes the lips, mouth, and stomach show evidences of corrosive poisoning. Promptness is the most important feature in the treatment of cases of cyanic poisoning. Probably the best drug as an addition to water in washing out the stomach is permanganate of potassium.

Eventration of the Diaphragm.—Joseph Sailer and Robert D. Rhein describe this condition as an abnormally high position of the left half of the diaphragm, with dislocation upward of the abdominal viscera, particularly the stomach, on the left side; hypoplasia of the left lung, and displacement of the heart to the right. It gives rise to physical signs closely resembling those of diaphragmatic hernia. The condition of this patient on his admission to the hospital is described as follows: The left side appears to be larger than the right; no cardiac impulse is visible on palpation to the left of the sternum. A distinct impulse is visible in the third, fourth, and fifth interspaces to the right of the sternum. The percussion note over the left side is tympanitic below and resonant above the second interspace. The tympanitic note extends from the midsternal line to the midaxillary line. There is a little fulness in the upper right part of the chest, and tenderness as far down as the second rib. The percussion note is resonant, but not tympanitic. There is an area of dullness continuous with the liver dullness, extending from the midsternal to the parasternal line in the third, fourth, and fifth interspaces. The respiratory sounds are absent on the left side below the level of the fourth rib anteriorly, and below the level of the third rib laterally. Below this point considerable gurgling and bubbling can generally be heard. Above the fourth rib the respiratory sounds are vesicular, but harsh. The heart sounds are faint on the left side and loud on the right side, and the second sound is distinctly accentuated. There is general cyanosis. The patient died in less than a month after admission to the hospital. The autopsy satisfactorily explained the physical signs. The writers report as complete a list of cases as they have been able to make. In making the differential diagnosis of this condition, all those conditions must be excluded that produce tympany in the lower part of the left chest. Among these, probably the most important is pneumothorax. The majority of analyses of the symptoms that have been published are based upon the study of single cases, and are, therefore, of suggestive value only.

French and Italian Journals.

Syphilis of Conception with Late Manifestations.—Léon Perrin calls attention to the method of infection of women by syphilis, called syphillis by conception. The father is syphilitic but gives no evidences of the disease. The mother becomes pregnant and is infected by a syphilitic infant. The disease is easy to demonstrate in the child. It often dies before birth, or is born before term, or if it is born alive it possesses the well-known stigmata. The evidences of the disease in the mother appear at very different periods. These syphilitic manifestations in the mother may occur soon after conception, or at the time of labor or much later. The early sign is the rash, which develops sometimes by the sixteenth day after conception. This is often followed by secondary manifestations of variable intensity, and these again by tertiary symptoms. However, the disease may remain latent during life or it may reveal itself through tertiary manifestations, even at the end of twenty years. Observations made in these cases prove that a woman cannot marry a syphilitic man with impunity. The dangers attending such a union are serious. Sometimes lesions which involve the skin, the eye, and the nervous system, occur at the same time. The writer cites an interesting case of a woman who married for her first husband a syphilitic man. After his death she married a perfectly healthy man, but the child she conceived by the second husband was syphilitic. It was cured by appropriate treatment. The mother had appeared to be in excellent health.—*Revue Française de Médecine et de Chirurgie,* April 17, 1905.

The Passage of Agglutinins and Antitoxins of Tuberculosis into Milk and Their Absorption by the Gastroenteric Tube.—F. Figari has made extensive researches on various animals as to the possibility of the passage of agglutinins and antitoxins into the milk, and their absorption by way of the stomach. He gives us his conclusions as follows: 1. Tuberculous agglutinins and antitoxins pass into the milk of cows and goats which have been immunized actively, and into the milk of rabbits immunized passively. 2. Kids born from immunized mothers inherit from the mothers defensive materials and increase them in amount as they nurse. 3. Calves and kids born of non-immunized mothers may absorb by way of the gastrointestinal canal agglutinins and antitoxins contained in the milk of immunized animals, and these agglutinins and antitoxins may cause the formation of new antitoxic and agglutinating materials. 4. Rabbits immunized passively, either subcutaneously or by way of the gastrointestinal canal, by administration of immunized milk, may transmit through the milk to their young which are nursing the antitoxins and agglutinins. 5. Adult rabbits nourished with milk of immunized cows absorb from the stomach the agglutinins and antitoxins contained in the milk, and in their serum are found other agglutinating and antitoxic principles.—*La Riforma Medica,* April 8, 1905.

Anuria Due to Calculi in One Kidney; Nephrotomy; Recovery.—Tuffier presents this report through Guibal. The patient, a man of 54 years, obese, had for several years suffered with crises of nephritic colic in the left side. In September of 1904 he had an attack of nephritic colic in the right side which was followed by absolute anuria. After eight days he consulted a physician for this condition. His general state was good, and only slight signs of uremia were present. He had two unusual symptoms, however, ascites, and a hydrothorax on the right side. On the ninth day after the beginning of the anuria, Guibal performed a right-sided nephrotomy. He found a kidney which was almost normal in size and appearance, with neither calculi nor urine in the pelvis or calices. He catheterized the kidney down into the bladder, but did not meet with any obstacle. Guibal concluded that he had to deal with a reflex anuria, believing that the other kidney, which for years had been the seat of severe paroxysms, was obliterated and atrophied. A drain was inserted through which a considerable quantity of urine escaped during the following days. At the end of seven days micturition had become normal and the drain was removed. Two months later the patient voided two small calculi. This case was then proved to be one of anuria by retention. The calculi which had been in the ureter had been pushed into the bladder at the time of catheterization. The ascites and hydrothorax were not explained.—*La Presse Médicale,* April 15, 1905.

Incontinence of Urine and of Feces in Late Hereditary Syphilis.—Marcel Cantonnet has collected in his thesis on this subject twenty-two cases, of which several are his own. He concludes that incontinence of urine is sometimes the symptom by which a meningomyelitis due to late hereditary syphilis reveals itself. It is sometimes associated with incontinence of feces. These two phenomena show themselves especially in degenerate subjects and in those with hereditary nervous taint. These phenomena occur at any age, but are most common between the ages of four and twenty. The lesions observed are those of meningomyelitis, which sometimes affects the lateral columns, at other times the posterior columns. There are two clinical forms: In one there is a diminution or abolition of the reflexes, corresponding with the latter condition; the other shows itself in contracture and exaggeration of the reflexes, corresponding to the first condition. Medullary symptoms are constantly associated with stigmata of hereditary syphilis. The prognosis should be guarded on account of the possible complications, both cerebral and meningeal. The sphincter disturbances are greatly improved by mercurial treatment.—*Revue Française de Médecine et de Chirurgie,* April 17, 1905.

Book Reviews.

The International Medical Annual: A Year-Book of Treatment and Practitioner's Index. 1905. Twenty-third year. 644 pages. New York: E. B. Treat & Company, 1905.

The present volume differs from its predecessors in being considerably larger, as would seem inevitable when we consider the remarkable activity in medical research which of late years has been steadily increasing. The work is fully up to date and gives concise articles on practically all subjects of recent change. Serumtherapy and organotherapy, radioactivity, all the latest drugs of value are well discussed. Surgical as well as medical subjects are both thoroughly treated, and even minor modifications are described. Not only is the subject matter of great interest, but its value is rendered doubly so by having the articles signed by an editor specially trained in each particular line. Quite a number of illustrations are added where they are required to make the text clearer, and bibliographical references at the end of various sections allow the reader to pursue his studies more extensively directly from the original sources. The volume concludes with a list of the principal medical works in the English language which have been published during 1904.

Practical Pediatrics. A Manual of the Medical and Surgical Diseases of Infancy and Childhood. By Dr. E. Graetzer, Editor of the "Centralblatt fur Kinderheilkunde" and the "Excerpta Medica." Authorized translation, with numerous Additions and Notes by Herman B. Sheffield, M.D., Instructor in Diseases of Children, and attending Pediatrist (O.P.D.) New York Post-Graduate Medical School and Hospital; Visiting Pediatrist to the Metropolitan Hospital and Dispensary, etc. Philadelphia: F. A. Davis Company, 1905.

The chief charm of the work which is before us lies in its conciseness, its pithiness as it were. The author, who has been a pupil of Henoch, follows in great measure the teachings of his master, but at the same time writes of what he himself has seen and tried. Not only are the medical diseases considered, but also the surgical, the nose, throat, and ear, and the eye and skin disorders. The shorter second section gives chapters on hydrotherapy, electricity, massage, climatology, and dieting, and concludes with palatable prescribing, and a short materia medica, in which the children's doses are given. The American translator has done his work well, and has added some special articles on such subjects as intubation, bronchopneumonia, achondroplasia, home modification of milk, gonorrheal ophthalmia, antitoxin, etc. Perhaps the chief fault of the book lies in its paying so great attention to disease that it has not considered fully the hygiene and feeding of infants, but these subjects are so common in our American works that it would seem a wise sacrifice in a reference work of this size.

Lea's Series of Medical Epitomes. Edited by Victor C. Pederson, M.D. Hollis' Epitome of Medical Diagnosis. A Manual for Students and Physicians. By Austin W. Hollis, M.D., Attending Physician to St. Luke's Hospital; to the New York Dispensary, etc. Illustrated with 13 engravings. Philadelphia and New York: Lea Brothers & Co., 1905.

In this little volume the reader will find the diagnosis of the diseases and diseased conditions usually presented in books on Practice. So far as it goes this book can be commended; the signs, symptoms, and differential diagnosis are all that can be desired; and there is a large amount of useful information compressed into small space. But it does not go far enough. A book on Medical Diagnosis may fairly be expected to describe the various methods employed; in the present instance this has been done only in the case of the physical signs such as percussion, auscultation, etc. The methods of examination of the blood, gastric contents, urine, etc., are omitted; and to this extent we think that the title Medical Diagnosis (without limitation) is misleading, for these subjects are an essential part of medical diagnosis as understood to-day.

Progressive Medicine; a Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Philadelphia and New York: Lea Brothers & Company, March 1, 1905.

The contributors to this, the first number of Progressive Medicine for the year, are C. H. Frazier, R. B. Preble, F. M. Crandall, C. P. Grayson, and R. L. Randolph. The subjects treated are the surgery of the head, neck, and thorax; infectious diseases, including acute rheumatism, croupous pneumonia, and influenza; the diseases of children; laryngology and rhinology; and otology. The ground represented by the above titles is well covered, and includes the recent advances made in the various subjects. This number is well up to the level of its predecessors, and is of considerable value, not only for reference but also as an evidence of medical and surgical progress. The various contributors have done much more than make a résumé of the literature of their subjects; they have infused somewhat of their own individuality, and the result is a production not only of scientific value, but one of considerable literary merit which it is a pleasure to read.

Gynecology, Medical and Surgical. Outlines for Students and Practitioners, by Henry J. Garrigues, A.M., M.D., Gynecologist to St. Mark's Hospital in New York City; Consulting Obstetrical Surgeon to the New York Maternity Hospital; Consulting Physician to the New York Mother's Home and Maternity; Honorary Fellow of the American Gynecological Society; Honorary Fellow of the Obstetric Society of Edinburgh; Honorary Member of the College of Physicians of the German Dispensary; ex-President of the German Medical Society; Formerly Professor of Gynecology and Obstetrics in the School for Clinical Medicine, and Professor of Obstetrics in the Post-Graduate School and Hospital. With 343 illustrations. Philadelphia and London: J. B. Lippincott Company, 1905.

The author of this book on Gynecology tells us that it was "particularly written for students in medical colleges and such general practitioners who desire to make themselves acquainted with the essentials of modern gynecology." This is a particularly modest estimate of what we consider a valuable book. The volume begins with chapters on Puberty and the Climacteric, General Etiology, Examination, and Treatment; Discharges from the Genitals. After this the diseased conditions of the vulva, perineum, vagina, uterus, tubes, ovaries, pelvis, urethra, bladder, ureters and rectum are discussed. There is also a chapter on Sterility. The book is throughout practical, and is written by a man who has had a wide experience not only in the practice of his specialty, but also in teaching and writing.

The American Year-Book of Medicine and Surgery. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-Books of the leading American and Foreign Authors and Investigators. Collected and Arranged with Critical Editorial Comments, by Samuel W. Abbott, M.D., Archibald Church, M.D., Louis A. Duhring, M.D., D. L. Edsall, M.D., J. Claxton Gittings, M.D., J. P. Crozer Griffith, M.D., Reid Hunt, M.D., Walter Jones, Ph.D., A. O. J. Kelly, M.D., John Marshall, M.D., Nat.Sc.D., J. H. W. Rhein, M.D., David Riesman, M.D., Alfred Stengel, M.D., A. A. Stevens, M.D., G. N. Stewart, M.D., Reynold Webb Wilcox, M.D. Under the General Editorial Charge of George M. Gould, M.D. Volume I, Medicine. Volume II, Surgery. Philadelphia and London: W. B. Saunders & Company, 1905.

The various annual summaries of medical progress have firmly established their value to all classes of professional readers, and the present year-books are among the most satisfactory of the number. The several departments are in the hands of men whose position insures good judgment in the selection of the material and skill in welding the separate parts into homogeneous and readable discussions. The general plan of arrangement and of typography, as well as the excellent indices combine to render the subject matter easily available for reference and therefore practically useful. In the volume devoted to medicine, the principal contributions of interest on the ordinary conditions are given due recognition, while we find that such recent subjects as trypanosomiasis, sleeping sickness, kala azar, dracontiasis, uncinariasis, in short, the whole tribe of the newer protozoal and intestinal diseases are discussed in the light of the most modern researches. New views on the nature of the infectious diseases, on hemolysis, antitoxins, etc., all receive adequate treatment. In the volume on surgery the advances made during the last twelve months in surgery proper, as well as in the allied provinces of obstetrics and anatomy, are treated with equal discretion. The section on the kidney and ureter, and on the prostate are especially noteworthy for the progress they record, and in the discussion of cysts and tumors some interesting papers on the nature of carcinoma are abstracted. Taken all in all there is much to be said in praise of the volume, and but little in criticism.

Society Reports.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, April 10, 1905.

THE PRESIDENT, DR. THOMAS E. SATTERTHWAITE, IN THE CHAIR.

Symposium on Immunity and Infection.—Dr. EDWARD K. DUNHAM referred to the distinction that must be drawn between the acquired tolerance for poisons, as exemplified by the gradually diminishing susceptibility to drugs upon their prolonged use, and immunity. The toxins produced by bacteria and certain other poisons like abrin and ricin resembled food-stuffs in their chemical nature much more closely than did alkaloidal substances, and connected with that kind of constitution was their ability to call forth the production of antibodies, when introduced into man or animals. He referred to Ehrlich's theory of cell-receptors, and the part they were supposed to play in the physiological assimilation of food by the cell, in the susceptibility of cells to poisons resembling foods in their constitution, and to the production of antibodies. Of these antibodies, the physician was most interested in the antitoxins and bacteriolysins; but these classes of antibodies were only two of a large number of different kinds of antibodies. As examples of the other groups, he mentioned agglutinins and precipitins, both of which had become of practical importance for diagnostic (Widal test for typhoid) or forensic purposes.

The antibodies might be divided into three groups according to the degree of complexity in their constitution, as inferred from their properties. Simplest of all were the antitoxins which possessed only a single combining affinity (the "haptophore group" of Ehrlich), enabling them to combine with and neutralize the toxin which had previously called them into being during the process of immunization. Next in complexity were the agglutinins and precipitins, which, in addition to the haptophore group, possessed a ferment forming a part of their constitution (the "zymophore group" of Ehrlich), to which they owed their characteristic agglutinating or precipitating property. Still more complex were the lysins, which possessed at least two haptophore groups of differing affinities. Where there were but two haptophore groups ("amboceptors"), one of these united with the food-stuff of toxic substance (cytophilic haptophore group); the other with a ferment previously freed in the body fluid or cells. This second haptophore group was called the zymophilic haptophore, and the ferment with which it united was the "complement." "Polyceptors" were antibodies having several haptophore groups capable of uniting with more than one sort of complement.

Ehrlich had devised a nomenclature of which the foregoing terms were examples, and a series of symbols expressing the relations between the various kinds of substances involved in the complex phenomena of immunity. Dr. Dunham illustrated his remarks with a series of charts presented to him by Gereimrath Ehrlich, when he was in this country last spring, and pointed out the meaning of many of the terms used, as represented symbolically on these charts. In closing, he called attention to the nature of some of the difficulties encountered in the endeavor to obtain efficient antibodies for the prevention or cure of disease by means of sera.

Phagocytosis in Its Relation to Immunity.—Dr. EUGENE L. OPIE stated that the phenomena of immunity were now known to be so complex that there was little probability that they could be referred to the activity of any one organ or group of cells. Those who believed that the defensive substances of the body had their chief seat of activity in the body fluids, recognized fully that the constitution of the fluids was dependent upon the activities of cells, and the attempt was no longer made to separate, in a strict sense, humoral from cellular theories of immunity. It was, however, well known that certain observers maintained that processes upon which immunity depended occurred largely within one group of cells, and were brought about by substances intimately bound to the body of those cells. The observations of Metchnikoff had given importance to the fact that certain cells of the body were capable of engulfing and dissolving solid particles, and our knowledge of the character and behavior of those cells during infectious disease was largely due to the investigations of Metchnikoff and his pupils. A consideration of this subject was indeed in great part a review of the publications of Metchnikoff, who, with innumerable experiments, had attempted to answer the objections of the many observers who had opposed his theories.

According to Metchnikoff, the essential feature of an inflammation was phagocytosis. The vascular changes and other accessory phenomena which characterized inflammation were simply means by which cells capable of phagocytosis were brought into contact with the inflammatory irritant. The relation of phagocytosis to inflammation was well illustrated by the changes that followed the experimental introduction of bacteria into the peritoneal cavity of an animal. Many of the cells contained in the fluid normally present in the peritoneal cavity disappeared almost immediately after injection. At the end of about one hour, the polynuclear leucocytes accumulated in the blood-vessels of the mesentery and omentum, and hence migrated into the peritoneal cavity. These cells actively ingested the bacteria that had been injected, so that a few hours after the injection of an organism of only moderate virulence, the bacteria had completely disappeared from the peritoneal fluid. At the end of about sixteen hours after inoculation, a second type of cells made its appearance and gradually increased in number. This cell was larger than the polynuclear leucocyte, but was not unlike the latter in other characteristics. During the later stages of the inflammatory process, such cells engulfed and destroyed the smaller polynuclear leucocytes which themselves had already ingested bacteria, and when the exudate was undergoing resolution, many of the large cells were found containing half a dozen or more of the smaller forms. The large phagocytes Metchnikoff designated macrophages. The smaller polynuclear phagocytes, named by Metchnikoff microphages, were particularly concerned in the destruction of bacteria, but different substances influenced in varying degree the two types.

After reviewing at length the observations of Metchnikoff and others upon the rôle of phagocytosis in infectious diseases, Dr. Opie said that in recent years the theory of phagocytosis had doubtless had less influence in suggesting new and profitable directions of research than those which had been concerned with the properties of the blood serum and other fluids of the body. We were not yet able to define with complete exactness the part played by phagocytosis in the destruction of bacteria. Moreover, attempts to apply to therapeutic use the important facts that were known, had met with little success. Indirect stimulation of phagocytosis by the injection of substances which were capable of increasing the number of leucocytes in the circulating blood or at a point subject to bacterial invasion, had had little practical application, although attempts in that direction had been made. Albumoses, for example, injected intravenously or subcutaneously, caused at first a decrease of the leucocytes, and then a marked increase. As yet, however, no means of transferring these results to human infections had been devised. A somewhat more intimate knowledge was necessary before these facts of experimental biology were applicable to medical practice.

Therapeutic Value of Antitoxic Sera.—Dr. HARRY T. MARSHALL of Johns Hopkins University presented this paper. He stated that the antitoxic treatment of diphtheria was the best known and most successful example of serum treatment. The mathematical precision with which the serum acted when properly used; the importance of using the antitoxin at the earliest possible moment after infection; the advantage of employing even extremely large doses of the serum, especially if its use was begun after the disease was well established; the greater rapidity with which immunization could be effected by intravenous injections, and the consequent advantages of that method over subcutaneous injection; the harmlessness of the serum; the local use of antitoxin as a spray, both to neutralize the unabsorbed toxin and as a means of hastening the disappearance of the diphtheria bacilli from the throats of convalescent patients; these were all matters that had been fully discussed in recent literature.

The diphtheria bacilli produced unstable poisonous bodies of complex but unknown chemical structure, called toxins. The toxins were readily soluble in the blood plasma, and were carried to the body cells for which they chanced to have a chemical affinity. The toxin united with the cell by means of the corresponding haptophorous or binding groups in the toxin and cell, and then, according to the virulence of the toxin and the vitality of the cell, either the cell was killed by the toxin or the cell reacted, throwing off the toxin and a number of haptophorous groups or free side chains or receptors, of the kind that had a chemical affinity for the toxin. These free receptors were the antitoxins; they would unite with any free toxins that might be present in the circulation, and even if the toxin was lightly bound to a cell, it might be dislodged if a great excess of antitoxin was brought to bear. Whether this phenomenon was due to dissociation was now a contested question, and was closely connected with the question of the complexity of the diphtheria virus. It was certain, however, that when once union between the toxin and cell was firmly established, no amount of antitoxin would influence the action of the toxin on the cell.

In tetanus, the conditions were different from those in diphtheria. The tetanus toxin was carried to the central nervous system along the motor nerves, and gained entrance to the nerve through the motor end plates. In their experiments, Meyer and Ransom demonstrated the presence of the tetanus toxin in the motor axis cylinders after a subcutaneous injection of the toxin, and they could prevent the toxin from reaching the cord by making an intraneural injection of antitoxin. After toxin was in a nerve, tetanic symptoms could be prevented by cutting the nerve or cutting the cord. The intraneural injection of toxin was followed by tetanus even though the blood contained a large amount of antitoxin. They found that the tetanus antitoxin was not carried along the nerves, and had practically no action excepting upon that toxin that had not yet entered into the motor axis cylinders.

There were two practical lessons of importance to be learned from the work of Meyer and Ransom. First, that subcutaneous, intravenous, and subdural injections of antitoxin were of no value as measures to relieve tetanus when the symptoms had appeared. Second, injections of antitoxin, especially near the infected wound, would effectually bind any toxin present in the tissue, *i.e.* before it had been picked up by the motor end plates. It was also probable that injections of antitoxin directly into the motor nerve leading from the infected wound, or even injections into the segment of the cord reached by this nerve would have some influence upon the toxins.

Therapeutic Value of Bactericidal Sera.—Dr. Herbert D. Pease, of the Antitoxin Laboratory of the New York State Department of Health, Albany, read a paper on this subject. He stated that, without question the largest volume of laboratory and clinical investigation looking towards the serum treatment of any of the infectious diseases, excepting diphtheria and tetanus, had been in the direction of a specific serum for the treatment of streptococcus infections. From the experimental aspect, the problems involved in the production of an effective antistreptococcic serum not only included practically all those concerned in the subject of immunity, but also those connected with the differentiation of bacterial species and races. With our very incomplete knowledge of the underlying principles of streptococcus infection, it was not surprising that the results obtained by the therapeutic use of the many variously produced antistreptococcic sera were also most uncertain and variable in the extreme, even after making due allowance for the personal equation in the reports of such results.

Owing to the lack of definite knowledge regarding the relationship of streptococci, there had existed two schools, one believing that all streptococci belonged to one species, and the other that streptococci could be divided into numerous groups, and that an immune serum, prepared by one strain had, at least, a greatly diminished antagonism to the others. The former group prepared sera with single cultures, the virulence of which had been artificially increased by their passage through animals—the so-called *Tier passage*—while the latter group prepared each serum with numerous cultures taken directly from man. Sera prepared according to both general methods had been used extensively clinically, and the reported results were numerous. In many of these cases infection by this microorganism was merely assumed.

With the serum therapy of tuberculosis, two names were most prominently associated, Marmorek and Maragliano. The former believed that tuberculin was not the true toxin of the tubercle bacillus. He claimed to produce the true toxin by growing certain tubercle bacilli in a glycerinated bouillon made from liver, to which was added the serum of a calf which had been subjected to injections of guinea-pig leucocytes. This so-called true toxin produced in the animals treated by it an antitoxic serum, which was used in the treatment of tuberculosis in man. From this serum, Marmorek claimed the most favorable results in acute miliary, in surgical, and even in the most severe cases of pulmonary tuberculosis. Maragliano's serum was prepared by the repeated injection of the filtrate of young cultures of tubercle bacilli, as well as the use of aqueous extracts of killed virulent cultures. He claimed that his serum was antitoxic and bactericidal as well. The most favorable results from the use of this serum in properly selected cases, were claimed by its originator. The classes of cases in which good results were not looked for by him, were those in which there was a mixed infection, or where there was a general impairment of nutrition. In opposition to the optimism of both Marmorek and Maragliano, Baldwin considered that the present sera used in the treatment of tuberculosis acted as non-specific stimuli, and merely assisted in the production of a high nutritional condition.

Dr. Pease said that notwithstanding our fairly satisfactory knowledge of the character of the infection in typhoid fever, and the demonstration of marked bactericidal properties in the serum of typhoid convalescents, as well as in typhoid immune sera of animals, there had been very few attempts to produce a therapeutic serum for this disease.

Before concluding his paper, Dr. Pease briefly discussed antidysenteric, antiplague, and antianthrax sera, and stated it was quite evident from his somewhat fragmentary review of the entire subject that in no one of the diseases considered had there been demonstrated an entirely satisfactory serum therapy. However, sufficient beneficial results had been obtained with some of the streptococcic, dysenteric, plague, and anthrax antisera at least to warrant some hope of better results when our knowledge of those infections and their etiological agents had become materially increased.

Diphtheria Antitoxin in Cerebrospinal Meningitis.—Dr. Arthur J. Wolff, of Hartford, Conn., read this paper, in which he said that early in the course of an epidemic of cerebrospinal meningitis which visited Hartford last year, it was observed that the characteristic organism found in the lumbar puncture fluid was not always decolorized by the Gram method, and it was also found that culture made from such fluid might be decolorized by Gram when the original fluids were not; in other words, according to the speaker's experience, the positive or negative reaction to Gram's stain was not absolute for the diagnosis of the meningococcus, and this agreed with the statements made by Jaeger, Pfaundler, and others. It would follow from these observations that the differential diagnosis of diplococci found in nasal or throat cultures, when based upon the Gram reaction, was as inaccurate as the attempt to differentiate by the same reaction the diplococci found in lumbar puncture fluid taken from actual cases of meningitis.

The rarity of diphtheria during an epidemic of cerebrospinal meningitis in Hartford in 1904, first led to an investigation as to the possibility of an antagonism between the two organisms. Various experiments were carried out, which tended to strengthen that belief. For example, cultures made in bouillon of loops from agar growths of meningococci from lumbar punctures, and loops from blood-serum growths of pure cultures of Klebs-Loeffler bacilli mixed, showed in some cases very rich growths of Klebs-Loeffler bacilli and very few meningococci, or *vice versa*, entirely dependent upon which organism was sewn in the greater amount. That such an antagonism might exist between these two microorganisms was entirely within the possibilities of bacteriological law, and similar examples might be mentioned almost without number.

The above facts, Dr. Wolff said, had led him to suggest the use of antidiphtheritic serum for the treatment of epidemic cerebrospinal meningitis, and if his suggestion would result in only a small diminution of the frightful mortality from a disease for which no remedy had hitherto been found, his object would be fully accomplished.

Limitations of Serum Therapy.—Dr. Henry W. Berg read this paper (see page 689).

Dr. William H. Park said that so far as he was aware, no great therapeutic advances had been made during the past five or six years in connection with antitoxic and bactericidal sera, nor was the future outlook very promising. Much had been learned about the nature of the various substances in the body that killed bacteria or destroyed their toxins, but many difficulties were encountered in the production of a bactericidal serum that would destroy the microorganisms that invaded the body. The speaker said he saw no pathological reason why diphtheria antitoxin should prove antagonistic to the organism of cerebrospinal meningitis. Probably three or four thousand dollars worth of antitoxin had been recently experimented with in that direction, and while, so far as he could see, it had done no harm, neither had it done any good.

Dr. James Ewing said that bactericidal sera destroyed bacteria, but left endotoxins that poisoned body cells and had a cumulative action, and against which there was no immunity. Moreover, the poisoned body cells discharged toxins and various poisons which had to be cared for by the organism, and hence bacteriolysis might be complete, but the patient die.

Dr. L. Emmett Holt said he had seen 49 cases of cerebrospinal meningitis during the past two seasons, the greater number of these being in the wards of the Babies' Hospital, and the majority of the patients being children under two years of age. The striking features of these cases were the irregularity of the temperature, the nervous manifestations, and the uncertainty of the prognosis, excepting in very young children. Of 21 under one year old, 16 died, while five were still under treatment, and would probably not survive. His experience had been that in children under one yar, the disease was fatal in practically one hundred per cent. of cases. Ten of the cases had been treated with antitoxin; eight in the hospital, two outside. The remedy was given in varying doses, ranging from six to forty thousand units. Dr. Holt said that he and his associates had been unable to see the slightest beneficial effect which could be fairly attributed to the use of the diphtheria antitoxin. It had apparently exerted no influence whatsoever upon the temperature, the nervous symptoms, nor the course of the disease. On the other hand, in no case did it appear to do harm. In the treatment of cerebrospinal meningitis, repeated lumbar puncture appeared to do more good than anything else. The withdrawal of a considerable amount of fluid—an ounce or more—from the spinal canal, was usually followed by a marked improvement in the character of the pulse, respiration, and the nervous symptoms. Many of these children, although hospital cases, were in excellent condition at the time of their admission, and furnished as good a test for the antitoxin remedy as private patients would have done.

Dr. Frank Grauer said that during the past five weeks he had employed diphtheria antitoxin in five cases of cerebrospinal meningitis, without any resulting benefit whatever. The patients were all seen early in the course of the disease, and the remedy was injected within twelve or twenty-four hours after the onset of the first symptom. Of two additional cases where the antitoxin was not used, one had recovered and the other was improving.

Dr. James C. Ayer said he had treated 48 cases of erysipelas with antistreptococcic serum. The result of the treatment in those cases was a diminution of the average duration of the disease as compared with those treated by the older methods. The duration of the disease under the serum treatment was about six and one-half days, while under the older method it was about nine and a half days. It also exerted a beneficial effect on the temperature, and rendered the patients much more comfortable. As a rule, they did not feel sick at all after the first injection of the serum.

Dr. E. Libman said he did not think Dr. Wolff had presented any proof that the diphtheria antitoxin and the meningococcus were antagonistic to one another. The mere fact that they did not grow well together in one tube did not prove it.

Dr. William H. Thomson said that in the course of his recent service at Roosevelt Hospital he treated 30 cases of cerebrospinal meningitis, none of them in children. Of the first 16 cases, 14 died; among the remaining 14, only two died. All of these patients received practically the same treatment, so the difference in the mortality could not be explained on that ground. Dr. Thomson said he had met with the same wide variation in the mortality rate in different series of cases treated during an outbreak of pneumonia, and he attributed it to a factor that had not been touched upon in the discussion, namely, that the greater mortality occurred in patients who were stricken during the height of an epidemic, while the reduced mortality occurred among those seen during its abatement. Until this factor of the stage in an epidemic of infectious disease was taken into account, the less said about therapeutic measures the better.

Dr. Wolff, in closing, said we had still much to learn about bacteria, toxins, and antitoxins. While the number of cases of cerebrospinal meningitis treated with the diphtheria antitoxin was still comparatively limited, it was growing daily, and definite conclusions could soon be based upon the value of that method. If it had effected even a slight decrease in the mortality of the disease, something certainly had been accomplished.

NEW YORK ACADEMY OF MEDICINE.

Section on Surgery.

Stated Meeting, Friday Evening, April 7.

Samuel Lloyd, M.D., in the Chair.

Results of Operation for Equinovarus and Other Deformities; with Plaster Cast Showing Original Condition of the Foot.—Dr. Robert H. M. Dawbarn presented this patient. The deformity was of the most pronounced type. The patient was a young man about 25 years of age, and he had never, until recently, been able to walk more than a very short distance because all the weight of his body fell entirely upon the outer side of the foot. Dr. Dawbarn excised the astragalus, removed the head of the first metatarsal, and performed tenotomy of the great toe tendon and of the tendo Achillis. The extremity was then put in normal position and the skin wounds were closed. A plaster splint was applied and left on for six weeks, healing taking place under Schede's moist blood clot.

Result of Excision of Both Sternocleidomastoid Muscles.—Dr. ROBERT H. M. DAWBARN presented this patient. He said that for the past seven years the young woman had suffered from two distinct conditions, namely: (1) Greatly enlarged lymph nodules involving the entire left side of the neck, and (2) a pronounced lupus erythematosus. Fourteen months ago he operated through the customary cervical incision. Finding the exposure of the parts not sufficiently free he had divided the sternomastoid in its lower third. So great had been the tension of the subjacent hypertrophied glands upon the middle portion of the belly of the muscle that the circulation of the part had been profoundly interfered with. The result was that when it was cut below the middle third of the muscle it did not get sufficient nourishment, and together with a considerable segment of the vagus nerve had sloughed entirely away. That this complication ensued was attested to by the fact that the heart beats rose to 160 without corresponding temperature elevation. Furthermore, the patient's color was good and she was able to walk. The other vagus took on the function of both after several months. One month later, in order to avoid the development of torticolis, Dr. Dawbarn removed the muscle on the opposite side. Contrary to all expectations, there was no disability or the slightest sign of paresis as a result of this double removal of the sternomastoid muscles, for the girl was able to move her head forcefully in every direction. As the operator well said, this case, which was almost without parallel in medical history, proved that the sternomastoid muscles were far from being as necessary as usually supposed.

Dr. A. V. MOSCHCOWITZ said that he always preferred to remove the base of the first phalanx, it having been shown that the base of the first metatarsal entered largely into the support of the arch of the foot.

Dr. WILLY MEYER also objected to the removal of the head of the first metatarsal, because flat foot might result.

Dr. Dawbarn gave the following reasons for the removal of the first metatarsal: (1) it, rather than the base of the phalanx, was the bone causing the deformity; (2) it had no muscular attachments; operation was most simple, whereas removal of base of phalanx must be done subperiosteally or else ruin the function of several muscles; (3) the assertion that the removal of the first metatarsal caused limping was untrue; at least this had been the operator's experience in upwards of 80 cases.

An Inflammatory Tumor.—Dr. RAMON GUITERAS presented this case. The patient was 30 years of age. The lesion had been thought to be appendicitis, but operation had shown the mass to be extraperitoneal. It might have been a granuloma, but the diagnosis was doubtful.

Epithelioma of Lip.—Dr. ROWLAND COX, JR., presented this case. The patient was a man 64 years of age, who had presented himself for the treatment of an epithelioma, the removal of which necessitated the resection of one-third of the lower lip. Although there was no evidence of metastasis, the submaxillary glands were removed. A year later there was a recrudescence of the growth, but it was not a recurrence of the original tumor. It was probably an example of a secondary primary malignant growth occurring in a single individual, a condition occasionally reported, but one of exceeding rarity.

Salivary Calculus of Wharton's Duct.—Dr. ALFRED S. TAYLOR presented this case. The lesion had occurred in a robust motorman, about 40 years of age. Its inception was marked by swelling and pain over the cheek whenever exposed to a draft. On inspection, the duct could be seen coursing along beneath the mucous membrane of the mouth for a distance of about an inch and from the stoma trickled a purulent thick saliva. A probe encountered obstruction 1½ inches from the stoma, but this did not feel as though it was due to stone. Immediately after the probing a great deal of yellow pus flowed out. As the probing was continued for some time a great deal of relief was experienced, and the gland which had been much enlarged, diminished in size. Finally a small calculus appeared at the stoma and was removed with forceps. The speaker said the stones of the parotid were only one-seventh as common as those of the submaxillary gland.

Appendicostomy.—Dr. JAMES P. TUTTLE read this paper. He said that although the operation had now been under trial for more than six years, only a comparatively small number of cases had been reported. He showed a most interesting series of patients, and cited twenty-two cases with one death due to acute miliary tuberculosis. Sixteen cases operated upon for amebic dysentery were all thoroughly cured or else well on the way to recovery. The patient's comfort and ability to carry out the treatment, which they in all cases soon learned to do themselves, depended, in the speaker's opinion, entirely upon following the technique, which he outlined as follows: If there was any contraindication to general anesthesia it might be done under local anesthesia, but the objection to this lay in the possibility of complications arising after the abdomen was opened There was little danger from the operation if proper antiseptic precautions were observed, as there was no necessity of opening the appendix until after the peritoneal cavity had been completely closed by adhesions. The leakage from the opening was exceedingly slight and barring the necessity of wearing a little piece of gauze over the aperture there were no disagreeable features connected with the treatment. The operation got rid of an organ which was always a menace to health and afforded ample opportunity for local medication of the diseased colon, and the patient was able to carry out the treatment for himself without pain or difficulty after the first week or ten days; it did not confine the patient to his room nor did it exclude him from society as did the artificial anus, and finally the opening could be easily and safely closed whenever the circumstances warranted it.

Appendicostomy and Cecostomy in the Treatment of Ulcerative Colitis.—Dr. WILLY MEYER read this paper. He introduced the subject by exhibiting a number of patients who represented very clearly the technique used by the operator. After discussing the historical side of the operation at considerable length, he dwelt upon the advantages of appendicostomy as compared with cecostomy and concluded that the former was the operation of choice unless some peculiar variation in the situation or the morphology of the appendix contraindicated it. The technique which he had employed was characterized by two essential details. These were, that he made the appendicular incision a trifle lower than usual and brought out the appendix at the lower angle of the wound. Further, he advised and stated that he constantly practised the immediate removal of the appendix at the time of primary operation. He said there was no danger attached to this technique and if the parts were suitably protected with sterile pads, there could be no possibility of infection. The advantage of opening the appendix at the time of the operation was self-evident. In not a few cases the lumen was so stenosed as to be unavailable for the purposes of irrigation. This had better be found out at the time of operation when cecostomy might immediately be performed rather than later. In the latter event a secondary operation would needs be performed to the mortification of the operator and the discomfort of the patient.

Dr. ERDMANN said that he considered cecostomy to be the better of the two operations.

Dr. GANT said that there were many cases of colitis which might be improved by irrigation. In his cases he had had one death two or three months after operation. In papillomata of the colon and sigmoid, appendicostomy was, in the speaker's opinion, an excellent method of preparing the parts for operation to be followed by excision of the tumor. Dr. Gant was very enthusiastic about the future of the operation and considered that as the profession became better educated in regard to its possibilities it would be employed as frequently as the well-known operation of removal of the organ is to-day.

Dr. Dawbarn said that he had operated upon the second case ever done; he had used the following technique: The appendix was vigorously rubbed with dry gauze and brought out high up in the wound to avoid leakage. He did not believe in Dr. Meyer's method of carrying the appendix down to the lower part of the wound. He advised waiting 24 hours before opening the appendix in order that fibrinous exudate might form. Furthermore, he had not practised permanent catheterization of the appendix because he had not had any trouble in putting the catheter in at desired intervals. In regard to the type of irrigation, he said there was no reason why a continuous flow for 24 to 36 hours should not be maintained. He suggested also that as a matter of refined technique the mesentery of the appendix should not be cut because of the possibility of gangrene in the organ.

Dr. Tuttle, in closing, urged that the appendix should not be cut off until 48 hours had passed. This he considered only fair to the patients as in almost all the cases in which appendicostomy was indicated a delay of two days could work no possible harm. It avoided, he said, a small but pertinent risk, always attendant upon immediate opening.

Dr. Meyer said that one disadvantage of cecostomy lay in the fact that it necessitated the wearing of a tube. It was, therefore, safer and less disagreeable to the patient to utilize the technique of appendicostomy.

Dr. W. S. Bryant presented an instrument for bone work called the "front-bent gouge." This was devised after the type of instrument used by wood carvers and its value lay in the fact that no mallet was required in its employment. The curve allowed of safe leverage to cut the bone free, and further there was no danger of slipping. It was, therefore, particularly accurate and one could always avoid accidental injury to the soft parts.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held April 17, 1905.

Dr. Francis J. Quinlan in the Chair.

Following the appointment by the President of three Inspectors of Election, and the declaration that the poll was open for the annual election of officers, reports of the various committees were presented.

Galvanism as a Curative Agent in Nervous Diseases; the Importance of Equipment and Technique.—Dr. W. B. Pritchard read this paper, in which he said that medical electricity was not as yet a science; we knew not what it was nor did we know its *modus operandi*, but only what it would do. The author's personal experience with galvanism alone constituted the subject matter of his paper. All neurologists accorded galvanism some degree of usefulness and gave it a legitimate position in the treatment of diseased conditions, although its field was a very limited one. He had never seen any real benefit in tabes dorsalis, although Erb had recommended it. In peripheral neuritis, or other peripheral nerve disease, and in many forms of neuroses, parasthesias, etc., galvanism occupied a place of great value. Also in the fatigue neuroses, in tired headaches of neurasthenics, especially the occipital and cervical forms, galvanism was of great benefit. He said there were no specifics in neurology, but that galvanism, properly administered, was of almost inestimable value. To get the best results one must have proper equipment and good tools. One should not guess at the dose of galvanism. A satisfactory outfit could be obtained at a nominal cost. He showed some electrodes made of pliable metal; instead of permanent covering he used clean towels. The electrodes were made as large as possible. Seances occupied from twenty minutes to an hour, the latter being the time employed in cases such as sciatica. It was necessary to have the electrode held firmly and in a comfortable position, in order to get the best results.

Dr. J. J. McPhee said that galvanism was an important aid in the treatment of anterior poliomyelitis. He had used it for eleven years in tabes dorsalis, but he had never seen any direct benefit from its use, although he believed that it might be of some value indirectly. He had never noted any good results whatever from the employment of galvanism in organic difficulties of the nervous system.

Dr. Milton Franklin said that the use of electricity for meidcal purposes was not a science and was far from being a science; but, if there was any one portion of electricity that had the rudiments of a science it was galvanic electricity. Its dosage could be absolutely measured. The static current was absolutely an unknown quantity in medicine. The x-ray influences upon tissues was known but had never been applied to neurotic conditions. Absolutely nothing was known of the high frequency current from a physiological or therapeutic standpoint, except that it had a superficial action on tissues such as would be caused by any cautery. But of all the medical electricities galvanism was the most important. The faradic current when compared to the galvanic was insignificant, or practically nil. Instead of clean towels to cover the electrodes he advised the use of lint which was cheap and could be thrown away after using. Long treatments were absolutely necessary in order to get the best results, and therefore, automatically held electrodes became indispensable. He had had good results in the use of the galvanic current in cases of anterior poliomyelitis.

Dr. William M. Leszynsky said that the sensations of the patient should also be considered when applying galvanism. One of the most common accidents that occurred in this application was producing severe escars by burning, either from a leakage or some other defect in the equipment.

Dr. Pritchard closed the discussion by emphasizing the value of proper equipment and proper accessories. Nothing could do more harm in peripheral neuritis than a poor equipment; but with proper equipment and with the proper employment of the agent, nothing was of more value.

Clinical Features and Treatment of Epidemic Cerebrospinal Meningitis.—Dr. Francis Huber read this paper in which he reiterated many facts that had already been presented to various societies of late, especially regarding the clinical features. Because the germ was supposed to gain entrance to the meninges from the nasal cavities, the intranasal use of germicides should be of value. The boric acid spray into the nasal passages twice a day might be a method of prevention when placed in the hands of the public. This Jacobi had taught for some years. The mortality of cerebrospinal meningitis was from 65 to 70 per cent., and the main problem now confronting the profession seemed to be that of prevention rather than that of cure. It was to be hoped that the members of the Commission lately appointed would do much to limit the spread or outbreak of the disease. It should be remembered that the diplococcus causing cerebrospinal meningitis was possessed of feeble vitality, and that this organism could produce other affections and live in healthy mucous membranes. He referred to Jacobi's recent historical review of epidemics of this disease in the United States. In about one in ten cases one met with other cases occurring in the same house, or multiple instances in the same family, or transmissions to nurses or doctors, which made one believe it to be a communicable disease. On this account the friends of the victims should be cautioned against visiting the premises. It was a disease met with more in the crowded districts. During the past few months the disease seemed to be on the increase following a thaw. Nasal obstructions, as from nasal catarrhs, etc., seemed to render one more prone to the disease; this was noted in about one-fourth of the cases. One attack rendered immunity as a rule. During 1904 there were admitted to Gouverneur Hospital, 112 cases of cerebrospinal meningitis, 56 males and 56 females. There were 28 recoveries, or 25 per cent. Among those who recovered 14 were practically well in two weeks' time or less. In most of the cases the diagnosis was confirmed by lumbar puncture and the obtaining of the meningococcus in the fluid. Dr. Huber showed charts of the milder cases, those that recovered in two weeks' time or less. Also he showed charts of the fulminant types, those that died within ten or fifteen hours, up to two, three or four days. The clinical features as seen in the cases of Gouverneur Hospital were detailed, following the classification as given by Osler. He said the intermittent type, which was denied by some authors, was frequently met with. Charts were shown representing the abortive type; these cases were practically well in ten days. He showed photographs of a child with chronic hydrocephalus; also one showing extreme bowing of the body. The number of deaths were 74; they occurred from fifteen hours of onset up to as late as 230 days. Fifty-six of the deaths occurred within 23 days; from the 29th day to the 230th day there were only 18 deaths; during the first 5 days there were 26 deaths; 57 per cent. died within the first 23 days. The cause of death in most of the cases was paralysis of the respiratory centers.

It did not seem to make much difference what form of treatment one resorted to, the results were approximately the same. Apparent convalescence was frequently interrupted by relapses. The patient should be isolated and carefully nursed in a well-ventilated room. The utmost importance should be given the general nutrition. Ice-bags might be applied to the head and support given the head and neck, which added greatly to the patient's comfort. Plenty of water should be used and the functions of the body well regulated. The urine should be drawn off if necessary. Often the use of nasal irrigations, because of the obstructions there, would be followed by some relief. The pain and restlessness could be controlled by morphine or codeine administered hypodermically. The headache could be relieved by one of the coal-tar analgesics without the aid of morphine. Ergot had been used, but without result. At times baths at 95° or 98°, with or without the addition of mustard, promoted sleep and quiet. He questioned the efficacy of the ice-bag to the head when the child was in the hot bath. Lumbar puncture relieved the intracranial pressure to a certain extent, besides being of diagnostic value. If the foramen of Magendie was closed, lumbar puncture removed fluid only from the subarachnoid spaces. In 51 cases in which one drachm of fluid was withdrawn, the diplococcus was found in 44 instances. At Roosevelt Hospital and Beth Israel Hospital, the intraspinal injection of diphtheria antitoxin gave quite encouraging results when first tried, but not later. In one case in which the injection was attempted, only a few drops of fluid could be withdrawn because of the gelatinous consistency of the exudate. The greatest hopes for the cure of the disease he believed rested in the application of proper hygienic measures.

Dr. Morris Manges said that nephritis was quite a common occurrence in this disease, and a large quantity of albumin was the rule rather than the exception. Unless one was careful when called to see a case of cerebrospinal meningitis he would mistake it for uremic coma, because of the albumin in the urine. Sugar was to be found in the urine in these cases very often, especially at the beginning; this probably occurred from local lesions in the brain. Ten years ago he had a sporadic case in which the presence of sugar in the urine was a puzzling feature of the disease. With regard to the rash, he said at the Mount Sinai Hospital the wonder was why this disease was called "spotted fever," for one of the characteristic features of the disease as seen to-day was the absence of any rash. Frequently herpes was noted and this lent aid to diagnosis, being one of the most important corroborative diagnostic features. Leucocytosis played an important rôle in diagnosis, sometimes the count running about 30,000 or 40,000. The variations in temperature constituted a striking feature of this disease, and an absence of fever was not any guarantee that the patient was free from the disease. At Mount Sinai there seemed to be a remarkable absence of serious complications. He never hesitated to use chloroform when doing lumbar puncture, and he had never seen any harm result. The importance of proper feeding was especially emphasized. He had seen good results follow the use of spinal injection of lysol, as previously reported by him. One case of streptococcus meningitis got well under its use, and this was the only case he ever saw in which recovery occurred.

Dr. Harlow Brooks said that we were not dealing with a toxic condition in cerebrospinal meningitis, as we were in diphtheria; the symptoms of this disease were not due to any toxin produced by the the organism, but were of mechanical causation. The clinical picture of the disease did not indicate any toxic condition, but pressure on cortex and ventricles. A toxin had never been isolated from any growth of the meningococcus. Therefore, it seemed to him that in such a disease in which the symptoms were the result of more or less pressure, but little help could be expected as the result of investigations such as now were being made by the Commission in the attempt to find an antitoxin. Epidemics of cerebrospinal meningitis had varied a great deal, and he himself had seen yearly variations. In 1896 and 1897 it was a true spotted fever; but this year he said he had seen only one or two cases in which these spots showed themselves. To-day herpes was more common. The organism varied remarkably in its ability to set up cerebrospinal meningitis; it was often present in the nasal mucous membrane and infection of the cerebral meninges took place, as a rule, through the nasal mucous membrane, but it was to him remarkable that, under ordinary circumstances, it was not able to set up disease process. Great difficulty was experienced in the identification of the organism, which could not be differentiated from the diplococcus catarrhalis or the pneumococcus except by cultural methods. The occurrence of metastatic foci was seldom seen; this organism did not set up metastatic process as other pathogenic organisms did. He said we were dealing with a strictly neurological disease. Too rapid removal of the fluid might have a fatal effect by too quickly relieving the pressure.

Dr. William M. Leszynsky said he had seen 35 cases of cerebrospinal meningitis at the Lebanon Hospital, with a mortality of 45 per cent. He had seen several fulminant cases, as well as cases that ran their course in a few weeks, and he had also seen the chronic cases. He had seen the disease occur among three children in one family. A mother and her infant had been brought to the hospital suffering from this disease at the same time. He saw one case of a boy, 15 years old, who had all the typical and characteristic symptoms of the disease and who made a good recovery, at the end of four or five weeks. The meningococcus had been demonstrated; yet he left the hospital perfectly well. At the end of five or six weeks, after employment as an errand boy, he returned to the hospital with a severe attack of cerebrospinal meningitis, and he went through another course of the disease and was again discharged a few days ago. The meningococcus was absent in the smear, yet present in the culture. Dr. Leszynsky had seen two cases of the abortive type, one occurring in a young girl of 16 or 17 who was menstruating; all the symptoms were very pronounced. She made a complete recovery and remained well without sequellæ. He had seen two other cases with well-marked nephritis which lasted about one week. He said that he had used ergot in place of morphine, chloral, or the bromides, for the relief of the pain. The use of ergot in cerebrospinal meningitis had now become the routine practice at the hospital. How it acted he did not know, but it was a clinical fact that it was of great value in relieving the pain and discomfort. In all the patients a lumbar puncture had been made, but he had never attempted to withdraw too large a quantity of fluid at the first puncture. He believed it was a cruel procedure to perform this operation without first administering chloroform, which was quite safe.

Dr. Alfred T. Livingston of Jamestown, N. Y., spoke of the effect of ergot on defective unstriped muscular fibers, and said that it contracted abnormally dilated blood-vessels, having a favorable influence in inflammatory affections if employed sufficiently early.

Dr. Huber closed the discussion. He used ethyl chloride locally, when performing lumbar puncture which abrogated the pain, and he never used chloroform narcosis. The amount of albumin found in these cases was small except in the malignant types. A standing rule at the hospital was that the first puncture should be made for diagnostic purposes only, and only 10 or 15 c.c. should be removed; subsequently large quantities might be removed. He said he had used ergot by the mouth but, after hearing what he had regarding its effects, he would again try it subcutaneously.

Osteopathic Bill.—Dr. E. Eliot Harris said that this bill was in danger of passing within two days, and he asked all the members of the Association to write at once a personal letter to Senator Grady asking that he refuse to support it. Senator Grady's vote was necessary now to defeat this bill.

Election of Officers.—*President,* Dr. Francis J. Quinlan; *First Vice-President,* Dr. John A. Bodine; *Second Vice-President,* Dr. H. H. Seabrook; *Secretary,* Dr. W. R. Stone; *Corresponding Secretary,* Dr. C. G. Childs; *Treasurer,* Dr. Charles E. Denison; *Member of Executive Committee for Three Years,* Dr. H. A. Bodin; *Member of Nominating Committee 5th District Branch,* Dr. Wisner R. Townsend. Seventy-five fellows and alternates were also elected.

Philadelphia Neurological Society.

At a stated meeting, held March 28, Dr. Ralph Pemberton exhibited "A Case with Some Symptoms of Multiple Sclerosis Due to Trauma." The patient was a man about 22 years old, who, following a severe injury, presented tremor of the head and of the extremities, increased by voluntary movement, with some alteration in speech, but without noteworthy alteration in the reflexes, in the ocular movements or the eyegrounds. Dr. S. D. Ludlum exhibited "A Case of Alcoholic Multiple Neuritis, with Exaggeration of the Knee-Jerks." The patient was a man addicted to a steady indulgence in alcohol in moderate amounts, who complained of numbness, tingling, and pain in the lower extremities, with increase in the knee-jerks. The symptoms were attributed to a beginning multiple neuritis and the anomalous phenomenon was thought to be due to irritation of the nerve forming the motor segment of the reflex arc for the knee-jerks. Drs. J. T. Krall and T. H. Weisenburg exhibted "Cases of Injury to the Head, with Involvement of Some of the Cranial Nerves." The nerves affected were principally the optic, the third, the sixth, and the eighth, in varying combination, and the resulting symptoms comprised the optic atrophy, ptosis, internal strabismus, and facial palsy. Dr. Charles K. Mills exhibited a man who presented irregular incoördinate, involuntary movements in the right upper extremity, controllable by certain attitudes and diminishing in recumbency, and ceasing during sleep. The disorder was believed to be hysterical. Dr. Wm. Pickett exhibited a man presenting paralysis of the bladder, with retention of urine, for the relief of which suprapubic cystotomy had been performed. There was in addition abolition of the Achilles tendon jerks. It was thought possible the conditions were dependent upon incipient locomotor ataxia. Ralph Pemberton read a paper, entitled "The Direction of Turning in Organic Hemiplegia." It had been contended that in almost all cases of organic hemiplegia of organic origin the patient, in turning in the act of walking, moved toward the paralyzed side, while, on the other hand, in cases of paralysis of functional origin, the patient turned in the opposite direction, and this distinction had been considered of important diagnostic significance. Dr. Pemberton examined a considerable number of cases from this point of view and found that in about two-thirds the patients turned toward the paralyzed side and in the remainder to one or the other side indifferently. The direction of turning was governed by several influences, including the position of each foot in the act of turning, the presence of a possible means of support or of some obstruction on one or the other side, and probably, most important of all, the desire to make the paralyzed member stationary while rotation of the body is effected by means of the sound member. Dr. S. D. Ludlum read a paper, entitled "The Regeneration of Peripheral Nerves." He detailed experimental observations on lower animals, showing that regeneration took place only when the separated segments were united, and that there was no independent growth from the peripheral segment. Dr. Robert H. Chase read a paper, entitled "Insane Delusions." He called attention to the relation between the feelings of insane patients and the special character of their delusions. He pointed out the analogy between the false beliefs of sane persons and the delusions of the insane. Dr. C. L. Leonard read a paper, entitled "Treatment of Some Neuralgias by the Röntgen Rays." He repeated a series of cases of neuralgia of varied distribution, in a number of which great and permanent alleviation of the pain followed systematic employment of the *x*-ray.

New Instruments.

SCISSORS FOR CUTTING SECONDARY MEMBRANOUS CATARACTS.

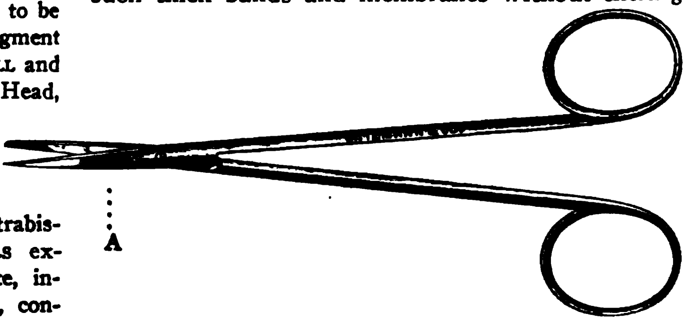
By EDWARD L. OATMAN, M.D.,

BROOKLYN, N. Y.

SURGEON TO THE MANHATTAN EYE, EAR AND THROAT HOSPITAL.

After the successful extraction of a cataract the vision may be obscured by the formation of a membrane in the pupillary area. If such a membrane is thin and confined to the capsule of the lens it may be opened with a knife and vision restored. If, however, the membrane has resulted from the organization of inflammatory products, it is usually thick and more or less adherent to the ciliary processes. These thickened membranes are very tough, and efforts to cut them with a knife may rupture the adhesions, lacerate the ciliary processes and produce disastrous inflammatory reaction.

The scissors here described are designed to cut such thick bands and membranes without exerting undue traction on their attachments. The point of one blade is blunt, the other sharp. When held in position for operating the blunt-pointed blade is above, the sharp-pointed blade below. A keen *knife edge* is ground on the *back to the lower blade* for a distance of 4 mm. from its point.



Scissors for cutting secondary membranous cataracts. A, Knife edge ground on the back of lower blade.

The scissors are constructed with long blades for two reasons: first, ease of manipulation, and second, to avoid passing the joint into the anterior chamber.

To operate, the cornea is perforated with a keratome and the closed points passed into the anterior chamber. Now, when the blades are opened, the *lower,* with its sharp point and knife edge back, will easily perforate and pass below the membrane. The blades are now passed forward and the membrane severed. Two cuts in the membrane are better than one, as it possesses a strong tendency to reunite unless the margins of the opening are widely separated.

When practicable, it is better to operate from above, as the patient's forehead affords support to the surgeon's hand. When operating from the temporal side an artificial support may be improvised if required.

The scissors are easily manipulated where iridectomy has been performed. If operating through a round pupil it should be dilated with both atropine and cocaine.

The blades are more delicate than represented in the illustration.

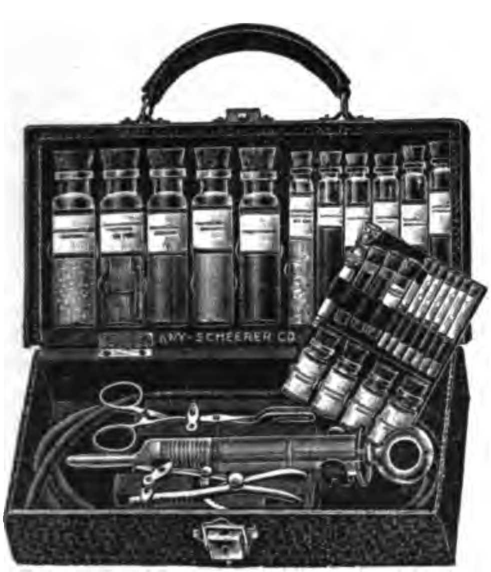
82 Remsen Street.

AN EMERGENCY POISONING CASE.

By JOHN W. WAINWRIGHT, M.D.,

New York.

It is a well-known fact that cases of acute poisoning more or less frequently occur when, if efficient means of treating such were at hand, lives might be saved and serious results averted. The medical practitioner, if called to a case of poisoning, nine times out of ten probably has not the proper remedies with him, and valuable time is lost in procuring the same. In some instances it means the difference between life and death. When acute poisoning is in question, prompt and energetic interference is indicated in order to safe the life of the patient. It would seem, then, that the necessary weapons for fighting the effects of poison should form part of the armamentarium of every busy practising physician. I have recently devised an emergency case for this purpose, an illustration of which is here given.



The case is compact and handy, neatly finished in black leather, with a substantial handle. Its outside dimensions are 12 inches long, 4¼ inches wide, and 6 inches high. The contents are as follows: One stomach tube, one tongue forceps, one mouth gag, one 2-oz. glass syringe, one hypodermic syringe. It also contains large bottles of magnesium sulphate, of zinc sulphate in 20-grain powders, powdered mustard, calcined magnesia, and chloroform. The 1-oz. vials contain amyl nitrite, alcohol, iron dialyzed, acetic acid, oil of turpentine, and aromatic spirit of ammonia. The ½-oz. vials contain powdered ipecac, powdered opium, potassium bromide, chloral hydrate, potassium permanganate. The hypodermic tablets are of strychnine sulphate, morphine sulphate, pilocarpine, muriate, apomorphine hydrochlorate, nitroglycerin, digitalis, and atropine sulphate.

It is believed that this emergency poisoning case contains practically all the essential means for carrying on a successful fight against the effects of poison in the human system.

The case also contains a manual on acute poisoning, giving special symptoms, simple tests, chemical antidotes, physiological antagonists, and treatment.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Les Degenerescences des Fibro-Myomes de L'Uterus. By Dr. G. Piquand. 8vo, 426 pages, illustrated. G. Steinheil, Paris.

The Johns Hopkins Hospital Reports. Vol. XII. 4to. 548 pages, illustrated. The Johns Hopkins Press, Baltimore. 1904.

Ueber die parasitare Theorie in der Aetiologie der Krebse. Von E. V. Leyden. 8vo, 20 pages, illustrated. August Hirschwald, Berlin.

International Clinics. By various authors. Vol. I, Fifteenth Series, 1905. 8vo, 312 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

Appendicitis: Its Diagnosis and Treatment. By John B. Deaver, M.D. Third Edition. 4to, 492 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

An Introduction to Dermatology. By Norman Walker, M.D. Third Edition. 8vo, 284 pages, illustrated, muslin. William Wood & Co., New York. Price, $3.00 net.

Traitement des Ankyloses par la Resection Orthopedique et L'Interposition Musculaire. Par le Dr. Alphonse Huguier. 8vo, 143 pages, illustrated. G. Steinheil, Paris.

Die Kaltblutertuberkulose. Von Dr. A. Weber und Dr. M. Taute. Sonderabdruck aus "Tuberkulose-Arbeiten aus dem Kaiserlichen Gesundheitsamte." 3. Heft. 1905. 8vo, 110-144 pages.

Konig's Lehrbuch der Chirurgie fur Artze und Studirende. Band IV. Allgemeine Chirurgie. Zweite Auflage. Von Dr. Otto Hilderbrand. 8vo, 986 pages, illustrated. August Hirschwald, Berlin.

Zur Frage der saurefesten Bazillen. Von Professor Dr. M. Beck. Sonderabdruck aus "Tuberkulose-Arbeiten aus dem Kaiserlichen Gesundheitsamte." 3. Heft. 1905. 8vo, 145-160 pages. Julius Springer, Berlin.

The Conjunctiva in Health and Disease. Being a Record of Some Research Work. By N. Bishop Harman, M.A., M.B., F.R.C.S. 8vo, 276 pages, illustrated, muslin. William Wood & Co., New York. Price, $2.50 net.

The Development of the Human Body. A Manual of Human Embryology. By J. Playfair McMurrich, A.M., Ph.D. Second Edition. 8vo, 539 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $3.00 net.

Hautkrankheiten bei Stoffwechsel-Anomalien. Referta erstattet dem V. Internationalen Dermatologen-Kongress in Berlin (September, 1904). Von Prof. Dr. J. Jadassohn. 8vo, 122 pages, paper. August Hirschwald, Berlin.

The Detection of Poisons and Strong Drugs. By Dr. Wilhelm Autenrieth. Translated from Third German Edition by William H. Warren, Ph.D. 8vo, 222 pages, illustrated, muslin. P. Blakiston's Sons & Co., Philadelphia. Price, $1.50.

An Introduction to Chemical Analysis for Students of Medicine, Pharmacy, and Dentistry. By Elbert W. Rockwood, M.D., Ph.D. Second Edition. 8vo, 255 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $1.50 net.

Poisonous Plants of All Countries, with the Active Chemical Principles which they Contain, and the Toxic Symptoms Produced by Each Group. By A. Bernhard Smith, M.D. 12mo, 88 pages, cardboard. John Wright & Co., Bristol, England. Price, 2s. 6d. net.

Therapeutic Hints.

Conjunctivitis.—

℞	Zinci sulph.	gr. j
	Morph. sulph.	
	Atropi. sulph.	āā gr. ss
	Aquæ dest.	f℥ j

Sig. A few drops in the eye two or three times a day.

—*Southern Practitioner.*

Sciatica.—Excellent results are reported from the daily injection of fifteen minims of the following solution into the painful region:

℞	Strych. nitratis	gr. ii
	Aq. dest.	℥iii ss

Medical Press.

Helminthiasis.—

℞	Santonin	gm. 1.2
	Glycerin	14.
	Syrup Sennæ	30.
	Syrup Anisi	105.

Sig. One half to one teaspoonful as a vermifuge.

—*Osterr, Ztschr. f. Pharm.*

Diphtheria.—Williams speaks highly of the following when there is delay in obtaining antitoxin.

℞	Hydrarg. chlor. corros.	gr. i
	Pot. iodid.	gr. xx
	Glycerin	ʒii
	Aq. q. s. ad.	℥viii

The dose for an adult is a tablespoonful, which may be frequently repeated if the case is carefully watched.

—*Clinical Journal.*

Tonsillitis.—If of rheumatic origin:

℞	Pot. Chlor.	gr. x
	Tr. Aconiti	♏ v
	Tr. guaiac Ammon.	ʒi
	Mucilag. acaciæ	♏ xx
	Aq. q. s. ad.	℥i

Sig. Every four hours.—*Williams in Clinical Journal.*

Pernicious Malarial Fever.—Galloway uses for the cachexia of this disease a pill given after each meal containing:

Arsenous acid, grain 1-30.
Salicin, grains 3.
Reduced iron, grains 2.
Strychnin, grain 1-60.
Phosphorus, grain 1-200.
Podophyllin, grain 1-16.
Capsicum, grain 1-8.
Ext. Gentian, q. s.

—*New Orleans Medical and Surgical Journal.*

Seasickness.—Corning's prescription given every three or four hours is said to be an efficient prophylactic:

℞ Morphinæ, gr. 1/6.
Cannibis indicæ, gr. 1/4.
Nitroglycerin, gr. 1/300.
Strychnin, gr. 1/60.
Resorcin, gr. 1.
Cocain, gr. 1/6.

To make one pill or tablet. —*Medical Times.*

Prurigo.—

℈ Naphthol, 1.
solve in spirit. vini rect. q. s.
Vaselin, ad. 100.

—*Joseph in Archiv. f. Kinderheilk.*

Senile Gangrene.—The treatment varies according to the period of the disease. At the beginning, when the condition of the threatened region can be improved, recourse will be had to vaso-dilators or cardiac tonics, rest in bed with the limb bound in dry cotton wool to encourage the circulation in the affected parts, and as a therapeutic agent:

Iodide of potassium, 1 dr.;
Water, 10 oz.
A tablespoonful twice a day.

At the same time theobromine, an admirable diuretic eliminating the toxins of the blood, and a cardiac tonic, will be given in the daily dose of ten grains.

After twenty days of this treatment, trinitrin will be ordered for the last ten days of the month:

Solution of trinitrin 1-100, 40 min.;
Sulphate of spartein, 15 grs.;
Water, 12 oz.;
Three dessert-spoonfuls daily;
or
Nitrate of soda, 30 grs.;
Bicarb. of soda, 2½ drs.;
Nitrate of potash, 2½ drs.;
Water, 10 oz.;
Three dessert-spoonfuls daily.

Once the gangrene has set in, the above treatment can be continued, and local antiseptic treatment instituted. According to Dr. Huchard, lotions with permanganate of potash solutions (1-1,000) followed by the permanent application of compresses wet with oxygen water, recently prepared, is the best. —*Medical Press.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 29, 1905:

	Cases.	Deaths.
Measles	356	16
Diphtheria and Croup	294	42
Scarlet Fever	212	12
Smallpox	......	......
Chickenpox	61	......
Tuberculosis	314	189
Typhoid Fever	15	7
Cerebrospinal Meningitis	111	104
Typhus Fever	......	......
Yellow Fever	......	......
Cholera	......	......
Totals	1,363	370

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended April 29, 1905:

			Cases.	Deaths.
SMALLPOX—UNITED STATES.				
California, Los Angeles	Apr.	8–15	3	..
District of Columbia, Washington	Apr.	15–22	2	1
Florida, Jacksonville	Apr.	15–22	5	..
Illinois, Chicago	Apr.	15–22	29	2
Danville	Apr.	15–22	2	..
Louisiana, New Orleans	Apr.	15–22	22, 4 Imp't'd.	
Michigan, Detroit	Apr.	15–22	2	..
Grand Rapids	Apr.	15–22	9	..
Missouri, St. Joseph	Apr.	15–22	1	Imported.
St. Louis	Apr.	15–22	8	2
Ohio, Toledo	Apr.	1–15	2	..
Pennsylvania, Lebanon	Apr.	15–22	3	..
York	Apr.	15–22	13	..
South Carolina, Charleston	Apr.	15–22	2	..
Greenville	Apr.	8–15	1	..
Tennessee, Nashville	Apr.	15–22	1	..
SMALLPOX—INSULAR.				
Philippine Islands, Manila	Mar.	4–11	1	..
SMALLPOX—FOREIGN.				
Brazil, Pernambuco	Mar.	1–15	..	181
Rio de Janeiro	Mar.	26–Apr. 2	16	7
Chile, at many ports	Mar.	31	(Present.)	
China, Shanghai	Mar.	4–11	2 Foreigners.	3 Native.
Colombia, Cartagena	Mar.	26–Apr. 1	1	1
France, Nantes	Mar.	18–Apr. 8	42	8
Paris	Mar.	26–Apr. 8	41	8
Great Britain, Birmingham	Apr.	1–8	1	..
Bradford	Mar.	25–Apr. 8	19	1
Cardiff	Apr.	1–8	1	..
Hull	Mar.	25–Apr. 1	1	1
Leeds	Apr.	1–15	3	..
Leith	Apr.	1–8	1	..
London	Mar.	25–Apr. 1	2	..
Southampton	Apr.	1–8	2	1
South Shields	Apr.	1–8	5	1
India, Bombay	Mar.	21–28	..	127
Calcutta	Mar.	18–25	..	7
Karachi	Mar.	19–26	8	3
Malta	Mar.	25–Apr. 1	1	1
Norway, Christiania	Apr.	1–8	2	..
Russia, Odessa	Mar.	25–Apr. 8	18	2
St. Petersburg	Mar.	18–Apr. 1	8	6
Warsaw	Jan.	28–Feb. 11	..	4
Turkey, Constantinople	Mar.	19–Apr. 9	..	8
YELLOW FEVER.				
Brazil, Rio de Janeiro	Mar.	26–Apr. 2	13	5
Mexico, Coatzacoacos	Mar.	18–Apr. 8	3	1
Tehuantepec	Apr.	9–15	1	..
CHOLERA.				
China, Tientsin	Mar.	4–11	1	1
India, Bombay	Mar.	21–28	..	1
Calcutta	Mar.	18–25	..	68
PLAGUE—INSULAR.				
Philippine Islands, Manila	Mar.	4–11	2	3
PLAGUE.				
Africa (British) Cape Colony	Mar.	11–18	2	2
Uganda	Feb.	11	..	25
Arabia, Aden	Mar.	24–31	33	32
Australia, Brisbane	Feb.	18–Mar. 11	6	3
Chile, Arica	Mar.	31	3	2
Pisagua	Mar.	31	150	Many.
India, General	Mar.	11–18	47,602	42,088
Bombay	Mar.	21–28	..	652
Calcutta	Mar.	18–25	..	570
Karachi	Mar.	18–25	140	127
Peru Arequipa	Mar.	31	Reported.	
Chiclayo	Mar.	19–26	12	9
Guadalupe	"		0	0
Eten	"		0	1
Lambayeque	"		3	1
Huanchaco	"		0	1
Chepen	"		0	1
San Pablo	"		1	1
Mollendo	"		24	3
Callao	"		0	0
Lima	"		2	0
Straits Settlements, Singapore	Feb.	25–Mar. 4	..	1

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Original Articles.

THE TUBERCULOSIS SITUATION IN PENAL INSTITUTIONS WITH ESPECIAL REFERENCE TO THE STATE PRISONS AT SING SING, N. Y., AND COLUMBUS, OHIO.

BY S. A. KNOPF, M.D.,
NEW YORK.

ASSOCIATE DIRECTOR OF THE CLINIC FOR PULMONARY DISEASES OF THE HEALTH DEPARTMENT; VISITING PHYSICIAN TO THE RIVERSIDE SANATORIUM FOR CONSUMPTIVES OF THE CITY OF NEW YORK; CONSULTING PHYSICIAN TO THE SANATORIA AT GABRIELS, N. Y., SCRANTON, PA., BINGHAMTON, N. Y.

LAST December, upon the invitation of the Prison Association, I visited the great prison of Sing Sing on the Hudson, in company with the Rev. Samuel J. Barrows, the Corresponding Secretary of the Association, Mr. Samuel McCauley Jackson and Mr. J. G. Phelps Stokes, members of the Executive Committee. I have been asked by them to write down my impressions of that visit and to make any suggestions which might lead to an amelioration of the tuberculosis situation, not only in Sing Sing, but also in many prisons throughout the United States, that are confronted more or less with the same problem.

This, for example, is true of the Ohio State Prison, which I visited in March, 1905. Upon special invitation of Dr. Charles O. Probst, I inspected the State prison at Columbus, likewise with the view that my testimony might perhaps be helpful in bringing about the establishment of a new State prison, and the speedy carrying out of suggestions for an immediate amelioration of certain insanitary conditions. The Prison Association wishes to incorporate such suggestions in its appeal to the Legislature.

Statistics are always of value and, as an introduction to my communication, I therefore reproduce the latest published statistics on tuberculosis in prisons that I could obtain. In a highly interesting and instructive article on "Tuberculosis and Cellular Confinement"* by Dr. O. J. Bennett, Prison Physician to the Western Pennsylvania Penitentiary, there appears the following "Statistical Table on Tuberculosis in United States and Canadian Prisons:

Prison.	States.	Years (inclusive).	Total Deaths from All Causes.	Deaths from Tuberculosis.	Death Rate from Tuberculosis.
					Per cent.
Auburn	New York.	1891–1902	298	133	44.5
Sing Sing.	New York.	1891–1902	221	116	52
Columbus	Ohio	1898–1902	193	73	37.8
Jefferson City ..	Missouri	1892–1902	261	124	47.5
Joliet	Illinois.........	91–95–98–99	272	176	64
Richmond.	Virginia........	1891–1902	292	88	30
Eastern	Pennsylvania. . .	1891–1902	167	105	62.8
Western.......	Pennsylvania. . .	1891–1902	131	52	30.6
Wethersfield. . .	Connecticut	1891–1902	118	48	38.9
Charlestown ...	Massachusetts ..	1891–1902	49	19	38.7
Moundsville . . .	West Virginia. . .	1891–1902	195	116	58.9
Lansing........	Kansas........	1891–1902	158	41	26
Fort Madison . .	Iowa	1891–1902	32	9	28
Central	Toronto, Canada.	1893–1902	20	1	5
State and county prisons . . .	Alabama.	1893–1902	1399	592	42
Stillwater	Minnesota.	1891–1902	47	24	51†

The subject of tuberculosis in prisons is a vast one and it would require a deep sociological, statistical, and perhaps also geographical study to account for the frequency of this disease in some penal institutions and its relative rarety in others. An excellent report on this topic, prepared for the International Prison Commission and published as a Congressional document (House Doc. 142, 58th Congress), has recently been made by Dr. J. B. Ransom, the physician of the Clinton Prison at Dannemora. In the present short report of my visit to Sing Sing I shall only refer to issues which strike me as particularly important and deserving general consideration.

Before a prisoner is sent to Sing Sing, he has been detained for weeks, sometimes months, in city jails. As far as I can learn, prisoners who are simply held for trial or are waiting to be removed to Sing Sing, or any other State prison, are never examined by any physician unless they are ill and in actual need of medical attention. It must be evident that in this way a latent tuberculosis has a chance to develop, for even in the better city prisons the usual overcrowding will render the atmosphere vitiated, particularly in winter. If we add to this the lack of exercise and the depressing psychical influence of confinement, nostalgia and worry, we cannot wonder that prisoners arriving at Sing Sing are often found to be tuberculous, some even with very active lesions, while they may have entered the prison of detention seemingly in good health. Again, some may have been a little below par, underfed or weakened by exposure, and as a result have contracted tuberculosis from consumptive fellow prisoners while in jail.

It would thus seem that the first step toward the prevention of tuberculosis in penal institutions should be a most careful examination of all individuals and the weeding out and isolating of all tuberculous prisoners detained in jails. Only by a thorough physical examination, aided by bacteriology, and perhaps also by radiography, of every individual detained in jail, and the immediate isolation of true and suspected cases, will the authorities be able to prevent the infection of other prisoners and the unnecessary aggravation of the cases already existing. The tuberculous patient should remain isolated in the detention prison as well as in the penal institution, and he should be given the benefit of hygienic and dietetic treatment from the first moment he becomes a ward of the State or city.

When the time for his transfer comes, the history card of his disease and the recommendation of the physician should be transmitted with the other papers of the prisoner to the penal institution. After his arrival at the prison, in which he is to stay for some length of time, the physician will decide whether he is able to work or not, and what kind of work might be most conducive to his recovery. The occupations in Sing Sing, for example, are varied. Those which more or less involve the inhalation of dust will invariably render the tuberculous individual more ill, while they may not hurt the vigorous prisoner. The majority of the working rooms in Sing Sing are bright, well ventilated, and well kept. In some I thought the temperature too high. The installation of thermometers and the more frequent opening of windows, ordered by the guard on duty, would easily do away with overheating. The temperature in workshops should certainly never be higher than 65° F. in winter, and when the work requires much physical movement 60° to 62° suffices.

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* Bulletin of the Iowa State Institutions, October, 1904.

† The statistics of some prisons are misleading, as many prisoners are pardoned when it becomes evident that they will die from tuberculosis.

In the workshops of the Columbus prison there is a total absence of dust consumers. This absence of such an important sanitary device is explained by the sad fact that the contracts with the present men who control prison labor in Ohio, were made before is was possible to compel them to use dust consumers. In the cigar shops conditions are simply terrible. The shops are fearfully overcrowded. Tobacco workers under the best conditions, are prone to tuberculosis; how much more so must they be here where there is hardly elbow room, and the air is constantly vitiated. Since it is a very common practice for cigar-makers to paste the final leaf with saliva, it must be evident that no prisoner even slightly afflicted with tuberculosis should be permitted to make cigars, leaving aside the fact that such conditions are sure to aggravate his disease.

The old Ohio cell house, built in 1834, and the new one, built in 1861, are both antiquated in every respect. The cells at Columbus are not any better, and if anything, worse, as far as lack of light, air and ventilation is concerned, that at Sing Sing. As in the latter, the antiquated bucket system for the disposing of the excreta, adds to the terrible odor to which the badly housed prisoners and employees are constantly subjected.

Since it is, alas! too true that a goodly number of the young prisoners, who for their first offense are placed in reformatories, will relapse into a career of crime and often land in a penitentiary, I think it equally important that the young tuberculous offender, when arriving at the reformatory, should be given the same opportunity of recovering his health as the inmate of the prison. I am inclined to believe that the outdoor occupation, which should be given to this young offender, might even change his character for the better and diminish the tendency to crime which may have been fostered by unsanitary environment and lack of light and air in the overcrowded city tenements.

Leaving aside for a moment the sanitary construction of prisons, let us see what other measures can be taken to prevent the spread of tuberculosis in a prison. Not only should there be a careful examination of every prisoner for tuberculosis when he enters the prison of detention or the penal institution, but his chest should be reexamined periodically, at least once every three months. With this periodic examination a very incipient case, which might have escaped detection during the "entrance" examination is sure to be discovered before the disease has progressed to any considerable extent.

Expectorating, except in proper receptacles, placed for that purpose in cells, workshops, chapels, schools and on the grounds, should be punished by severe disciplinary measures. That there may never be an excuse for violating this rule, I would go further. I would not only provide a sufficient number of fixed, elevated, self-flushing cuspidors, such as, or similar to, the ones illustrated here (Figs. 1 and 2), but I would see that every prisoner has some sort of a pocket flask, made of metal, similar to those used in sanatoria for consumptives, of which I also give illustrations (Figs. 3, 4, 5, 6).

A prison is perhaps the only place in the world where spitting regulations can be rigorously enforced, and it is but fair that, if we say to an individual "don't spit here and don't spit there," that we should give him a chance to spit somewhere when he has an excess of saliva, a cold, etc. I am firmly convinced that with such a measure, not only would tuberculosis diminish in prisons, but epidemics of pneumonia and grippe would be less to be feared and more easily controlled. I should even like to recommend as a regulation that every prisoner must hold his hand before his mouth when coughing, whether this coughing spell is followed by expectorating or not. Thus, drop infection, that is to say, the expulsion of bacilli with droplets of saliva, will be avoided, and since the coccus of pneumonia is so very prevalent, even in the mouths of healthy individuals, this precaution may perhaps also tend to the diminution of pneumonia. As an additional measure to prevent drop infection, it might be well never to put prisoners too close together at the work table Whenever practicable, there should be a distance at least three feet between them. It has been demonstrated that at that distance the droplets expelle during cough fall to the ground. It goes witho saying that the personal and bed linen of the tube culous prisoner as well as his clothing should reguarly subjected to disinfection. The handke chiefs of this class of prisoners should consist squares of cheap muslin which should be burn after use.

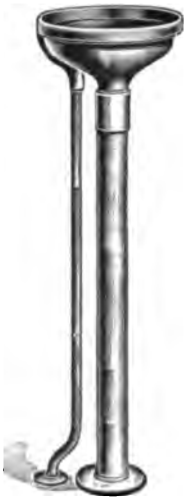
Fig. 1.—Self-Cleansing Elevated Spittoon with Supply Pipe.

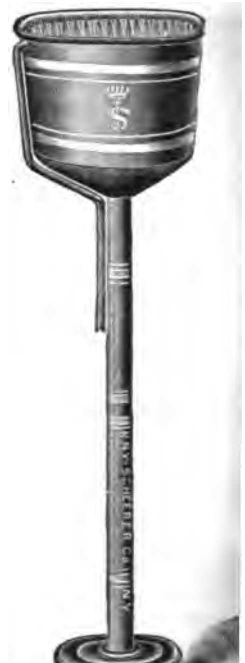
Fig. 2.—Elevated Self-Clea ing Street Spittoon.

To judge from the appearance of the various kin of blankets, comforters, and quilts which were lyi on the cots in the prisoners' cells, it seemed to that these coverings might become the means spreading infection, not only in tuberculosis, but in good many other communicable and contagio diseases. The blankets and comforters are, as a ru the private property of the prison inmate. He brin these articles with him, or they are given to him visiting friends or by fellow prisoners who have be discharged. In most prisons these coverings, well as the clothing which the prisoner wears entering the penal institution are carefully disinfe ted. This precaution does not however, suffice to prevent the bed covering from becoming thoroughly infected afterwards, particularly with the germs of tuberculosis. Pulmonary tuberculosis is so insidious in the early stages, that the prisoner may have infected his bed clothing long before his disease has been discovered by the prison physician, unless, of course, frequent and thorough physical examinations of all prisoners are in vogue. To guard against infection which may arise from blankets, comforters, etc., having been soiled by tuberculous sputum or other infectious material, I would suggest that after thoroughly disinfecting these articles when they are brought to the prison, they be incased in a covering of light-colored washable material (not necessarily white), as one places a pillow in a pillowcase. By basting the blanket in its "blanket-case" it can be manipulated with as much ease as if not covered. With comforters and quilts the same method should be pursued. There should be two sets of cases so that the blankets need not remain uncovered while one case is being washed; thus the blankets never come in direct contact with the prisoner's body. I am convinced that with such a system and with the injunction that this washing must be done regularly, a factor of transmitting tuberculosis and other infections from prisoner to prisoner will be done away with.

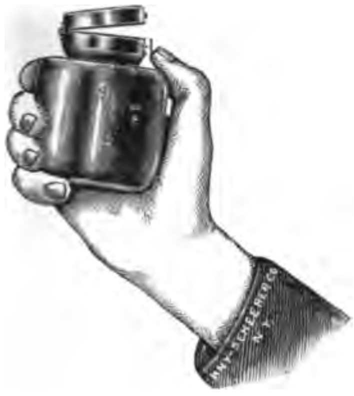

Fig. 3.—Oval Metal Pocket Sputum Flask, manipulated with one hand.

Even the prisoner who is only suspected of tuberculosis should have his own cell, and, as far as possible, the placing of two prisoners in one cell should be avoided. The bucket system for receiving the dejecta of the prisoners during the night, and during the day when confined to their cells, is most deplorable. It is unsanitary in general, and as far as it permits the emanation of odors and gases, it is deleterious to the health of the inmate. The individual cell water closet, with a perfect trap and cover, such as are used in the better class of European prisons, is certainly to be recommended in place of the bucket system.

All prisoners should be given a chance to exercise several times during the day in the open air, even if it is only for a short time, and during that time they must not only be permitted, but should be enjoined, to take deep inhalations, or better yet, take regular respiratory exercises. The exercise in the open air should, however, not be limited to week days. According to the prison regulations now in vogue in most penal institutions, prisoners are confined to their cells not only from the hour of 5 in the afternoon, to 6 in the morning, but also during almost the entire twenty-four hours of Sundays and holidays, and when a holiday follows a Sunday, or vice versa, the prisoners are necessarily locked up in their cells for two successive days. That such close confinement in a small, ill-ventilated cell for twenty-four, and at times for forty-eight hours, must be harmful, is self-evident.

In all well-conducted prisons, prisoners are required to bathe regularly and their skin is usually in good condition. To the prisoner predisposed to tuberculosis, or one whose case is so incipient that constant medical supervision is not necessary, permission for daily cold douches should be given. To these classes of prisoners, predisposed or incipient, it seems to me also that it would pay the State to give food containing a little more of the nitrogenous substances and the carbohydrates than the regular prison fare now represents.

One predisposing factor to tuberculosis in prisons, which seems to have been overlooked in most of the reports on the subject, is overworking the prisoner. While it is true that in the majority of prisons the hours of work are rarely more than those of the average free laborer, we must not forget that the free man, laboring 8 to 10 hours a day, has a relatively better quality of food, the exhilarating influence of freedom of action, and naturally a superior hygiene. I do not wish to make this statement in the spirit of criticism, but simply to point out the great likelihood of a predisposed individual developing tuberculosis more rapidly under such conditions than when in normal environments.

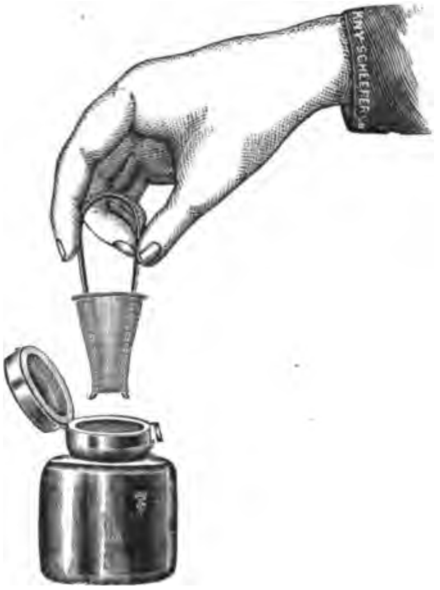

Fig. 4.—Pocket Sputum Flask taken apart for cleaning.

Wherever it is possible—and it would seem to me that it should be possible everywhere—the prisoners predisposed to tuberculosis and those in the earlier stages of the disease, should be assigned to agricultural work. The experience in Texas has shown that the inauguration of agricultural prison colonies is not only a benefit to the tuberculous prisoners, but also can become a benefit to the State financially. The history of the Texas tuberculosis agricultural colony, known as the Wynne State Farm, although dating back only a few years, is so interesting and instructive that I know it will be an inspiration to all interested in the tuberculosis problem to read a letter written some time ago by Dr. Fowler,* the distinguished prison physician, who inaugurated this system:

> "After investigating the history of the institution, I found that about 50 per cent. of the deaths of both Texas prisons, at Huntsville and at Rusk, were due to tuberculosis, which seemed to be increasing every year, with no precautionary means toward stamping it out. The patients were all treated in the same ward, and under such

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*Reprinted in the Bulletin of Iowa State Institutions, October, 1904, in the article of Dr. O. J. Bennett, above referred to.

circumstances I could see no chance for improvement I felt that something must be done to decrease this fatality. After giving the subject most careful consideration, I came to the conclusion that the best plan to pursue was to establish a tuberculosis farm, or colony, where the patients would have the advantage of outdoor life, fresh air and plenty of sunshine, and those not infected would be protected by the separation. I accordingly laid my plans before the prison officials, by whom I received a hearty endorsement and co-operation which brought about the establishment of the present Wynne State Farm in December, 1899. The location is a high, dry elevation, two miles from Huntsville, with no timbered lands near the prison buildings. This farm was formerly owned by the State and has been cultivated by convict labor for a number of years. The old prison building was converted into a hospital. I have everything on the place kept in a thoroughly sanitary condition The inmates are not allowed to expectorate on the floor or around the buildings. They are supplied with small wooden boxes filled with sawdust and calcium chloride to expectorate in, and these boxes are emptied every day and the contents burned. I also have the building disinfected. As to the kind of work the men do, it consists of light farming, gardening, poultry and stock raising. The garden products include vegetables of all kinds, and are used to supply the prisoners within the walls. All over this amount is placed on the market. The net proceeds of the farm for the past two years are as follows, viz., stock sold, $6,519.60; vegetables, $4,057.70. The men are all required to do some kind of work if they are able to be out of bed. I find the exercise is very beneficial to them in developing muscle and strength. It also causes deeper breathing, which helps to retain the normal elasticity of the lung tissue, and thereby supplies a greater quantity of oxygen to the system, increases the appetite and aids digestion. I believe, after watching results for three years, that a certain amount of physical exercise in the open air and sunshine is absolutely essential in the treatment of tuberculosis. I find that all the men who get out and take exercise improve with few exceptions, while those who remain in the building die without exception. In fact, there is more to be gained from the open air and sunshine treatment than from medicine, though I have them take the hypophosphites with cod liver oil and creosote, and treat symptoms, such as pain, cough, fever and night sweats when necessary. I insist on forced feeding, as it is beneficial in most cases, and I allow them to eat any wholesome diet."

The statistics of four years' working of this farm are as follows:

Total number treated	180	
" " discharged		34
" " pardoned		30
" " transferred		37
" " died		46
" " on hand		33
	180	180

At the conclusion of Dr. Fowler's interesting letter he comments on the statistics as follows: "I will say that the thirty-seven men transferred are virtually cured, and at least one-half of those pardoned and discharged were in a good physicial condition, and the majority on hand are improving. The labor of the one hundred and eighty men was practically of no value anywhere else in the prison, as most of them had reached an advanced stage of tuberculosis before their reception at the Wynne Farm. The farm is more than self-sustaining, if the expense of guarding them is deducted. The men all occupy the same building, as they have to be guarded day and night."

From this report it is evident that tuberculosis has been on the decrease in that prison, and there is no doubt in my mind that the tuberculosis prisoner, cured through healthful, invigorating and natural agricultural pursuits, will, after the expiration of his sentence, be returned to society many times a better member of it than he was before.

The more advanced cases of tuberculosis, particularly those in which there is disintegration and correspondingly abundant expectoration of bacilli, should be treated in special wards and in summer perhaps in the special tents of the prison hospital.

In view of the character of the inmates of the hospital, I would insist, for the purpose of preventing drop infection, that all patients in the more advanced stage must wear a mouth mask. Patients in a number of European hospitals for consumptives are told to make use of such masks in order to protect themselves as well as the other patients. In a former article on "Tuberculosis in Prisons and Reformatories"* I gave an illustration of this instrument, which I reproduce here (Fig. 7). It is known as Professor Fränkel's mouth mask. I really think it is a valuable means to prevent drop infection which, with the advanced cases among consumptives, is quite a serious factor in the propagation of the disease.

By impregnating the gauze, which is held in place by the metallic frame of the mask, with some medicinal substance, the tuberculous prisoners could be made to believe that the instrument was worn for their own personal benefit instead of for the benefit and protection of others, or, as they might think, as a means of designating them as individuals suffering from a contagious disease. Thus, even the humane arguments for not using such a mask should have no foundation. Where these masks have been used, bacilli have been found almost constantly on the gauze. Fränkel's and Moszkowski's experiments have demonstrated the great value of these protective masks, which can be easily disinfected. The gauze should, of course, be changed at least once a day and immediately be burned after removal.

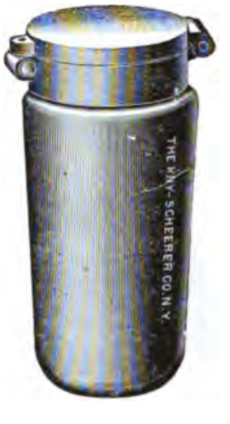

Fig. 5.—Round-Shaped, Nickel-Plated Pocket Flask; manageable with one hand.

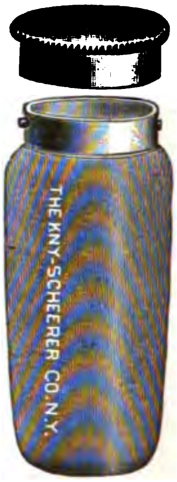

Fig. 6.—Cheap Metal Flask with Bayonet Closure.

Whether the practice of pardoning far-advanced tuberculous cases and restoring them to the homes of their often poor families is always a wise one I venture to question. It is often sad enough that persons who have contracted tuberculosis in prison, or whose tuberculosis has been aggravated through prison life, are discharged upon the community at the expiration of their sentences without any regard to where they will go or what they will do. They will invariably constitute a source of infection, unless they have been practically trained and are willing not to be such. Prisoners virtually dying from tuberculosis should not be pardoned and sent home, unless the authorities are sure that the unfortunate sufferer will not become a burden to his family, nor a source of infection.

A prison should be constructed so that there is plenty of light, air, and ventilation, on soil that is dry and porous. These conditions do not exist in our Sing Sing prison. The reason why there are not now so many tuberculous prisoners is that the watchful prison physician, Dr. Robert T. Irvine, sees to it that the majority of those discovered to be tuberculous are transferred to Dannemora, which seems to be better fitted to cope with the problem. Since Warden Johnson had some large windows put in, the cell house is better lighted than in former years, but the structure in itself is, to my mind, thoroughly unhygienic. The soil on which the prison is built is constantly moist, and the stone walls retain the moisture to an alarming degree, so that the lower tier of the cell building is certainly thoroughly unfit for any human being to live in. The upper tiers are somewhat better, but they too are moist enough to foster tuberculosis as well as damp soil will do.

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*Medical Record, March 2, 1901, and Report of the Prison Association of 1900.

The degree of moisture on the walls of the cell house of the Sing Sing prison is really something hard to believe, unless seen with one's own eyes. I might be accused of exaggeration, and instead of giving my own observations, I will give those of Mr. J. G. Phelps Stokes, who is a trained medical man and well known for his philanthropic and social work, particularly in regard to prison reform movements. Here is his recent letter:

"184 ELDRIDGE ST., NEW YORK,
"February 6, 1905.

"MY DEAR DR. KNOPF:—

"In reply to your kind favor of the 30th ult., I am glad to testify as to the prevailing dampness in the cell building at Sing Sing prison. At times I have seen the moisture there so excessive as to be visible in myriads of drops covering large portions of the barred doors and the iron fittings of the cells. On one occasion I have seen such drops coalesce and run down the bars. Conditions have been mitigated considerably of late by the enlargement of some of the windows of the cell building, but I have recently been told by the Warden that even the extreme conditions above described are frequently observed still. notwithstanding the enlargement of the windows The walls of the lower tier of cells are nearly always damp to the touch. The annual report of the Prison Association for 1900 contains much evidence bearing upon the defective sanitation of the prison.

"Very sincerely yours,
"J. G. PHELPS STOKES."

The cells I examined at Sing Sing, while clean, whitewashed and well kept, had that characteristic odor of badly housed humanity. The architect who built Sing Sing hoped to avoid the effect of bad ventilation and overcrowding by placing a ventilation hole in each cell, but he did not take into consideration the class of occupants he had to deal with. I entered a number of these cells and found the ventilation holes stopped up with rags and clothing and over that a coat of whitewash.

Since dried whitewash, by its scaling process, will almost constantly produce a certain amount of dust in a small room like a cell, this becomes irritating to a sensitive lung, it is not unlikely that it may be an aggravating factor with prisoners who enter the penal institution only slightly tuberculous. Furthermore, a tuberculous prisoner may infect the walls of his cell either by directly expectorating thereon or by drop infection. The succeeding occupant, if at all debilitated, physically or mentally depressed, is strongly exposed to contracting tuberculosis in such environments, although the cell may have been whitewashed anew. The scales of the new coat of whitewash, gradually disintegrating into fine dust, uniting with the underlying tuberculous dust, make an infection by inhalation *par excellence.*

The method of inhaling tuberculous germs from infected walls has been demonstrated again and again, not only inside of prisons but in the tenement houses of the poor and even in the apartments of the rich.* Dr. Ransom, in his admirable report on "Tuberculosis in Penal Institutions," above referred to, expresses himself in regard to the delusion that whitewash is a cleaning and disinfecting agent, as follows: "Observation and experiment show that whitewash really promotes the spread of tuberculous disease, or it may do so. The fine scales and floating particles that emanate from the dry whitewash, when disturbed, not only irritate the bronchial mucous membranes, but they are also carriers of infection to the point irritated. This has been demonstrated to my entire satisfaction as the result of cell scraping." Dr. Ransom, in connection with this interesting observation, makes the following statement: "Certain experiments with lime burners also go to show that lime dust is favorable to the production of pulmonary tuberculosis."

To remedy the danger arising from whitewashing in small cells, I would suggest that the whitewash be replaced by oil paint which can be washed off with strong disinfecting fluids. The cells should, of course, never be smaller than 500 to 600 cubic feet, well ventilated, well lighted by natural light in daytime and by electric light at night (gas illumination absorbing too much oxygen).

In the Ohio State institution prisoners have the privilege to have their walls painted instead of whitewashed, if they wish to pay for it. The injustice of such a rule is evident. I am glad to report that upon my suggestion the painting of all the cells will be undertaken at the Columbus prison ere long.

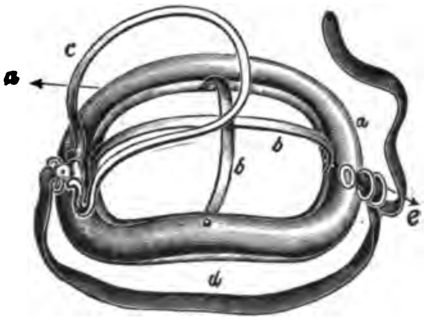

Fig. 7.—Fränkel's Mouth Mask. (One-half natural size.) *a*, metal ring; *b*, supporter; *c*, saddle; *d*, elastic band; *e*, ring for fastening.

The perpetual moisture of the stone walls of the Sing Sing prison, which is greatly increased at high tide, adds in my opinion very considerably to the unsanitary condition of the cells and of this prison in general, and the sooner another locality is found with dry and porous soil, whereupon the State should erect a modern prison, where modern prison methods will be in vogue, the better will it be for the State and its people.

The most gloomy building at Sing Sing, by reason of lack of light, and perhaps also the most unsanitary, is the present "death house." It is the place where the prisoners condemned to death await their doom, but, owing to legal technicalities, they are often detained there for months and even years. The site for a new one has already been selected, and, I understand, work on it has commenced by this time. The new building will be larger and no doubt will have all the improvements in vogue in modern prisons.

At Columbus the worst portion of the prison is the portion assigned to the women, which is constantly overcrowded, and only a few cells receive direct light and air. Governor Herrick, most of the legislators, the medical profession, and the State Board of Health are strongly in favor of a new prison on a different site, and built with all modern sanitary improvements. In the meantime, according to reports received last week, a thorough cleaning has begun, and it is hoped that conditions will at least be made bearable until the new prison can be occupied. After the example of Sing Sing, larger windows will be made in the outer walls to admit the greatest amount of light and air in the cell houses, and the lower tiers will, if possible, be suppressed entirely.

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*Flick: "The Contagiousness of Phthisis," Philadelphia, 1888.

Biggs: "The Action of the Health Department in Relation to Tuberculosis," 1897.

Knopf: "Twentieth Century Practice of Medicine," Vol. X, p. 211.

That a careful prophyplaxis is well calculated to reduce the mortality from tuberculosis in penal institutions has been demonstrated by carefully gathered statistics from the prisons in Prussia. Before the era of prevention, (1875 to 1878), there was a mortality from tuberculosis in these prisons of 118.0 per 10,000, while with the inauguration of preventive measures (1892 to 1894), the mortality rate was reduced to 81.0 per 100,000. (Cornet, "Tuberkulose," Wien, 1899.)

It is our right and duty for the good of society to confine the criminal and punish him, according to the gravity of his offense, by years of seclusion. But, however great the crime he has committed may be, we have no right to sentence him to contract tuberculosis. But, leaving aside all altruistic considerations, for reasons of protection and self-preservation, it is our imperative duty to do everything in our power to isolate all tuberculous prisoners, to treat every prison inmate afflicted with tuberculosis, and to give each one all the best possible chance of cure. By adhering to this policy there will be fewer tuberculous prisoners discharged upon the community and consequently a diminution of centers of infection.

During my visit to Sing Sing I had occasion to appreciate the courtesy and helpfulness of Warden Johnson, and noted with pleasure the kindness and consideration he manifested toward his unfortunate wards. What he needs, to my mind, to still improve the efficacy of the institution, besides the sanitary improvements suggested, is more helpers, better helpers, and better paid helpers. If I were a New York statesman, I would think it wise to spend just enough money to render the cell building at Sing Sing temporarily sanitary; I should insist upon the filling up of the lower tier of cells with some concrete substance, and build, in addition, a system of drainage whereby the rest of the building might be kept at least relatively dry.

The legislature should, as soon as possible, appropriate enough money to build a model prison on a suitable site. The State of New York should not be behind in prison reform, and this new prison should do away with the old system of high walls and dark cell punishment, and resort to the more modern and humane method, paying less attention to the construction of walls and punitive measures and more to reformational methods, such as are exemplified by the institution at Mansfield, Ohio. By the system of gradation, which awards the prisoner for good conduct, not only by diminution of time of imprisonment, but also by increased comfort and consideration for his personal wellbeing, there are observed less infractions against prison rules, less tuberculosis and less disease in general, fewer attempts to escape, fewer repeaters in crime, and more reformation. It would seem that the modern and more humane method of treating the prisoner in our penal institution more as a fellow-being morally diseased to whom the most humane methods should be applied, is, after all, the most profitable one, not only to the individual, but also to society at large.

Comparative Longevity.—In a paper read last month before the German Congress for Internal Medicine, Dr. B. Laquer contended that life in America is in general shorter than in Germany, and this in spite of the fact that Americans are more temperate in the use of alcohol and work an average of 10 per cent. shorter hours.

DERMATITIS SEBORRHOICA AND ITS RELATIONS TO ALOPECIA AND OTHER CONDITIONS.*

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It is now nearly twenty years since Unna[1] of Hamburg first directed attention to what he denominated *Seborrheal Eczema*, now better known as Dermatitis Seborrhoica, or Eczema Seborrhoicum. The subject immediately attracted the attention of dermatologists, and a large amount of literature has appeared concerning its features and nature. It has been thought desirable to offer the present writer's clinical experience with the disease, to examine some of the relations which may exist between it and certain other conditions of the skin, notably Alopecia, and to study its true character.

Unna rightly recognized that many quite different eruptions were grouped under the general name of chronic eczema, and called attention to certain of the dry, scaly forms in which there was a more or less preponderance of fatty matter, including many cases formerly called pityriasis capitis, some previously recognized as psoriasis, etc. Since that time pretty clear descriptions of various skin conditions belonging to the process have been given, and dermatitis seborrhoica is now quite generally recognized as an entity.

It is unnecessary to enter here into any prolonged description of this eruption, of which some account will be given later. Suffice to say that it is accepted as a definite cutaneous affection, with more or less accurately determined features, but all the phases claimed by Unna and some others have not received universal acceptance.

Dermatitis seborrhoica may be defined as a chronic, more or less inflammatory affection of the skin, probably of microbic origin, exhibiting varying degrees of scaliness, generally of a greasy character, on normally colored or moderately congested skin, with a tendency to extend (generally from the head downwards) by sharply defined, commonly circular areas. It is frequently accompanied with itching, which, however, is not as severe as in eczema. Most observers agree that the eruption is primarily one of the scalp, causing one of the forms of dandruff, where it may remain confined for years, and suddenly develop elsewhere, as a scaly eruption, or with more or less inflammatory symptoms.

My experience with dermatitis seborrhoica alone, in private practice, relates to 777 cases recorded as such, among 7,997 miscellaneous cases of skin diseases, seen since the eruption was recognized. It thus formed 9.7 per cent. of all. During the same period there were seen 1,913 cases of eczema, or 24 per cent., and 346 cases of psoriasis, or 4.32 per cent.

In addition to this, among 596 cases recorded as alopecia (excluding alopecia areata) there were 273 cases in which dermatitis seborrhoica played a prominent part, making a total of 1,050 cases exhibiting the disease under consideration, or something over 13 per cent. of the whole number of skin cases seen.

A large number of such cases were also treated in my clinic at the New York Skin and Cancer Hospital, but the exact number seen by me were not separated in the general statistics. During the last seven years, in which dermatitis seborrhoica has figured in the published reports, there were 1,370 cases of the disease treated at the hospital, among

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*Read before the Medical Society of the State of New York, January 31, 1905.

23,712 miscellaneous skin cases, or 5.8 per cent. of the whole. Psoriasis formed but 3.6 per cent., and eczema about 26 per cent.

The ages of my patients with dermatitis seborrhoica are recorded in the following table:

TABLE I. DERMATITIS SEBORRHOICA.

Ages.	Males.	Females.	Total.
0-10	16	18	34
10-20	35	75	110
20-30	90	114	204
30-40	124	83	207
40-50	75	48	123
50-60	41	19	60
60-+	22	17	39
Totals	403	374	777

From this table we find that dermatitis seborrhoica affects both sexes in about equal proportions—403 males, 374 females. While the disease was observed at all ages from one year to eighty-nine years of age, it is mainly an eruption of middle life, and between the ages of twenty and forty there were 411 cases, or almost 53 per cent. of the whole.

Among these cases of dermatitis seborrhoica we find, on examining the notes, that alopecia was a prominent feature in 284 patients, which, added to the 596 recorded as alopecia (excluding alopecia areata), gives a total of 880 cases, whose ages are shown in the following table:

TABLE II. ALOPECIA.

Ages.	Males.	Females.	Total.
0-10	1	5	6
10-20	27	64	91
20-30	165	174	339
30-40	107	158	265
40-50	40	81	121
50-60	13	26	39
60-+	1	15	16
Unrecorded	1	2	3
Totals	355	525	880

Examining now the relations between dermatitis seborrhoica and alopecia, we find, as above stated, that of the 777 cases so recorded, 284 patients, or 36.5 per cent., presented a great loss of hair. This occurred about the same in both sexes, though rather more frequently in females—37.4 per cent. to 35.7 per cent. in males.

Turning to the alopecia cases, we find that of the 596 recorded under this diagnosis, 273 cases, or almost 46 per cent., were due to dermatitis seborrhoica. These, added to the 284 previously mentioned, make 557 out of the 880 cases of alopecia in the table, or over 63 per cent., nearly two-thirds of the cases, in which loss of hair was due to dermatitis seborrhoica.

Croker[2] gives 466 cases of what he terms seborrhoic alopecia among 5,083 miscellaneous skin cases, or 9 per cent. of all. Elliot[3] found dermatitis seborrhoica in 316 out of 344 cases of premature baldness. It may be stated that the majority of dermatologists now accept the view that this disorder, still called by some seborrhea, the eczema seborrhoicum of Unna, or dermatitis seborrhoica, is the most fruitful cause of loss of hair, although all are not agreed in regard to the basic cause of the disease in question.

Sabouraud[4] has made very elaborate studies upon what he terms seborrhoic maladies, which cover practically the same ground as Unna's seborrhoic eczema, and differs from him materially in his explanation of the method by which the destruction of the growth of the hair takes place. Both of them, however, and other observers, are agreed that the disturbance in the epidermis and sebaceous glands is due to a microbe or microbes which as yet have not been absolutely identified. This is not surprising, considering the large number and variety of microorganisms which have been found on the scalp and body; different investigators have claimed various cocci and bacilli as the active agent, and no real agreement has yet been reached.

Enough has been learned, however, to establish pretty clearly that dermatitis seborrhoica in all its forms is more or less contagious, and that very much of modern baldness is caused thereby, and therefore is of parasitic origin. Its development is, however, undoubtedly favored by the various elements which lower the vitality and render the skin more susceptible to operation of such local agencies.

Some of the most interesting and important points in connection with dermatitis seborrhoica are its simulation of a number of other well recognized cutaneous affections; to read the descriptions which have been written by various observers it would be difficult to readily recognize the disease in all its aspects, and to differentiate it from some other eruptions which it more or less resembles, on various parts of the body.

One of the most puzzling phases of the eruption is that in which it simulates *psoriasis;* and yet it is particularly important to know and recognize this form of it, because of the very different prognosis and treatment of the two affections. Many a rebellious case which had been previously diagnosed as psoriasis has yielded quickly to suitable treatment for dermatitis seborrhoica.

It would be impossible to detail fully here all the elements of resemblance and difference, but a few illustrative points may be given. The differentiation demonstrates forcibly the necessity of examining the whole of an eruption and recording the history of a case, before an accurate diagnosis can be reached. It continually happens that the circular, circinnate, or gyrate lesions, reddened and scaly, on one portion will at once suggest psoriasis, when a careful study will show that the real nature of the eruption is quite different from what was anticipated, and the scalp may be found to exhibit characteristic dermatitis seborrhoica. Or, again, certain lesions in the axillæ or groins will suggest the true nature of the eruption, and a more careful examination of the patches originally seen will then demonstrate features, in the shape, scaling, etc., different from psoriasis. The history of the case, showing long existing scaling of the scalp, and the development of the eruption from above downwards, etc., will also often help materially in the diagnosis.

Dermatitis seborrhoica may likewise simulate *tinea* or *ringworm,* both on the scalp and on the free surfaces of the body; but here the microscope will aid in determining the true nature of the eruption. The same is true of *tinea versicolor,* but the tawny brownish color of the latter and the absence of all congestive redness should prevent error.

Pityriasis rosea may also be simulated by the eruption under consideration; but the very superficial character, and the slight scaling of the rosy-colored eruptnon should distinguish it.

Some of the eruptions of *syphilis* may also be imitated by dermatitis seborrhoica, but a full knowledge of the case, together with other lesions in the mouth and throat, etc., and a very careful study of the eruption should suffice to differentiate between the two.

Not only does dermatitis seborrhoica simulate many other eruptions on the skin, but it may also serve to *modify* them, sometimes in a very puzzling manner. It must also be borne in mind that not infrequently a patient may present more than one eruption at the same time; thus, I have myself shown and lectured on a patient who exhibited no less than five distinct and different cutaneous affections at once. Therefore it is not at all unusual for the disease we are considering to occur in connection with others, and to modify their appearance to a greater or less degree.

Mention has already been made of dermatitis seborrhoica simulating *psoriasis,* and it not infrequently happens that it will occur in the same subject and modify the eruption very materially; when the dermatitis seborrhoica has been removed by proper treatment the psoriasis may persist and exhibit its ordinary features. The same is true of some other eruptions.

It will be remembered that the disease we are considering was formerly called *eczema* seborrhoicum, and was isolated by Unna from the mass of cases which had hitherto passed under the name of chronic eczema. It is therefore very closely related to eczema, and has sometimes been spoken of as "parasitic eczema"; some have denied its existence as a distinct disease and believe it to be a seborrhea on an eczematous basis.

It is, therefore, very readily understood how dermatitis seborrhoica and eczema may modify each other; the former may give a greasy character to many of the lesions, and the latter may furnish vesicles, moisture and thickening, with much greater itching than belongs to the former. It is, therefore, often necessary to treat certain parts with the mild antiparasitic remedies suitable for dermatitis seborrhoica, while the eczematous portions require quite different treatment; sometimes an eczema which has proved rebellious will yield well when the seborrhoic element is recognized and appropriately treated.

Some of the eruptions of *syphilis* have been observed to be much modified by the presence of dermatitis seborrhoica, which gives a greasy character to the scales; it may also give a certain amount of itching, which, not belonging to syphilitic lesions, may obscure the diagnosis.

Finally, dermatitis seborrhoica forming almost ten per cent. of miscellaneous cases of diseases of the skin, in private practice, and coming next to eczema and acne, and about equalling syphilis in frequency, is always to be considered and reckoned with, as it may simulate and modify many other eruptions.

Mention has repeatedly been made of the parasitic nature of the disease under consideration, and a few words will make its nosological position more clear. It is not actively contagious, although it is believed to be caused by the presence of one or more microorganisms; these, however, are not of the grosser varieties, as in ringworm, favus, and tinea versicolor, but belong to the forms of cocci and bacilli, requiring high powers of magnification. As already stated, the exact microorganism causing the disease has not been wholly agreed upon by observers, although there have been many working to determine the question. Inoculation tests with cultures have not, thus far, yielded the hoped for results, although some observers have reported a certain proportion of successful inoculations. Some of the difficulties in the work can be imagined when we remember that Unna[5] describes twenty-three varieties of cocci found in eczema, in addition to a number of varieties of bacilli found by himself and others.

It would lead far beyond proper limits to attempt even briefly to summarize the investigations made on all sides, the recent views of Sabouraud,[6] however, make the subject fairly clear. He regards dermatitis seborrhoica as distinct from seborrhea, as he understands it, due to a seborrhoic microbacillus, causing calvities. The pityriasis, which precedes dermatitis seborrhoica, is due to the microsporon of Malassez, and the scales become greasy by a second infection of cocci, even before the advent of the seborrhoic microbacillus. Unna formerly claimed what he called moro-cocci as the sole cause, but more lately has recognized that there is probably a multiple infection; he, however, lays stress upon the participation of the coil glands in the disease rather than the sebaceous glands.

Treatment.—Most writers emphasize the local treatment, quite to the exclusion of general and internal medication, and, indeed, it must be granted that the latter alone and unaided has relatively little direct influence on the eruption. There is, o course, no internal specific for the disease; arseni has little or no influence. But, on the contrary, wit the universal presence of microorganisms, and o such a low grade of infectivity, and from analog in regard to other infectious diseases, it is unreasonable to suppose that the soil, or the vitality o the tissues, has nothing to do with the disease. A in tuberculosis the microorganisms certainly fin their opportunity for activity in a suitable soil, an constant experience shows that dermatitis seborrhoica flourishes under certain deranged or depressed states of the system and tissues. In innumerable instances I have heard patients declare th with the advent of dyspepsia the eruption increase and the hair falls.

It is well, therefore, always to pay careful attention to general treatment, including hygiene, die and proper internal medication; and these along th lines belonging to eczema, to which the disease unde consideration is closely allied, all of which need no be detailed here. For although the eruption is relatively amenable to proper treatment, thorough carried out, I am confident that the results are mo permanent when perfect general and local measur are obtained.

The local treatment varies often with the patien and with the location and the character of the eruption. Upon the scalp lotions are far more agreeabl and feasible than ointments, and except in speciall rebellious cases the latter are not often required The lotion I most frequently employ is composed follows: ℞ Resorcin ʒi-ʒii, Spts. vini rectif ʒii-ʒi Glycerin ʒii-ʒiv, Aquæ rosæ ad ℥iv. The amoun of alcohol and glycerine may be varied accordi to the effect, in order not to cause the hair to be t sticky. This is to be applied with a medicine dropper, morning and night, in such a manner that th entire surface of the scalp is dampened with it, th lotion being well rubbed in with the tips of the fingers as it is applied. Occasionally the head should b well shampooed with green soap tincture, and dri with heated towels, the lotion being well applie directly thereafter. Sometimes after the scalin belonging to the eruption is checked, this resorci lotion, if too strong, will produce a scaling of it own, the flakes being in quite large pieces of th epidermis, penetrated by hairs. This is no contraindication for its use, but the strength should b lessened. In some cases equal parts of chloral hydrate and resorcin act better than the resorcin alone. Formalin may also be added with advantage in rebellious cases.

Upon other surfaces the treatment varies somewhat according to the condition of the skin, and the location. While resorcin and sulphur are the two mainstays of local treatment, in the more acute conditions they may prove too irritating at first, and that suitable to the acute stages of eczema will be required. In the more dry , scaly conditions about the ears and face it is often very satisfactory to use the lotion just advised for the scalp, allowing it to soak well in, and when dry applying a trace of some soothing ointment, or one with from three to six per cent. of resorcin added to it.

Upon the chest a resorcin and sulphur ointment (℞ Pulv. resorcin ℈i-ʒi, Sulph. precip. ℈i-ʒi. Ungent. aquæ rosæ ℥i) generally succeeds very well; a little carbolic acid, one or two per cent., often aids the action. Salicylic acid, as in Lassar's paste (℞ Pulv. acidi salicyl. ʒss; Pulv. amyli ʒi, Zinci oxidi ʒi, Vaselin ℥i) is often very serviceable. Also white precipitate ointment, diluted about three times, with a trifle of carbolic acid, acts promptly. It is rarely necessary to use very strong measures, although some writers speak of chrysophanie acid and the strong mercurials. Sometimes for the itching a certain amount of ichthyol, oil of cade, or tar ointment may be added with advantage.

In conclusion, dermatitis seborrhoica is an eruption which should be recognized, for it forms about one-tenth of the cases which come to a dermatologist. To mistake it for true eczema or psoriasis often involves needless anxiety to the patient and a treatment which will not be efficacious.

Proper local treatment is all essential for its removal, but for the best results a certain amount of reconstructive treatment is necessary, that the skin may not furnish such a suitable ground for the growth of the microorganisms found in it, and believed to be of etiological moment.

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531 MADISON AVENUE.

PROSTATECTOMY.*

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It is hardly necessary for me to remind this Society that for some years past no practical subject has occupied surgical attention more than that having for its object improvement in the treatment of some forms of prostatic hypertrophy when it occasions serious obstruction to the natural expulsion of urine from the body. It may now be said that a stage has been reached in the history of these endeavors when by the continued though somewhat disconnected efforts of many colleagues, past and present, results have been obtained which have proved of great advantage in this class of diseases and distinctly marked surgical progress.

Though presenting an academic interest I do not propose referring to the somewhat warmly contested subject of the prostatic capsule, and I shall, therefore, confine my remarks to clinical matters.

The surgical treatment of prostatic obstruction, as it occurs in the enlarged or adenomatous gland, may be discussed under three headings: (1) By catheterism alone as practised by the surgeon or the patient himself, (2) by perineal, and (3) by suprapubic prostatectomy. The first method we are not directly concerned with this evening further than to remark that when it suffices for the wants and comfort of the individual the necessity or expediency for the removal of the prostate is not likely to arise. Much more can now be done by strict antiseptic precautions to keep persons within this limit, and there can be no question that many have thus been able to enjoy long and useful lives without taking the risk of an operation such as the removal of the prostate entails, whatever the degree may be. Though fully recognizing the force of this consideration, which has had prominence given to it by Mr. Buckston Browne, Mr. Herring, and others, there can be no doubt that it is not possible to keep all prostatic cases within these limits.

Difficulty in the use of the catheter, pain, frequent and unrelieved desire, the continued formation of vesical stone in spite of its repeated removal by lithotrity, hemorrhage, broken sleep and unrest, cystitis and offensive urine, in addition to other local and general states of sepsis represent conditions which, when persistent, no catheter even with its modern accessories can adequately abate.

It is in cases coming within this category that prostatectomy, using this term in a general sense, has been followed by striking and beneficial results. Opinions are divided as to the respective merits and their application of the perineal and suprapubic methods, and it is to this point I wish this evening more especially to direct attention.

Perineal prostatectomy has for some years been largely practised both in France and in America, but hitherto has not found much favor in this country. It is, I believe, of only limited application, and in my own practice has been almost entirely confined to some partial removals of the gland. For instance, by this route pendulous outgrowths of what is known as the middle lobe of the prostate, which may act as a ball-valve and thus obstruct micturition, may be dealt with with satisfactory results.

Again, this method may be utilized for the enucleation of large isolated unilateral adenomas of the prostate, such as those occasionally met with in the course of perineal lithotomies, on the lines advocated in a paper I read before the Royal Medico-Chirurgical Society in 1882.

Complete extirpation of the prostate can be effected by the perineal way, and many excellent results have been obtained and published by Albarran of Paris, Young of Baltimore, and other surgeons. Amongst the advantages claimed for this method of operating is that the ejaculatory ducts may be preserved intact. I do not, I confess, see where this comes in when the object of the proceeding is the complete removal of the prostate, which is generally regarded as a genital gland.

I have reason to think from cases that have come under my observation that some degree of incontinence of urine is not very uncommon after a completed perineal prostatectomy, in this respect resembling what sometimes happened in the days when lateral lithotomy was commonly practised. This casualty was then considered due to a too free division of the prostate and sphincter of the bladder, and the detriment invariably proved of a permanent nature.

Reviewing his experience of seventy-three patients operated upon by him by median perineal prostatectomy, Dr. George E. Goodfellow of San Francisco makes the following statement relative to incontinence of urine and this operation: "Usually at first complete control of the bladder is regained, but afterwards, when the patient begins to get about, a partial incontinence supervenes, that is to say, there is inability to retain urine when the desire to urinate comes, with some dribbling afterwards, and if the patient becomes tired there is actual incontinence. In a number of cases this has lasted about four months, but usually in men of about seventy" (*Journal American Medical Association,* December, 1903). Other surgeons record a somewhat similar experience.

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* Introduction to a Discussion on Prostatectomy, at the Medical Society of London, May 8, 1905.

In estimating the value of perineal prostatectomy I do not think I can better express my own views upon this point than in the words of Dr. William White, of Philadelphia. In his review of these proceedings, after describing Mr. Freyer's method, he says: "Past experience does not justify the expectation that the results of prostatectomy by the perineal route will compare favorably with those of total enucleation" (*Annals of Surgery,* December, 1904).

Turning now to the most recent development of *supraprostatectomy,* as practiced by my colleague, Mr. Freyer, I again find myself in agreement with Dr. White, who speaks of it "as the operation of choice in the majority of cases." It will hardly be necessary to point out in detail the many advantages connected with this method of operating.

In the first place, the operation may be completed with a knife, aided by the fingers, in a very few minutes. This is due to the bladder and prostate being approached from their most accessible position where there is little or no risk of encountering hemorrhage or of permanently damaging the sphincter or retentive apparatus of the bladder. The latter is, so to speak, out of harm's way, as the results of this operation amply testify.

There is no call, when operating by the suprapubic route, for the ingenious instruments, such as those devised by Dr. Parker Syms of New York and Dr. Young of Baltimore, for drawing the prostate down within reach of the operator's finger, as is the case when the gland is approached by the perineal way.

There is another consideration relative to the technique of the operation, which is of much importance. If you examine a number of specimens of the prostate removed entire by supraprostatectomy a certain proportion will be found—I do not say all—where the prostatic or even membranous urethra has been destroyed or torn across in the course of the enucleation of the gland.

This circumstance has not infrequently called forth the comment that a urethral stricture of a cicatricial kind must necessarily follow. Such, however, contrary to all expectation and experience derived from the observation of other lacerations and ruptures of the male urethra, in whatever part of the canal occurring, has not been the case.

The explanation for this I offered in the Lettsomian Lectures I had the honor of delivering before this Society in 1888. I then endeavored to show, in discussing the cause of traumatic urethral stricture, that the density and contractility of the scar left after a complete or partial rupture from violence or laceration of the male urethra, was in an inverse ratio to the direct drainage provided for the wound. Where the latter was ample and free, as after well-planned surgical incisions of the urethra, for instance, by perineal section or for lithotomy, no stricture followed; whereas, on the other hand, after casual wounds, where no drainage was provided, or it was imperfect, a dense contractile stricture of the urethra at the seat of injury invariably followed.

No more striking evidence of the completeness of the bladder drainage in supraprostatectomy can be found, I believe, than in the fact that though the prostatic and membranous portions of the urethra are liable to, and often do, receive damage, yet hitherto we have had no sufficient evidence that stricture follows entire enucleation.

In selecting the perineal in preference to the suprapubic route, too much credit has been attached to a belief that the former affords better drainage than the latter, and thus favors a more rapid convalescence. I have never found difficulty or delay in healing with the suprapubic route provided that the drainage was sufficiently ample.

In two of my earlier cases of supraprostatectomy perineal urine drainage had been previously and temporarily provided for urgent suppurative cystitis and retention of urine, but no advantage followed this preliminary so far as the healing of the prostatectomy wound was concerned.

Vesical Stone and Supraprostatectomy.—There yet remains to be mentioned a still more cogent reason for selecting the suprapubic method when the prostate from its size, or for other reasons to which I have referred, seriously obstructs the natural function of the bladder.

With a large prostate present it is quite impossible to determine certainly in every instance, by any other means than by freely opening it in front, what the bladder may contain in a narrow-necked valvular sac. Putrid urine or an undetected stone not infrequently occupies these receptacles.

The sound, the cystoscope, the *x*-rays, and digital exploration by the perineal route have frequently failed to detect these and other sources of serious bladder infection and diseases which are not uncommon sequences of obstruction in front.

How often has it happened that a supraprostatectomy has also been the means of bringing to light unsuspected stones contained within saccules and pouches of a presumed healthy bladder. Nor is it uncommon to find, as age advances and the prostate enlarges, the obstruction thus caused "traps" concretions and small stones which would otherwise escape naturally, and detains them for further increase in size within what Mr. Buckston Browne so well described some years ago as the postprostatic pouch. These considerations are of much importance in determining the precise nature of the operation that should be selected for the removal of the prostate.

In making this reference to supraprostatectomy in cases where vesical stone is known or suspected to coexist with much enlargement of the prostate, I do not think it is at all likely to supersede lithotrity in cases of stone occurring for the first time, but when stone in the bladder constantly recurs with this condition an additional reason is furnished for selecting supraprostatectomy in place of repeated operations by litholapaxy alone.

Within the last few years I have met with several instances where vesical stone recurrences have apparently been stopped and a normal state of the bladder substituted after the prostate has thus been removed. There can be no doubt that in many instances the enlarged prostate proves to be the determining cause of stone in the bladder, as well as of its recurrence.

Partial supraprostatectomies have not, on the whole, proved a success. Instances are recorded by Mr. Freyer where, after partial removals in this way, he subsequently, after varying intervals, enucleated what had been left behind by previous operators with good results. And by this is meant that not only was the cause of obstruction removed, but the natural function of the bladder was restored.

I have a clear recollection, at a meeting of the British Medical Association in 1889, of seeing a number of patients, not less than twelve, upon whom Mr. McGill had operated by supraprostatectomy, together with the specimens removed in each instance. Though many of his cases were as successful as could be desired, others fell short of this, so far as the restoration of bladder function was concerned.

I feel sure his cases, as well as those of others, might have been divided into two classes: first, those where the enlarged gland was, to all intents and purposes, removed; and secondly, those where the extirpation was only partial. In this distinction will be found the explanation for the different results that followed then and may be expected now after the latter.

Enucleation with the finger alone, as now practiced, has greatly simplified the process of complete removal and has rendered more secure that which was, to some extent, a matter of chance. Had this distinction been recognized earlier and failures traced to their proper source, I have very little doubt that McGill's operation would not have comparatively fallen into disuse. The partially successful cases seemed at that time to discount largely those where success was complete.

I need hardly say I refer to this point not for the purpose of minimizing in any degree the originality of Mr. Freyer's work, but for illustrating the wide difference in results between partial and complete removal of the gland, however effected.

Mortality.—I will say a few words in reference to the mortality attendant upon the two forms of prostatectomy under discussion. I am not disposed to think there is much difference in this respect between them. I believe, including all causes of death, this is somewhere about 10 per cent. Probably it is rather less with the perineal operation. I have no doubt this percentage might be considerably reduced in many instances by an earlier prostatectomy, and by the exclusion of malignant and other unsuitable cases where the operation has to be undertaken for distinctly palliative purposes. The fact that these operations have been so largely successful, often under very adverse circumstances, must find due weight when considering their adoption and selection.

Preventive Treatment.—I would add in conclusion that though many of the difficulties connected with advanced forms of prostatic obstruction may now be considered as within reach of successful treatment by operation the subject cannot be regarded as ending here. There remains a large field for further investigation which is still comparatively unoccupied.

I should not be doing justice to much work that has been done during the past decade, more particularly on an occasion like this, without a passing reference to this matter.

It is impossible to go through the published records of orchidectomy and vasectomy without recognizing the influence that these processes frequently exercised, and are distinctly stated to have so done, in arresting and aborting prostatic overgrowth. I do not say that either of these operations is capable in itself of removing atrophy, or otherwise, the large masses of prostatic tissue which we are becoming familiar with, as figured in the pages of our journals.

But when I look at instances of vasectomy, for example, operated upon as far back as eight to ten years ago, when the earlier forms of prostatic obstruction appeared to be imminent, and when I see that the patients are now alive with their health and energy unimpaired, it seems to me that evidence of this kind relative to the whole subject of prostatic hypertrophy and its prevention should not be entirely disregarded.

Facts will be found amongst these records which are capable, I believe, of being further utilized without minimizing or detracting from the importance of those measures which I have thus endeavored as briefly as possible to place before you for discussion this evening.

THE IMPORTANCE OF EARLY RECOGNITION OF SUPPURATIVE EAR DISEASE.*

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It seems superfluous to note here the anatomy of the temporal bone, other than to recall the graphic description Professor Politzer was wont to give during one of his lectures. Gracefully lifting the temporal bone by the styloid process and turning it so that it could be seen by all his hearers, he would slowly and forcibly utter the following words: "The temporal bone has four sides, the outside is bounded by life, from which there comes through the opening of the external auditory canal one form of our appreciation of what life means; on the other three sides this bone is bounded by death."

The scope of this paper is not to present an exhaustive survey of the subject, but rather to state such facts as would be of special interest to the general practitioner from the otologist's viewpoint.

Suppurative ear disease is more prevalent than the general practitioner is apt to believe from actual experience. As to its frequency, various authorities agree that from 30 to 35 per cent. of all ear diseases belong to this class, 5 per cent. belonging to the acute, and the remainder to the chronic.

In the majority of cases, suppurative ear disease is the cause of cerebral abscess and other intracranial complications. Notwithstanding the decided advance made in otology from the pathological and symptomatological point of view in the past decade, and the brilliant results in surgery in the suppurative diseases of the ear and the outlying structures, the annual percentage of deaths from this form of ear disease is still large—larger than it ought to be in the light of our modern methods of diagnosis and treatment; or from the otologists' outlook suspiciously small when we consider the late detected cases that die from acute or chronic suppurative ear disease, or die from some intracranial disease depending primarily upon the ear disease.

We may justly claim that suppurative condition of the middle ear is the most important of all diseases of the ear, not alone from its frequency, but from its serious and dangerous results upon the ear and the parts adjacent, and upon structures even more remote—results that involve life itself. It is not unusual to find that patients have been subject to purulent ear trouble for years, with no disturbing symptoms, and have become quite used to it, for pain is not a marked symptom in chronic suppurative ear disease, except where there is an exacerbation of the trouble; and, if such exist, we must be on our guard for extension of the disease. The slight discharges may be inconvenient, but they are ignorant of the possible dangers of a suppurative middle-ear trouble and thus have not sought treatment. Deafness may be marked in one ear, but perhaps not until both ears are affected will they seek treatment. A subsidence of the discharge may deceive the patients into a perfect security, and all may go well until they have a chill, or chilly sensations, or sudden pain, or sudden rise of temperature; then we should be correct in deciding that there was an extension of the process that may prove possibly to be either a thrombosis of one of the sinuses, meningitis, cerebral involvement, or even pyemia. In other cases, relief is not sought until the derangements in the functions of the ear interfere with the ordinary affairs of life. These inflammations often come on so insidiously that irreparable destruction of important tissues occurs with caries or necrosis of the bone. The ossicles comprising the bridge of bones, especially the incus and malleus, are usually the first to become carious and thus this pathological condition extends affecting the walls of the middle ear.

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* Read by invitation at the twenty-ninth annual meeting of the Alumnæ Association of the Women's Medical College of Pennsylvania, held in Philadelphia, May 19 and 20, 1904.

We know how thin at times is the bone separating the middle ear from the brain and important blood-vessels and nerves; we also know that there may be a dehiscence in the bones at certain points, for instance, over the facial nerve, jugular vein, internal carotid artery, semicircular canal or in the attic roof. Thus it is our first duty to stop the discharge. The overlooking of the earlier symptoms of suppurative tympanic disease and the neglect of treatment at the time when it could be of value is one of the most numerous causes for the unfavorable prognosis that must be given when the patient seeks advice. Almost all forms of chronic suppurative otitis may be considered as a sequel of an acute middle-ear suppuration. The frequency with which infants and children suffer from suppurative ear disease is due largely to inflammatory troubles in the nose and nasopharynx, especially to the presence or swelling of the pharyngeal tonsil, as someone has described it, a "hotbed for the retention and development of infections." We can easily see how bacteria may thrive and multiply in the inflamed mucous membranes.

Adults are less subject to this form of ear trouble, due in part to the absence or lessening of this hypertrophied tissue at the vault and because they are commonly thought to be more easily and efficiently treated; while in fact, an infant's ear yields to treatment more quickly than that of an adult. Meningeal symptoms can be better controlled, good drainage secured and the ear better cleaned, because there is no maze of mastoid and aberrant cells. It may not be amiss to state that a very small speculum should be used in examining an infant's ear. Always warm the speculum and gently draw the ear down and out. The ordinary infants' specula usually found in the instrument stores are too large—they would bother even a specialist, and the less experienced would not succeed in peering beyond the entrance of the external auditory canal.

An acute ear may develop into a chronic suppurative ear from the virulence of the infection or lowered vitality of the patient, by neglected or improper treatment, or perhaps from the fact that the symptoms are soon ignored or forgotten by the patient. I am reminded of a case that I was called in to see a few years ago with the diagnosis of typhoid malaria. A slight discharge had drawn attention to the ear, and with reflected light, speculum and delicate silver ear-probe, a large perforation was found in the membrane and the probe passed upward through an opening in the attic-roof to an extradural abscess. The symptoms pointed to a cerebral abscess, which was verified by a subsequent operation.

Just here I would emphasize the value of becoming as familiar with the use of the head mirror, speculum and delicate silver ear-probe as with the use of the stethoscope, and of making it a practice to examine the ears and also the nose and throat of all patients, especially of infants and children. For exanthematous diseases, scarlet fever, measles, and even smallpox and nasal diphtheria, give rise to a destructive and obstinate type of the disease. Epidemic influenza, in which there seems to be a special tendency to mastoid inflammation, pneumonia, bronchitis, typhoid fever, malnutrition, tonsillitis, mumps, phthisis, malaria, diabetes, and acute or chronic sinusitis, are among the predisposing causes; and also, from a clinical standpoint, the direct introduction of water, not sterile, through the eustachian tube by means of the nasal douche, or the "sniffing up" of water through the nares. It is well to speak of the nasal bath rather than the nasal douche. Clinically one must remember the ease with which a solution in douching an infant's ear finds its way through a perforated drum into the wide eustachian tube and into the throat and is swallowed, or even passes into the larynx. One should be careful in the choice of fluids thus used, for more than one case comes to mind when corrosive sublimate solution was employed in this way with serious results. A gastroenteritis in an infant or child may be due to a suppurating ear, for we have many times seen a drop of pus exuding and even dropping from the pharyngeal end of the eustachian tube, or the pus may pass along the side of the tube into the tissues at the back of the pharynx or in the neighborhood of a tonsil, resulting in a pharyngeal abscess. We may have a septic pleurisy or pneumonia, septic synovitis, or metastatic abscesses develop. A well-known otologist states that "obscure illnesses in young children, consisting of feverishness, irritability, and symptoms of cerebral disturbance, are often explained by the ultimate appearance of a discharge from an ear."

Inflammation in an infant's ear should not be overlooked, and our first attention be drawn to it by seeing a drop of pus appear at the opening of the external auditory canal, a swelling develop behind the ear, or by the appearance of such symptoms as will occur when the pus in the middle ear, not seeking the usual routes, has entered the brain cavity, probably through the petrosquamosal suture. How many times such a condition is attributed to dentition, worms, gastritis, pneumonia, or meningitis! We have been called to an infant in convulsions that were a reflex symptom of an inflammation of the middle ear.

In acute conditions of the middle ear in infants, there may often be no pain or temperature to draw attention to the ear, and thus importance is laid upon the general condition and the ear is often overlooked. Or, in pneumonia, when the lungs are clearing but the temperature, pulse, and respiration suddenly change in character, it has been asked if the ears could cause such a condition, and on examination there was found a drum red and bulging. Malnutrition due to disturbances of the gastroenteric tract or to luetic causes, tuberculosis, or malaria, commonly develops an acute or chronic suppurative ear trouble in an infant or child. Had frequent examinations of the ear been made in every case as a routine practice, the inflamed, swollen, or bulging drum would have been seen, and thus mistaken diagnoses would have been avoided.

The nasal cavities and their accessory spaces, the nasopharynx, pharynx, tonsils, and teeth of all patients subject to acute or chronic suppurative ear trouble should be put in the best possible condition and all abnormal tonsillar and adenoid tissue be removed. Do not overlook the general health of the patient, but pay attention to the constitutional treatment, as this in itself has a most favorable effect upon the ear trouble. We are all familiar with the extreme prevalence of "common earache" in children. Abortive measures may allay the symptoms and cut short the attack, but more severe cases, with streptococcic infection or mixed infection in spite of treatment, will go on to the formation of pus. We have all seen cases of purulent otitis, sudden in onset and severe in symptoms, where streptococcic infection predominated, for in acute suppuration of the middle ear, the mastoid has shown evidence of involvement by the second day, and the attic and antrum have become infected within a few hours.

The following measures have given good results. It is such treatment as will reduce the inflammation and lessen pain. Douche the ear gently every two hours with one or two quarts of a sterile normal salt solution as warm as can be borne, to be followed by a hot water bag or a hot salt bag. Give one grain of calomel in 1-10 grain doses and repeat as necessary. It has a most favorable effect, especially if given at the very beginning of the attack. Use cleansing and astringent washes for the throat and cleansing sprays for the nose. Caution against too forcible blowing of the nose, or blowing both sides of the nose at once. Have the patient remain in bed until the acute symptoms have abated. The bromides or phenacetine may be given, but with caution, and only for a few days. Avoid all opiates, as they mask the symptoms. The following ear drops, as suggested by Dr. Bacon, have afforded relief: ℞, sulphate of atropine, grs. ij; boric acid, grs. x; glycerin, ʒi; water, ℥i.

As a rule, do not use applications or instillations of remedies to the external auditory canal and drum membrane to relieve the pain—they are generally useless. The sweet oil and laudanum, and sweet oil and paregoric so much in vogue, and other numerous household remedies are mentioned but to be condemned. As we have said, such remedies are generally useless; more time is thus taken to clean the external auditory tract previous to an incision of the drum; and, if spontaneous rupture occurs, the middle ear may become infected from the unclean condition of the external auditory tract.

Do not wait for bulging, do not wait for a spontaneous rupture of the drum, but produce an operative incision and thus avoid involvement of the upper part of the middle ear, for such cases invariably become purulent and yield slowly to treatment. We emphasize the importance of an early paracentesis or incision, in fact within the first few days of the onset of the middle ear trouble, whether pain is present or not. We are often asked if the hearing will not be affected by a paracentesis. There is a normal degree of hearing following these cases of early surgical incision, but where a spontaneous rupture occurs the outlook may not be as favorable.

In influenza it is decidedly unwise to delay before incising, for the condition may be lessened by a prompt recovery by such a very early procedure. The drum may be thickened or fibrous, and the pent-up pus may seek another path that will involve dangerous regions, or a chronic condition may supervene—possibly all might have been prevented had the incision been made early, at a time when the secretion was serous; and in our preventive treatment, we must aim to keep the secretion serous. As a preliminary step, the auricle, the canal, the drum, hands of operator, and knife, should be made sterile. A diamond-shaped knife is used. In making an incision in an infant's drum, avoid touching the inner wall of the middle ear, for we must remember that the round window lies directly in the path of the knife. Make a semicircular cut in the drum proper in its posterior half, beginning below the posterior fold away from the stapes, and incising obliquely to its radiating and circular fibers, so as to avoid an early union of the edges. Where the attic is involved, point the knife upward at the moment the incision is begun, and cut through with one sweep of the knife the numerous connective tissue folds. Avoid grazing the ossicles, withdraw the knife slightly on approaching these, and then sink again into the swollen tissues of the middle ear until the semicircular cut is completed. It will be well to use primary anesthesia, especially in nervous individuals, for the operation is an exceedingly painful one and the patient may already be exhausted from the excruciating pain due to the middle ear trouble; or, if an anesthetic has not been employed, the immediate application of moist heat in the form of compresses will relieve the pain produced by the paracentesis. After the bleeding has ceased, thus greatly relieving the congestion, and the blood in the canal has been removed, a wick of sterilized cotton or gauze is loosely placed in the canal for drainage and is canned by another piece of sterilized cotton placed in the concha to relieve the drainage from the wick. By this means we avoid infection from without, as might happen should the non-sterile fingers of the patient touch the cotton wick. Our treatment must aim to prevent the entrance of bacteria from without and prevent the multiplication of those within. Avoid over-treating the ear at this stage by douching, and irritating instillations. The outer cotton is changed whenever it becomes moist and the cotton wick may remain in for 12 to 14 hours, when another piece is inserted by the physician, who examines again the drum and canal, to keep watch of the ear condition.

This treatment is followed until the discharge grows less and is thin enough to be absorbed by the wick, and stops, as it will in uncomplicated cases at the end of a few days or two weeks, or, at most, under three weeks. Should the discharge become purulent and thick, and the ear fall to the care of a non-medical person, it may be well to have the ear frequently syringed in the form of a douche, using a weak solution of boric acid and sterile water, as warm as can be tolerated; then the ear is allowed to drain for a few moments. It is soothing to the patient and helps to reduce the inflammation.

A word as to the importance of submitting the discharge to a microscopic examination in all cases of middle-ear suppuration; whichever microorganism predominates will give the type. If the streptococci, we shall without doubt have serious complications. It is interesting to recall the statistics that have been made at the New York Eye and Ear Infirmary: (1) Those cases showing staphylococcic infection almost all recovered, requiring no operation. (2) Those cases showing pneumococcic infection, 50 per cent. recovered, requiring no operation. (3) Those cases showing streptococcic infection, almost all required an operation.

By inspection see that the perforation in the drum does not prematurely close as it may do in 24-48 hours, and require to be reopened, or that it does not become clogged with a mucopurulent or purulent mass. If the paracentesis has been well done under an anesthetic, the cases are exceptional where the operation must be repeated.

When the inflammation is very marked, the artificial leech may be used. Apply it in front of the ear. If used over the mastoid process, it would mask the mastoid symptoms by the swelling produced. For the same reason, do not use applications over the mastoid for lessening the pain, that will redden or irritate the skin. Often we do not meet the patient until the acute inflammatory symptoms have subsided and deafness or slight discharge have caused them to seek advice. Examining the drum, we have found it red and edematous, with a pinhole perforation or with a perforation only seen on performing Valsalva's inflation. Mop out the canal with sterile cotton and dust boric acid powder in the canal and over the drum, and recovery will take place, or we may have to enlarge the opening for a free outflow of the discharge.

It is all important to keep track of the hearing in such cases, for we often have by such tests useful means of deciding how the disease is progressing. If a patient should state that the discharge has stopped and the hearing has grown less, we might anticipate trouble, possibly by a premature closing of the drum; or the fact that the discharge has lessened and the hearing improved would give the outlook of an early recovery.

Mastoid symptoms may develop; and how shall the general practitioner know when the mastoid is involved? Mastoiditis is always secondary to middle ear suppuration. We have already seen what measures should be used to abort the middle ear suppuration. Some tuberculous patients suffer little discomfort. It is more usual to have pain, the mastoid may be tender at one or all of the characteristic points over antrum, tip, or middle of posterior margin of mastoid. In infants this is no guide, for they often cry when touched at other regions of the body, and a sclerosed mastoid may have thickened walls and not be tender to pressure. There may be no elevation of temperature, though the mastoid be filled with pus, and this condition may be met with in acute cases where there is a free discharge. Then, in the absence of pain, tenderness and temperature, we must look for other signs. A careful inspection of the drum and canal wall will find redness, swelling, or sagging of the inner end of the upper and posterior walls over the margin of the antrum, and redness, swelling, or bulging of the drum in its posterior upper quadrant or above the short process of the malleus. It is well to remember that it even may be possible to have mastoid trouble after the canal wall and drum have returned to normal condition. As soon as we are aware of mastoid trouble, we should use cold by means of the Leiter coil or heat by means of the hot-water bag. Should pain and tenderness or redness, and swelling of the antral wall continues for 24-36 hours after free incision of the membrane and the Leiter coil, it would be best to consult with some one experienced in such cases. Too prolonged use of cold by means of the coil or ice-bag will be misleading and mask the mastoid symptoms and cause an early degeneration of the bone. For should such a condition be prolonged, a mastoid operation might be done too late to prevent lateral sinus or brain involvement.

Sometimes a furunculosis of the canal wall may simulate a mastoid trouble. There will be pain and redness in this region, perhaps discharge from the canal, and possibly a swelling over the postaural region. The speculum again will settle the question. It is well to have a speculum made with a long and slender neck, so that it can act as a dilator in the cartilaginous canal and thus get a full view of the hidden membrane and adjacent wall in order to eliminate a middle ear and mastoid involvement. Incise the furuncle only if pointing, and insert in the canal a pledget of cotton dipped in a solution of carbolic acid and glycerine, using a 2-4 per cent. for infants and children and a 10 or 12 per cent. for adults.

When shall a suppuration of the middle ear be considered chronic? After the inflammation has lasted for more than four, five, or six months with or without treatment. Certain cases have the acute stage prolonged for a longer time, but for convenience we must have some fixed date. In chronic middle-ear suppuration we should carefully inspect the drum and the walls of the external auditory canal. Note where the perforation is situated, note its size. It is absurd to treat an ear with a small perforation by the ordinary douching or syringing, for no solution reaches the middle ear, and this is especially true if the perforation be found in Schrapnell's membrane, that is above the short process of the malleus. A chronic suppurative condition situated in this region is most obstinate, yielding slowly, if at all, to the above treatment. In this class of cases, treat by means of the middle ear syringe and catheter or Politzer air douche, or make a counter-opening in the lower part of the drum. For in the attic multiple folds of connective tissue covered with mucous membrane serve the purpose of a good incubating chamber for germs and a reservoir for secretion. Often in old-standing cases, the space is walled off by the inflammatory products from the lower part of the middle ear.

The treatment of chronic middle ear suppuration should aim at stopping the discharge by local and general treatment. Let us emphasize again the importance of removing all adenoid tissue and caring for the nasal and pharyngeal tract. Chronic suppurative ear disease requires patient and careful treatment, insisting upon cleanliness of the auricle and ear tract, preventing further infection and securing good drainage. Aim to improve the hearing and relieve tinnitus and other sounds annoying to the patient. We have various forms of treatment. Those most in use are the dry and wet or a combination of the two. The dry treatment is to be preferred above all others, and should be carried out whenever it is possible to see the patient every day or two, or every few days; but when many days and weeks must elapse between the treatments, the wet method is to be preferred. Whatever method is used, the dry, the wet, or the two combined, we may aid in removing the secretion from the tube and middle ear by using in addition, the catheter or the Politzer air douche.

The dry treatment is simply keeping the auricle clean, wiping out the canal and middle ear if a perforation will permit it, using sterilized cotton wound on applicators by sterilized hands. A little powder is dusted over the drum and canal walls, but a perforation must not be blocked up by the powder, as might occur if a non-medical person were to use the powder. Boric acid powder has given excellent results, but the powder will depend upon the physician's choice.

The wet method is self-evident: simply douching or gently syringing the ear with $HgCl_2$ solution in the strength of 4,000 to 6,000, taking care that none of the solution passes down the eustchian tube; or using preferably a weak solution of boric acid or boiled water; or a combination of the two methods, using the dry method and instilling into the ear a few drops warmed, of any of the following solutions: Bichloride of mercury, 1-5,000; the same with the addition of alcohol in varying strength. A saturated solution of boric acid; the same with the addition of alcohol; or the latter with bichloride, 1-3,000, added. Any of the above-named solutions has a very good effect upon granulations when scant;—if they are plentiful, use nitrate of silver or saturated solution of copper sulphate or zinc sulphate as a thin wash over the surface, after the granulations have been thoroughly curreted. Polypi are only an advanced stage of the granulation process. They may be removed with the ring forceps or snare. Do not mistake for a polyp a protrusion of the swollen tissue of the inner surface of the membrana through a perforation in an acute suppurating ear. Do not try to snare a prolapse of the facial nerve, thinking it to be a polyp, and cause a facial paralysis in so doing, and do not include in your snare the stapes buried in the polypoid mass, while attempting to remove a polyp. I have seen these mistakes made, and in the last case intense vertigo and nausea followed, lasting for hours. Let the delicate silver ear-probe outline the attachment of all polypi and thus avoid mistakes, and the probe will detect caries of the ossicles or walls. A facial paralysis, partial or complete, may be brought about by pressure or ulceration of the facial nerve in the course of a suppurating ear. It should be quickly dealt with, locally and generally.

To improve the hearing and tinnitus, inflate the ear and use appropriate middle-ear massage. If carried out carefully while the discharge is lessening, we shall improve the hearing, provided the trouble be limited to the middle ear. However, if the labyrinths have become involved, this treatment will be of little value. When the latter condition exists, and is met with early, we may improve it by the use of muriate of pilocarpine. It is well to tell your patient that there is a possibility of the hearing being worse when the discharge has ceased, than when it was present.

In chronic suppurative middle-ear disease, when the drum and the three bones have ceased to be united, due to the destructive process, it would be well to remove all but the stapes, leaving that free, for the capability of vibration is much increased by such an operation, and the hearing will thereby be improved, and remedies can be more exactly applied to the middle-ear walls. The following case will illustrate many points that have been referred to in this paper. It will show that fair hearing may be brought about in a chronic suppurative ear when drum, malleus and incus have been all destroyed. The patient was a young girl of fourteen, who, during an attack of scarlet fever, six years previous, developed a double chronic suppurative ear trouble. The tonsils and adenoids were removed, a deviated septum straightened and the middle ear treated until all secretion stopped. The drum, malleus and incus had disappeared from both ears, leaving the stapes in place, but bound down by adhesions. Hearing showed middle-ear deafness. Whisper heard in right ear, 1 foot. Whisper heard in left ear, 3 feet. Adhesions were removed about the foot-plate of the stapes in right ear, and six months later a similar operation was done in the left. At stated times the stapes were mobilized and cotton drums were used, bringing up the hearing in the right ear from one foot to 16 feet; in the left ear, from 3 feet to 20 feet, and during the last six years there has been no recurrence of discharge, and the hearing has dropped a few feet, to be reinstated by mobilizing the stapes.

How long shall we treat chronic suppurative ears by remedial measures and topical applications? We ought to give a fair amount of time, from two to four or six months of treatment, when, if the discharge does not cease after most careful treatment and the general health of the patient suffers, we must tell our patients of the dangers arising from such a condition and advise an operation. An ear should have ceased discharging for two years, at least, before we can claim a satisfactory result, and no suppurative ear is cured until all secretion has stopped and there is no crust formation. An ear that discharges continually in the presence or absence of fetor, in spite of patient and careful treatment, even though the perforation be large, should be looked upon as a menace to life, and operative measures should then be advised. An ear that has stopped discharging, leaving a free perforation, might be considered as moderately safe, but it would not be a guarantee that there might not develop within a shorter or longer period of time, a renewed attack. We should advise such patients not to allow water to enter the middle ear through the perforation, as it might easily happen in bathing or swimming. At such times it would be well to seal the external auditory canal with sterile non-absorbent cotton. Where an ear has stopped discharging and a new drum has formed, the outlook is most favorable. Where there is a free perforation and the ear has ceased discharging, we should aim to reform the drum. Some of the operations referred to consist of a middle ear, or simple mastoid, or the radical mastoid operation, the latter meaning throwing the tympanic cavity, mastoid antrum, mastoid cells, and external auditory canal into one cavity, and then remove all diseased structures. But to go into the surgical procedures would be beyond the aim of this paper.

THE TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS WITH INJECTIONS (CHIEFLY INTRASPINOUS) OF DIPHTHERIA ANTITOXIN.*

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THE oldest of all the therapeutic methods is the empirical. It is of necessity crude, for it was based upon undigested and very rough experiment, undertaken often without a knowledge either of the nature of the disease to be treated or of the effect of the remedy to be applied to it. The urgent desire to relieve suffering and cure disease was its incentive; and its prosecution by a sort of groping in the dark through thousands of years, has led to the accumulation of an enormous material, often the result of imperfect observation. In all the immense mass of chaff thus piled up in the centuries, there are a few kernels of wheat which make us grateful even for so very crude an experimental method. Thus modern science has added only details to the empirical methods of treating syphilis and malaria, and even still fails to explain much of what we adhere to in regard to them.

Except in the presence of fully developed hydrophobia I do not think that I have ever been so painfully impressed with a sense of the limitation of our therapeutic resources as during an epidemic of cerebrospinal meningitis. In the rare and isolated cases of hydrophobia the feeling of helplessness is not so complete and overpowering as it is when we find ourselves day after day in the presence of a disease whose course we are unable to modify.

When Dr. Arthur J. Wolff of Hartford told us in January of the pronounced antagonism between the Klebs-Loeffler bacillus, and the meningococcus, we were in the midst of the severest epidemic of cerebrospinal meningitis that most of us have ever been called upon to face; and although we knew a little more of the causes of the disease than our remote predecessors, and had ascertained that in the present epidemic the meningococcus was the sole exciting agent, we felt ourselves as helpless as they had been to cope with it.

Under these circumstances I think we were justified in trying the diphtheria antitoxin, without much hope, certainly, but with the feeling at least that we should do no harm. Accordingly, in the Roosevelt Hospital my colleague, Dr. Jacobi and I, in our respective services, subjected twenty-two cases to the action of this agent. In all but one of these the diagnosis was proved by finding the meningococcus in

*Read at a meeting of the New York Academy of Medicine April 20, 1905.

the spinal fluid. They were all cases of clinically unmistakable cerebrospinal meningitis. Most of them were under eighteen years of age and many of them were young children: a few only having been twenty years old or older.

Many of them came under treatment early in the disease, probably before marked anatomical changes had occurred. All of them were subjected to spinal puncture, and from all of them cerebrospinal fluid was withdrawn. Sometimes this was found to be under abnormally high pressure, but by no means always so. The fluid was usually turbid and distinctly purulent, and in every case but one, as I have said, it contained the meningococcus. It is of interest to know that the fluid may be normal microscopically and sterile in cultures in well-marked, fully-developed cases of the disease. Leube had found this to be the case before. I have seen a fluid normal miscroscopically and sterile in cultures preceded and followed (with intervals of a day or two), by turbid, purulent fluid abounding in meningococci in an unmistakable case of the disease. Thus in any given case the negative results of a single spinal puncture may be misleading.

I have said that many of these cases came under treatment early in the disease. One received his first injection on the first day of the disease; five on the second day; six on the third day; four on the fourth day; and others on the fifth, sixth, and later days.

In all cases fluid was removed by tapping, as I have said. This varied in amount (depending somewhat upon the degree of pressure that it showed), between two drams and an ounce generally, though occasionally more was withdrawn. No marked symptoms followed this procedure as a rule. Occasionally a very dull, apathetic or semi-comatose patient became brighter, and in one instance a transient condition of collapse followed the removal of six drams. The withdrawal of larger amounts never caused unpleasant symptoms.

Of the twenty-two cases four received the antitoxin only subcutaneously, seven received it at different times both subcutaneously and intraspinously, and eleven received it only intraspinously. In only one case did it seem to cause any unpleasant effect. This was a girl of fifteen, and the effect alluded to was an urticaria which lasted several days. She received a single intraspinous injection of two thousand units and made a steady and complete recovery from the disease.

The doses varied from twelve hundred units to fifteen thousand. Only two patients received but a single dose each. In all of the others it was repeated at least once, and some received four, five, and six doses.

The treatment was begun late in January. Of the twenty-two, eleven have died, making a mortality to date of fifty per cent. Seven of these eleven died before the sixth day of the disease. Of the eleven dead one received the antitoxin on the first day of the disease; three on the second day; two on the third day; three on the fourth day, and only two later than the fourth day. Of the eleven still living, two are entirely well; two others are fully convalescent; five are still under treatment (no longer by antitoxin), with active symptoms and very grave prognosis; and two may be said to be practically moribund.

Thus the mortality of the twenty-two cases, while still uncertain, will go well beyond fifty per cent., and the percentage of recoveries to date is a little over nine.

I am well aware that these figures are far too small to justify any statistical deduction; but it is fair to assure you that there has not seemed to any of us who have watched these cases, any influence for good or evil to be ascribed to the treatment of them by diphtheria antitoxin.

I have been greatly aided in studying these cases and in the elaboration of the facts here recorded by the house physician, Dr. Hans Zinsser, and a very willing and able corps of assistants.

Even now we cannot afford to dispense entirely with the empirical method in therapeutics; but its application by some of us this winter to the treatment of epidemic cerebrospinal meningitis compels the mortifying acknowledgment that we have added only to the chaff accumulated by our predecessors without contributing a single kernel of wheat to the store that we had inherited from them.

A CASE OF LONG STANDING MAJOR HYSTERIA CHARACTERIZED BY A PAROXYSMAL AND FIXED PAIN, MENTAL DEPRESSION, CONFUSION, DELIRIUM WITH DELUSIONS, AND HALLUCINATIONS TERMINATING IN SUDDEN RECOVERY.*

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In a paper read before the Neurological Section of the American Medical Association last summer (*Journal American Medical Association*, March 4, 1905) I detailed four cases of major hysteria presenting marked and prolonged delirium as a conspicuous symptom. The mental condition of each of these patients was, for a time, that of profound "insanity." Indeed, the gravity of the mental symptoms were such as to lead me to present the diagnosis of hysteria in a more or less tentative manner. As a further contribution to the study of delirium as a symptom of hysteria I desire to present the following highly instructive case, in which I make the diagnosis of major hysteria with more confidence.

The case is that of a married woman aged now 35 years. The only significant points obtainable in her previous history are that she was unhappily married, had been abused by her husband, and compelled to support herself.

Her present illness began on the night of July 3-4, 1902, when she suffered from severe pains in the lower abdominal region and hemorrhage from the vagina. She was extremely nervous. The explosion of firecrackers and torpedoes in front of her home in celebration of the "Fourth" caused her to frequently start and spring up in bed. These movements produced gushes of blood from the vagina. Her physician packed the uterus with sterilized gauze and gave her a hypodermic injection of morphia, believing that she was aborting. She rested well during the remainder of the night. The next day her physician was surprised in removing the packing in failing to discover a fetus or any other evidence of pregnancy. The womb was somewhat enlarged, the cervix soft, and the os slightly dilated. There was some tenderness on pressure. The temperature was normal. "Wasting" continued for several days. A few days later the patient returned to her occupation—that of a milliner—although suffering a good deal of pain in the left inguinal region. She had been at work only a few days, when she was suddenly seized with a severe exacerbation of the pain in the left inguinal region, radiating down the left thigh, over the ilium and up the entir

*A paper read before the Pittsburg Academy of Medicine March 7, 1905.

length of the spine. This severe pain lasted some thirty-six hours, and it was only partially relieved by maximum doses of morphine and by inhalations of chloroform.

At intervals of from three to four days to three or four weeks the patient suffered during a period of two and a half years from similar attacks, more or less prolonged and severe. In the intervals between these attacks she suffered from more or less steady but bearable pain in the left lower abdominal region. In one particular attack she exhibited great irregularity of breathing, which was so alarming that her physician, with a colleague, worked over her all night, endeavoring to keep up artificial respirations. The attacks of pain came on suddenly. Often after the physician had left the patient comparatively comfortable he would—within a half hour—be summoned back to her bedside, to find her suffering excruciating agony and screaming aloud, and would have to labor for hours before being able to again restore her to a state of comparative comfort. The patient's temperature was, as a rule, normal, except on a few occasions, and then only slight elevations were observed. Ordinarily her pulse was normal.

At one time during her illness she suffered a good deal from nausea, and for periods of two or three days was unable to retain food in her stomach. She had also occasional periods during which micturition was difficult or impossible for a time.

There were two striking features of these attacks, viz., (1) that in none of them was any visible or palpable alteration in the painful area discoverable, and (2) that muscular tension over the affected area was always far less than would naturally have been expected to result from an organic lesion.

Early in December last (nearly two and a half years after the onset of her trouble) the patient became depressed and somewhat delirious, and on the 13th of the month was admitted to the Allegheny General Hospital, in the gynecological department. An examination of the pelvic organs made by Dr. F. F. Simpson revealed them to be in a normal condition, but was discovered a protrusion of the abdomen at the seat of pain. She was transferred to the Neurological Department and came under my care, and after January 5, and until her discharge, on January 27, she was under the care of my associate, Dr. McKennan, who kindly allowed me to follow the case to its termination.

On admission she was mentally depressed and more or less delirious and confused. She talked of suicide and often got out of bed and attempted to go towards the window. She was emotionally depressed, cried a good deal, but was able to answer questions and to properly orientate herself. She complained of much pain in the lower left abdominal region, which was discolored and apparently somewhat indurated (numerous blisters, mustard plasters, etc., had been applied). Her condition grew rapidly worse. Consciousness became clouded, orientation defective, delusional ideas with hallucinations developed; the tongue became dry in the middle, and later along the sides; insomnia and irregular elevation of temperature developed (100-102). The patient's pulse became thin and feeble. She was much emaciated. Physical examination revealed a sallow, emaciated woman, otherwise it was negative. No sensory phenomena discoverable other than those mentioned. The pain seemed to be in both the skin and underlying structures. The blood and urine were normal.

Shortly after her admission it became necessary to restrain her in bed. Her delusions were to the effect that some great bodily harm might be done her. One day she said: "Sixteen of we girls are condemned to go to the cellar this afternoon." Again she heard terrifying sounds: "Don't you hear that shooting?" Again she said, "Dr. ——— (the interne) is going to take me to the cellar and shoot me and have over with me." "I am afraid I am a nuisance." She gave utterance to many similar expressions. Whenever talked to she would sob. She finally failed to recognize friends and confused their personalities.

Her tongue was somewhat coated upon her admission, and it afterwards became dry in the center, and finally all over the dorsum. She was stubbornly constipated. Her pupils were slightly dilated, equal and reacted to light. Throughout her illness, even when her mental symptoms were most profound, she exhibited great tenderness in the left inguinal region whenever palpated there. But palpation produced only moderate muscular tension, far less than one would expect from organic disease. Shortly after improvement had set in numerous groups of petechial eruptions suddenly appeared in the region of the head and neck, being especially thick just over the posterior borders of the sternomastoid muscles. This eruption disappeared after a few days.

On admission to the Neurological Department, even in the absence of the previous history, but in the light of Dr. Simpson's examination, the diagnosis of hysteria suggested itself to both Dr. Simpson and myself, although the tongue and breath indicated faulty metabolism and autointoxication. When the symptoms were at their height it seemed that the patient would die. With great emotional depression and low muttering delirium, loss of orientation, elevation of temperature to 102 and a dry brown tongue, and with persistent tenderness on the old seat of pain, the diagnosis of hysteria no longer seemed tenable. It was thought that some source of toxic infection might exist in some region other than the pelvic organs. I thought of, among other possibilities, disease of the abdominal muscle. Dr. Gaub, at my request, now examined the patient from the standpoint of the general surgeon, with a practically negative result. I asked him, however, in the presence of the patient, to make an exploratory incision through the tender abdominal muscle. This was on January 2. From that moment, certainly from that day, the patient began to improve, and continued to do so rapidly and steadily, and was within two weeks free from her abdominal pains, vastly clearer mentally, exhibited great physical improvement, a moist tongue, ate and slept well. On January 27 she was discharged, apparently in the best of physical and mental health.

With the progress of the case—it's improvement—the abandoned diagnosis of hysteria was again taken up. I may add that the patient's previous history was obtained about this time, and this only served to reinforce this diagnosis. The consideration of the clinical picture as a whole, its paradoxical character, with the astonishing improvement resulting from the mental impression made by the suggested operation, taken together, indicate the diagnosis of hysteria. I may add that there was much about the patient which can scarcely be described in words which was suggestive of hysteria.

No diagnosis other than that of hysteria presents itself to my mind as offering anything like an adequate explanation for the remarkable onset, course, character, and termination of the symptoms in this case. If the diagnosis of hysteria be admitted, are all the symptoms related to be explained as expressions of this disease? The onset, course, and termination of these symptoms lead me to answer this question in the affirmative; and this answer means that uterine hemorrhage, severe autointoxication, mental depression, confusion, delirium, and elevation of temperature were among the extraordinary expressions of hysteria in this case.

Even if the diagnosis of hysteria be allowed, it may be argued that the autointoxication and delirium were not hysterical, but rather constituted a complication during the course of hysteria. But whether this view or that which I have expressed above be correct, I believe we have in this case another illustration of the fact that exhaustion is a great underlying cause of hysteria—a point which is too often overlooked. In other words exhaustion and irritability produced both hysterical manifestations and those of toxemia with delirium.

After the patient had recovered her health she recalled many of the events of her illness, even of the period of grave delirium. She attributed the hallucination of the pistol shots to the noise made by the elevator. The contrast between her condition of January 2 and that of January 27, when she left the hospital, was little less than marvelous.

A letter written six weeks later by the patient informs me that her good health continues.

A CASE OF MENSTRUAL URTICARIA.

By D. J. M. MILLER, M.D.,
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In the majority of works on dermatology the general statement is made that functional and organic affections of the female sexual organs are among the causes of urticaria. Some authors are more explicit; Radcliffe Crocker,[1] for instance, who says that some women have urticaria before each period, or at each pregnancy, or during lactation. Notwithstanding these general statements, I have been able to find but few reported cases of genuine urticaria associated with menstruation. Instances of erythematous eruptions, however, and various vasomotor disturbances of the nature of urticaria, but resembling more closely angioneurotic edema, or erythema exudativum, appear with comparative frequency in the literature. Thus Von Linger[2] relates the history of a girl of 16 who, from one to two days before each period, had an eruption of round, red, itching papules which, after the third day, resembled purpura hemorrhagica. Simultaneously there were albumin, blood, and bloody and granular casts in the urine. If the period failed, the eruption did not appear. At the meeting at which Von Lingen made his report, Dobbert[3] spoke of two similar cases. J. Schramm[4] has recorded two instances of erythema exudativum accompanying the menstrual flow, one appearing at the onset and lasting through the period, the other breaking out as the flow was waning. In a third case a widespread urticaria appeared after the application of leaches to the cervix. Similar phenomena were observed by Scanzoni[5] after vaginal examinations with finger or speculum. All of Schramm's patients had chronic uterine disease. Five cases of edematous swellings of the skin associated with menstruation are reported by Ernest Börner;[6] they made their appearance during the flow, or a few days before. In most of Börner's patients the eruption was of the nature of angioneurotic edema, *i.e.* localized edematous swellings, limited in extent and without itching. All were young, healthy girls.

A case of premenstrual eruption, ecchymotic in character, in a healthy woman of 29 years, was observed by Wilhelm Ludwig.[7] The eruption preceded the period by two or three days. B. Stiller[8] has seen an analogous case. The same author has recorded the interesting history of a woman in whom a burning, itching eruption was vicarious of menstruation. The patient menstruated irregularly, often missing three or four periods. With the onset of the flow the eruption vanished, only to reappear after five or six weeks, if, in the meantime, the menses failed to come on. In still another patient, a woman of 45, Stiller observed a "strongly itching efflorescence," resembling acne, before each menstrual period.

From the cases I have cited it appears that ordinary urticaria is the least common of the eruptions occasionally seen in connection with menstruation; also, that these eruptions may precede the flow by several days—as long as eight—and may cease a day or two before the period, or at the time of its appearance, or may continue through the flow, or may occur simultaneously with the flow and last a day or two, or until the latter has ceased. That the eruption in these cases was dependent upon menstruation is shown by the failure of the former to appear should the period be missed. All observers regard these menstrual eruptions as reflex phenomena. The writer's case is that of a girl of 15, who began to menstruate at the age of 12. The periods were, at first, irregular, but for the last two years have recurred regularly every 4 weeks, lasting from 3 to 4 days each time. With the establishment of regularity the attacks of urticaria began. They make their appearance seven or eight days, and cease from two to three days, before each period. Occasionally the urticaria persists until the flow begins, rarely during the first day or two of its course. During the intervals between the periods the patient is quite free from attacks. That the skin affection is dependent upon the menstrual flow is shown by the fact that, owing to a change of residence from England to this country, some eight months ago, the patient missed two periods, and that during these two months she was quite free from urticaria. The girl menstruates normally and regularly, and is perfectly healthy and without physical ailment, other than the constantly recurring attacks of urticaria, which necessarily cause her much annoyance and discomfort. She is of a nervous temperament. None of her sisters, nor her mother, nor any of the members of her father's or mother's family have been similarly affected. The urticaria itself is of the ordinary type, viz., large and small, irregularly-sized wheals, accompanied by burning, itching, and tingling, usually limited to the skin, but sometimes appearing in the mouth; there has never been colic or abdominal pain, or other evidence of the implication of the intestinal, or other mucous membranes.

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1801 PINE STREET.

Papillomas in Syphilitic Child, Occluding Both Nostrils —Harland reports a case of a colored child, aged 8, in whom soft tumor masses arising from the base of both nostrils obstructed respiration. These dated back two weeks, and quickly disappeared under mercury and iodid with local applications of silver nitrate. The condition seems due to overgrowth of the papillary layer of the corium, not syphilitic, but apt to occur in those with specifi infection. The nose is very seldom affected.—*American Medicine.*

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TYPHOID MENINGITIS.

ALTHOUGH the mental and nervous symptoms of typhoid fever occur almost constantly in the severer forms of this disease, they vary extraordinarily in intensity, and the relationship of the nervous symptoms to the pathological lesions is still obscure, although the etiological agent has been discovered. The principal lesion of the nervous system due to the action of the typhoid bacillus is meningitis. Within the last few years six cases of typhoid fever showing meningeal symptoms were studied at the Johns Hopkins Hospital, by Rufus I. Cole, the results of this study being recorded in the Johns Hopkins Hospital Reports for 1904. In all of these typhoid bacilli were demonstrated in the spinal fluid.

It seems convenient according to Cole, to divide the cases of typhoid meningitis into three groups: Cases showing symptoms of meningitis in which no meningeal lesions can be demonstrated, called by the French term *méningisme*; cases in which the causal relationship of *Bacillus typhosus* is demonstrated by its cultivation from the cerebrospinal fluid taken during life or at autopsy, and in which there is no suppuration, called serous meningitis; and cases of purulent meningitis. Exact limitation of the first group is impossible so long as its anatomical basis is unknown. It is known that even in tuberculous meningitis, particularly in the early stages, the exudate is purely serous. The ages of Cole's patients ranged between five and thirty-five years. Headache, mental hebetude, unconsciousness and coma, or restlessness and delirium followed by coma were quite constant symptoms. Convulsions were noted in four cases. Rigidity, spasm, and twitching of the muscles occurred in varying intensity in nearly all. Stiffness of the neck, retraction of the head, and abdominal rigidity were not constant, although they were present in several cases. In one case, nausea and vomiting were marked and persistent. In several cases there was incontinence of urine and feces. Facial paralysis occurred in two cases. Optic neuritis was not noted in any. In some of the cases inequality of the pupils, failure of the pupils to react to light, and strabismus occurred. The reflexes varied. In all of the writer's cases frequent leucocyte counts were made and in none of them did a leucocytosis appear with the onset of meningeal symptoms. In general these symptoms are moderate in severity, and differ in degree only from those commonly seen in cases of uncomplicated typhoid fever. After the onset of marked meningeal symptoms the course of the disease is variable. Lumbar puncture was performed in eight of the cases reported by Cole, and in all of them the fluid was quite clear with only a few leucocytes in the sediment. In only one case could the presence of bacteria be demonstrated microscopically, but in all typhoid bacilli were cultivated from the spinal fluid. The pressure did not seem to be increased in any of the writer's cases. In five of the cases, improvement followed puncture, and in one ultimate complete recovery ensued. In the other cases death occurred later from other complications. Lumbar puncture is important in the treatment of cases of typhoid fever in which marked meningeal symptoms appear, for it may possibly prevent a serous meningitis from becoming purulent. Cultures should be made from large amounts (4 to 6 c.c) of the fluid. In the cases studied by the writer, the cerebral and so-called meningeal symptoms were marked, but they were not sufficient to differentiate the cases. The pathological changes hitherto demonstrated consist in edema, hyperemia, and moderate infiltration of the meninges. The characteristic feature is the localization of the typhoid bacilli in the meninges and spinal fluid. It is probable that wherever the bacilli are localized, at least a beginning true inflammatory reaction exists, and the majority of pathologists now believe that the pyogenic rôle of the typhoid bacillus has been definitely proven.

In this study of typhoid purulent meningitis, various facts were ascertained: The patients ranged in age from four to forty-six years. The symptoms were those of a general acute meningitis. There were no special features distinguishing this form from serous meningitis, although possibly in most of the cases the cerebral symptoms were a little more active. In most of the cases the onset of the meningeal symptoms occurred late in the disease. The writer concludes that it is evident that the localization of typhoid bacilli in the meninges bears an important relation to the cerebral and meningeal symptoms which are observed in many cases of typhoid fever. He is led to believe that the serous form of meningitis is far more common than the suppurative.

In the same publication W. C. MacCallum treats of the pathological anatomy of this complication. After discussing the anatomical picture seen in one of the cases of purulent meningitis, reported by Cole, he says that there is nothing in it quite peculiar to typhoid meningitis, unless possibly the relative abundance of the large, phagocytic cells may be so considered. These occur also in the epidemic cerebrospinal form, in great numbers in the tuberculous form, and also in the various other forms of meningitis produced by *Micrococcus lanceolatus*, the streptococcus, and so on. The recognition of the typhoid bacillus, therefore, as the etiological factor will alone warrant a diagnosis of the condition. The veins in nearly all cases are distended with blood, and many lymphocytes and sometimes the larger forms of cells are seen in this blood. In the arteries the endothelium is even lifted up by masses of cells, and sometimes this proceeds to such an extreme as to obliterate the lumen of the vessel. That writer believes that the polymorphonuclear leucocytes emigrate from the blood-vessels, for they can be seen in all stages as they wander out through the walls of the veins. MacCallum concludes that meningitis may be looked upon as essentially an exudative process in which practically all the cells are ultimately derived from the blood-stream, with more or less profound modification subsequent to their emigration, and thus the type of meningitis due to the typhoid bacillus is brought into far closer analogy with the other forms of acute meningitis than it would be were it found that the chief alteration was simply a proliferation of fixed tissue elements.

THE PREVENTION OF DISEASE IN ARMIES IN THE FIELD.

A BOOK with the above title, by Major Caldwell, which was recently awarded the Parke's Memorial Prize, is reviewed at considerable length by Dr. A. M. Davies in the *Journal of the Royal Army Medical Corps* for February. The question of preventing disease in the time of war is manifestly of such supreme importance that any expert opinion on the matter is worthy of close consideration. The author of the book referred to shows that enteric fever in the field during the South African war was much more probably caused by soil pollution than by a polluted water supply, and the same may be said as regards dysentery.

As to latrine trenches, Major Caldwell is averse to the practice of digging deep trenches and shows that shallow trenches (not more than one foot deep) are more scientific. In the case of troops occupying a camp for some time, he advocates a pail system of removal. The most important of the author's conclusions are as follows: 1. That apart altogether from endemic causes, certain conditions attendant on field service are potent factors in the production of disease. 2. That among disease-producing factors soil pollution occupies a prominent place. 3. That, although the existence of water-borne typhoid fever is beyond doubt, other factors—notably soil pollution—are of as powerful a nature as the first named in a like direction. 4. That the best means of water purification are not known with certainty. 5. That, as so many cases of so-called simple continued fever are undoubtedly typhoid fever, and as these unrecognized cases are active agents in the spread of the latter disease, means for carrying out the serum diagnosis should be given as wide a field as possible of general applicability. 6. That the prevention of disease in any army in the field resolves itself largely into the question of the disposal of organic refuse. 7. That the spread of epidemic sickness in the field is largely the result of the presence in field hospitals of patients suffering from forms of communicable disease. The author considers that such cases should be treated in hospitals at the base or on lines of communications, and not up at the front. 8. That, with a few common sense exceptions, the excreta of all patients in field hospitals should be sterilized. 9. That so far as is consistent with military exigencies, autonomy should be granted to the medical service of the army as regards sick transport.

In the investigation which took place during the Spanish-American war, with respect to the cause and prevention of disease among troops in the field, by Dr. Vaughan and others, it was shown that soil pollution played an important part in the production of typhoid fever. In the review of the book by Major Caldwell, no mention is made of flies as factors in the spread of typhoid fever. By most writers who have dealt with the Boer war from a sanitary standpoint, flies are pointed out as probably responsible for much of the typhoid fever which prevailed so extensively. Dr. Vaughan held the view that to flies was due much of the sickness from that disease in our last war. It would appear, therefore, that the importance of water as a means of spreading disease among armies in the field has been somewhat overestimated, and that there are other ways in which disease is disseminated of almost equal significance.

SALINE TRANSFUSION AND INFUSION IN MENTAL DISEASE.

IN the *Albany Medical Annals* for April, Dr. J. Montgomery Mosher publishes the third annual report of Pavilion F of the Albany Hospital, for the year ending February 28, 1905. The Pavilion F is that for mental diseases. Dr. Mosher has a good opinion of the value of saline solution in those cases of mental disturbance characterized by a condition of toxemia. He is against the administration of hypnotics in acute cases of mental affection characterized by exhaustion and a toxic state, due usually to irregularities of excretion, particularly of the digestive tract. The writer thinks that the rational treatment of such a condition as to promote elimination, by purging and by the administration of large quantities of liquids by which the activities of the kidneys and skin are stimulated. In regard to the value of decinormal salt solution, he refers with approval to a monograph on "Transfusion and Infusion," in the *Wiener Klinik* for July and August, 1904, in which Dr. Van Amstel reviews the subject and its literature, and he analyzes the following summary of the indications for saline infusion: (1) In extreme grades of anemia, no matter what the cause, as following severe hemorrhages during and after childbirth, in placenta period, after capital operations, wounds, hemorrhages from the stomach and lungs. (2) In severe losses of the body fluids, as in Asiatic cholera. (3) For irrigation of the human organism in (*a*) acute poisoning, (*b*) autointoxication, as the typhoid state, diabetic coma, puerperal fever, puerperal eclampsia, bubonic plague, and uremia. (4) As modified by Landerer by the addition of sugar, in chronic anemia, for artificial alimentation. Mosher adds that in Group (3) should be included the condition of extreme mental exhaustion with autointoxication, of which the symptoms are acute delirium or profound stupor. It is a well-known fact that many cases of mental disturbance are accompanied, perhaps even caused, by a condition of the digestive tract which gives rise to autointoxication. This is especially true in cases of delirium or hallucinations arising from overindulgence in stimulating beverages. Hypnotics have a temporary soothing effect, and are occasionally necessary, but in the long run these do more harm than good. The common sense treatment is to get rid of the toxic substances in the system by means of purging and by stimulating the action of the kidneys and skin.

BOVINE TUBERCULOSIS.

PROFESSOR KITASATO read a paper before the International Congress at St. Louis on bovine tuberculosis in Japan. He described investigations prosecuted under his direction with the object of determining, if possible, the connection between human and bovine tuberculosis. The facts in Japan differ from those in European countries in that in Japan native cattle are free from tuberculosis, which is confined to foreign cattle and to cattle of mixed breed. Various experiments were undertaken, and the conclusion was reached that bovine tuberculosis plays no part in Japan in the transmission of tuberculosis to man, and that the disease is transmitted solely from man to man. Kitasato is also of the opinion that human tuberculosis is not infectious to native cattle or to those of a mixed breed; he, however, does not infer, as does Koch, that human and bovine tuberculosis are distinct diseases. The London *Review of Reviews*, commenting on the result of Kitasato's investigations, says editorially: "The evidence obtained so far seems to show that the bacilli of human and bovine tuberculosis are temporarily modified forms of one organism, but it by no means follows that bovine tuberculosis is under ordinary circumstances a source of danger to man." In Great Britain and in this country it is believed by very many authorities, and justly so, that bovine tuberculosis is a source of real danger to man. In England it would seem to have been proved time and again that children have contracted intestinal tuberculosis through the agency of infected milk. In any case, the doctrine is a mischievous one which preaches that there is no danger to health from the consumption of infected milk.

TYPHOID FEVER IN INFANCY.

AT one time it was believed that young children did not suffer from typhoid fever, until it was demonstrated by Rilliet and Taupin, in 1840, that "remittent gastric fever of children" was really typhoid fever. Dr. Otto Grünbaum writes in the *British Journal of Children's Diseases* for April, 1905, an exhaustive article dealing with this subject. The writer points out that Koch has insisted emphatically that cases of typhoid fever are frequently missed in infants, and may become centers of infection, and that, therefore, every precaution should be taken. Dr. Grünbaum considers that as typhoid fever in infancy is often mild and difficult to diagnose, it is wise to look upon all doubtful cases as infectious and to treat them accordingly. Dr. George Carpenter also writes, in the same journal, on the same subject, and remarks that the disease in infants is in the experience of all clinical physicians of very rare occurrence, or it might be more accurate to say that the disease is but rarely recognized. When it does arise it is usually of an exceedingly mild type; it is apt on occasion to be wanting in essential symptoms, and it may run its course without fever. The danger lies in the fact that unrecognized typhoid fever in infants may be the means of spreading infection. Consequently all doubtful cases should be treated in the same manner as if they were clear cases of typhoid fever.

ZITTMANN'S TREATMENT OF SYPHILIS.

LIEUTENANT-COLONEL G. H. SYLVESTER and Captain C. B. Crisp, contribute a paper in the *Journal of the Royal Army Medical Corps* for April, 1905, on this subject, in which they say that the results of this method of treatment, in their experience, has been most satisfactory. The effect is often most marked, and the way a patient who has been going from bad to worse will suddenly improve, both locally and generally, is astonishing. The writers have treated twenty-three patients. Of these, eighteen went through the treatment once; four twice; one three times. In thirteen cases a great deal of good resulted; in two there was some improvement only; in one there was very slight improvement only; in three there was practically no result. The writers conclude that, taken as a whole, the Zittmann treatment seems to have much more effect upon skin and connective-tissue lesions, and in improving the general health and causing increase in weight, than it has in cases in which the chief complaint is of syphilitic pains in the joints.

News of the Week.

A Hospital-Jail for Inebriates.—The Legislature has passed the bill introduced by Magistrate Pool to provide for the establishment in this city of a hospital to which confirmed drunkards or drug habitués may be committed for treatment by City Magistrates or Supreme Court Justices. The hospital is to be under a staff of three physicians appointed by the Mayor. One of the three is to be the chief physician and will receive a salary of $6000 a year. The other two will get $5,000 a year each. The building and its site will be paid for from excise money.

An Organization of Milk Dealers.—Many of the larger milk dealers in the Borough of Manhattan, besides a number in Brooklyn, have just united in an organization, under the title of the "Association for Improvement of the Milk Supply of New York." The object of the movement is expressed in the name of the new organization; but its significance lies in the fact that the principal wholesale and retail dealers in milk have now voluntarily come into co-operation with each other to improve the quality of milk sold in this city. The Association has retained Dr. E. J. Lederle, formerly Commissioner of Health, as consulting sanitarian, adviser, and analyst. The membership includes some forty firms and individuals. The work done by and for the members of the Association includes periodical examination of milk and milk products from the various milk stations and creameries, and of milk from the several farms supplying each station. When these examinations disclose opportunities for improvement in the milk, further inspections are made at the creamery, especially to determine whether the sanitary conditions are as they should be; next, any farmer who may be supplying milk below the creamery standard, will be notified of the fact, and advised regarding methods for improving the product of his farm, with respect both to the richness and to the cleanliness of his milk. They also aim to improve the conditions under which milk is shipped to this city. Some of them are introducing pasteurization as a means to greater cleanliness and better keeping quality of the milk and are inducing those retailers who handle milk in groceries, in the tenement districts, to use better methods in caring for milk while it is in their stores. Another feature of the Association's work will probably be a series of lectures by physicians, sanitarians, and food experts designed to give the wholesale and retail dealer in milk some further knowledge of the scientific side of the business in which he is engaged.

A New Straus Laboratory.—Plans are being prepared for the erection of a new laboratory for the pasteurization of milk for the poor of New York City on the property at 348 and 350 East Thirty-second street purchased for this purpose by Mr. Nathan Straus. The work of dispensing pasteurized milk, which Mr. Straus has carried on for twelve years, has increased to such proportions that the facilities of the present laboratory have become inadequate. In 1892, the year in which the work was started, 34,400 bottles were distributed, and each succeeding year enlarged and widened its scope until now the demand requires the pasteurization of more than three million bottles a year.

Yellow Fever at Panama.—Three new cases of yellow fever have been reported since April 29, making a total of sixty-one cases since July 1, 1904, with eighteen deaths. Although sanitary conditions are steadily improving, Col. Gorgas, chief sanitary officer, recommends that no more employees be sent to the Isthmus until suitable quarters can be provided for them. Gen. Davis has been recalled on account of malaria which he contracted some time ago, and Col. Gorgas is now acting Governor of the Canal Zone.

Plague in India.—According to *The Lancet,* the official returns show a record of over 53,895 deaths from plague throughout India, during the week ending March 25, an increase of 11,807 over the figures for the preceding week, and this sad showing is termed "a lamentable sequel to the let-alone policy formulated by the Government of India."

Meeting of the Meningitis Commission.—At a recent session of the Meningitis Commission, the definite conclusion was reached that the use of diphtheria antitoxin is without value in the treatment of cerebrospinal meningitis. Fresh air seems to be the greatest desideratum for the patients, and the records of the Health Department show that the severe epidemics of the disease have always come during very cold winters when the houses are shut up tighter than usual. This was true of the years 1872, 1881, 1893 and the past two winters, in all of which years there was much meningitis.

A Meningitis Pavilion at Bellevue.—A special pavilion of thirty-five beds has been opened at Bellevue Hospital for the reception of cerebrospinal meningitis cases sent to the various city hospitals. One object of the change is to afford better opportunities for the study of the disease by the meningitis commission.

Monument to Volunteer Nurses.—A monument to the memory of volunteer army nurses who lost their lives in 1898, has been erected in the National Cemetery at Arlington, and was dedicated last week. The names carved on the monument are those of Miss Minerva Turnbull and Mrs. Isabella R. Bradford of New Orleans; Miss Margaret Greenfield of St. Paul; Miss Katherine Stansbury of Chicago; Miss Ellen May Towers of Detroit, Miss Clara Wood of Rochester, and Miss Irene Toland of St. Louis.

The Osteopathy Bill Vetoed in Pennsylvania.—Governor Pennypacker of Pennsylvania, has declined to sign the bill passed by the last Legislature regulating the practice of osteopathy, licensing those who desired to engage in the practice of this art, and establishing a board of examiners representing the State Osteopathic Association before whom all candidates should appear before they could legally engage in the practice of osteopathy. The Governor's main objection was based on the fact that there was nothing in the bill to indicate what constitutes osteopathy. Approval of the bill would, in the mind of the Governor, appear to give the authority of the State to a system of practice in the healing art that excludes the use of medicine and also surgery. The bill provided that licenses would be issued by the State Board of Osteopathic Examiners and not by the Medical Council of Pennsylvania, and such a course, the Governor held, would be an anomaly in the legislation on the subject.

Gift of a Library.—Dr. Massilon Cassat has presented to the Cincinnati Academy of Medicine a library of three thousand volumes on Medicine and Allied Sciences. He retains a library of four thousand volumes.

New Haven County Medical Society.—It was voted at the annual meeting of this society in New Haven to hold the next meeting in Waterbury in October. The officers are as follows: *President,* Dr. A. A. Crane; *Vice-President,* Dr. R. A. McDonnell; *Clerk,* Dr. William S. Barnes; *Executive Committee,* Dr. Gustavus Eliot and Dr. C. S. Rodman; *Standing Committees—Censors,* Drs. T. J. Eggleston, J. H. Townsend and J. L. Moriarty; *Credentials,* Drs. W. H. Carmalt and E. D. Hall; *Biographical Sketches,* Drs. W. L. Barber and A. E. Winchell; *Public Hygiene,* Drs. F. Bellosa, A. W. Tracey and J. F. Barnett; *County Recorder,* Dr. Caroline North.

The Mississippi Medical and Surgical Association held its fifth annual meeting in Jackson, April 26 and 27, under the presidency of Dr. J. M. May of Westside. The secretary was Dr. H. E. Connor of Brookhaven.

Tolland County (Ct.) Medical Association.—At the one hundred and thirteenth annual meeting of this society held at Rockville, the following officers were elected: *President,* E. O. Winship of Rockville; *Vice-President,* J. B. Stretch of Stafford; *Clerk,* T. F. O'Loughlin of Rockville; *County Reporter,* C. B. Newton.

Texas Medical Association.—The State society wound up its annual session held at Houston by electing the following officers: *President,* Dr. J. E. Gilcrest of Gainesville; *Vice-Presidents,* Dr. M. B. Grace of Seguin, Dr. Thomas A. Rape of Ballinger and Dr. O. I. Holbert of Waco. Fort Worth will be the next meeting place.

Missouri Institute of Homeopathy.—At the recent meeting held in Kansas City, the following officers were chosen: *President,* W. A. Forster, Kansas City; *First Vice-President,* W. E. Riley, Fulton; *Second Vice-President,* J. T. Thacher, Oregon; *General Secretary,* George A. Mellies, St. Louis; *Treasurer,* D. M. Gibson, St. Louis; *Necrologist,* H. W. Westover, St. Joseph.

Mississippi State Medical Association.—Officers for the ensuing year were elected at the recent meeting in Jackson, as follows: *President,* Dr. E. H. Martin; *Vice-Presidents,* Drs. R. A. Seal, W. W. Crawford, and Stephen Eggleston; *Secretary,* Dr. L. T. Fox.

Worcester (Mass.) North Medical Society.—At the annual session held at Fitchburg, the following officers were elected: *President,* G. B. Underwood, Gardner; *Vice-President,* A. P. Mason; *Secretary,* Walter F. Sawyer; *Treasurer,* E. L. Fiske.

Berkshire Medical Society.—The following officers were elected at the annual meeting held at Pittsfield, April 27: *President,* Dr. J. J. Flynn, Pittsfield; *Vice-President,* Dr. A. B. Withington, Pittsfield; *Treasurer,* Dr. W. L. Paddock, Pittsfield; *Librarian,* Dr. W. W. Leavett, Pittsfield.

Hampden District (Mass.) Medical Society.—The annual meeting of the society was held at Springfield, and the following officers elected: *President,* Dr. W. M. E. Mellen, Chicopee; *Vice-President,* Dr. E. H. Guild, Springfield; *Secretary* and *Treasurer,* Dr. F. S. Ward, Springfield.

A Reunion of the Alumni of the College of Physicians and Surgeons, New York, will be held at Sherry's, Fifth avenue and Forty-fourth street, on Wednesday, May 17, at 9 P. M. An address will be given by the Hon. Charles Emory Smith of Philadelphia. Tickets can be obtained from the Registrar of the College on or before Monday, May 15.

Dr. George F. Butler was elected professor of medicine at a recent meeting of the Board of Directors of the Chicago Post-Graduate Medical School.

Dr. Wm. J. Butler has been elected assistant professor of Pediatrics, Rush Medical College, University of Chicago.

Scissors for Cutting Secondary Membranous Cataracts.—In the description of this instrument published in the Medical Record of May 6, the reference letter in the illustration places the knife edge, which is ground on the back of the lower blade, in the wrong position. The sharpened edge is but 4 mm. in length and confined to the point of the blade.

Hospital News.—*The Jewish Hospital of St. Louis* now has a fund of $80,000, all contributed by private subscription, for the construction of an annex to the general hospital. When completed the new building will cost about $100,000.

The Willard Parker Hospital.—Plans have been filed with the Bureau of Buildings for the enlargement and remodeling of the main building of the Willard Parker Hospital in Sixteenth street, east of Avenue C. A three-story extension, 38 feet wide and 78 feet long, is to be added on the front and rear, new fireproof staircases are to be built, and a new up-to-date plumbing plant installed. All the new construction work is to be fireproof.

New Beds for Nassau Hospital.—Through the efforts of several well-known persons of Manhattan, sufficient funds will soon be obtained to endow additional beds and possibly enlarge the Nassau Hospital, at Mineola, L. I.

The English Hospital at Nice.—The winter residents of Nice and the Riviera, are very pleased that the troubles in connection with the Queen Victoria Memorial Hospital are now at an end. It was found impossible to finish the building owing to the sudden death of Sir John Blundell Maple, who promised the sum of £30,000 ($150,000), and it is only recently that new friends have come forward with the promise of various sums sufficient in the aggregate to complete the hospital. The subscriptions were headed by Sir George White of Briston, who gave £2,000 conditional upon the necessary amount being raised.

The Sherman Hospital, Elgin, Ill.—The opening ceremonies of the Annex to Sherman Hospital, Elgin, Illinois, were held April 14. The addition nearly doubles the capacity of the institution, which will now accommodate 52 patients. The new building was erected at a cost of about $33,000.

New Hospitals in Chicago.—Plans have been prepared for the erection of the Swedish-American Hospital at Green and Sixtieth streets, Chicago, at a cost of $100,000. Isaac Greensfelder, who a quarter of a century ago turned the first spadeful of earth in the excavation of the Michael Reese Hospital, recently performed the same office for the erection of the new hospital, which will cost $475,000.

Illinois State Hospitals.—The Illinois Legislature has appropriated $380,600 for the maintenance of the Illinois Western Hospital for the Insane, at Watertown, for the next biennium. The appropriation for the Illinois Eastern Hospital for the Insane, Kankakee, was reduced to $154,000.

German Hospital of Chicago.—At a recent meeting of the Board of Directors of this institution, the following appointments were made: Consulting physician, Dr. Julius H. Hoelscher; attending physicians, Drs. Rudolph Menn and Frank W. Lambden; attending surgeons, Drs. Wm. C. Wermuth and Emanuel J. Senn; attending gynecologists, Drs. H. Edward Sauer and Cecil von Bachelle; attending oculist and aurist, Dr. David Fiske; attending obstetrician, Dr. W. F. Grosvenor, and skin and genito-urinary diseases, Dr. Louis E. Schmidt.

Obituary Notes.—Dr. John Howard Pugh died at Burlington, N. J., on May 1, at the age of seventy-eight years. He was born in Chester County, Pa., and was graduated from the medical department of the University of Pennsylvania in the class of 1852. He entered upon the practice of his profession at Bristol, Pa., but in 1854 he removed to Burlington, where he continued to live. During the Civil War he served without pay on the corps of physicians at the United States General Hospital at Beverly. He served a term of two years in Congress, and was at one time a member of Common Council and of the State Board of Education. He was president of the Burlington Library Association and of the Burlington County Medical Society.

Dr. Henry H. Parrott, the first physician to settle in Douglas, Wis., died in that town on April 18, at the age of eighty-five years. He was born in England, and was a licentiate of the Royal College of Surgeons, London, in 1842. He had practised in Douglas for 55 years.

Dr. G. Lewis Yager, died at Dorchester, Mass., on April 13, at the age of twenty-nine years. He was born in Chester, Pa. He was a graduate of Howard Medical School in 1901.

Dr. Henry Utley of Sterling, Ill., died on April 27, at the age of eighty-three years. He was a graduate of the New York University Medical College in the class of 1849. He was a surgeon in the Seventy-fifth Regiment of Illinois Volunteers during the Civil War, and when compelled to leave the service, on account of a severe wound, in 1863, he settled in Sterling.

Dr. William L. Baird of Jackson, Tenn., died on April 24, at the age of sixty-six years. He was a graduate of the Medical Department of the University of Louisville, in the class of 1885.

Dr. William Cummings Shannon major and surgeon, United States army, died April 21, at Elkhorn, Nebraska. He was born in 1851 in New Hampshire and was a son of Dr. Nathaniel Shannon, who lived and practiced medicine for many years in Maine. He graduated from Westbrook Seminary in 1868 and from Bowdoin College in 1872 and received his medical degree from the Bellevue Hospital Medical College in 1875, receiving his commission as assistant surgeon, U. S. A., the same year. He was retired on account of illness in 1898.

Dr. William B. Warren of Groton, Mass., died of apoplexy on April 29, at the age of fifty-one years. He had practised in Groton since 1883.

Dr. William M. Edwards, superintendent of the Michigan Asylum for the Insane at Kalamazoo, died on April 26. He was born near Peru, Ind., in 1856, and was graduated from the medical department of the University of Michigan in the class of 1884, receiving his appointment to the staff of the asylum before graduation. He succeeded Dr. George C. Palmer as superintendent in 1891.

Dr. George Henry of Denver, Colo., died suddenly on April 23, of disease of the heart following an attack of influenza. He was born in Poland, and was graduated from the Long Island College Hospital, Brooklyn, in the class of 1860. He had lived in Denver about 20 years.

Dr. William C. Ravenel of Charleston, S. C., died on April 21, at the age of seventy-six years. He was a graduate of the Medical College of the State of South Carolina, in the class of 1850. He retired from the practice of medicine a few years ago and went to live in Baltimore.

Dr. Isaac Newton Gard of Greenville, Ohio, died on April 24. He was born in Butler County, Ohio, in 1811, and was graduated from the Miami Medical College, Cincinnati, in 1834. He organized the Darke County Medical Society and was its president for many years. He retired from active practice about twenty years ago.

Dr. Leonidas S. Burchard of Oakland, Cal., died on April 23, from pneumonia at the age of fifty-three years. He was a graduate of the Medical Department of the University of California in the class of 1882.

Dr. J. J. Giltenan of Chicago, died at the Alexian Brothers' Hospital, after an illness of several weeks, on April 24. He was sixty-two years old, and was an inspector of the Chicago Board of Health.

Dr. Seymour C. Troutman died at his home in Somerville, N. J., on May 6, at the age of eighty-three years. He was born in Brooklyn and was graduated in arts from Columbia College in 1843. He established a drug business in Brooklyn, but later studied medicine and was graduated from the College of Physicians and Surgeons in 1854.

Obituary.

ALBERT A. DAVIS, M.D.

NEW YORK.

Dr. Albert A. Davis died at St. Luke's Hospital in this city, on Saturday, May 6, in the sixty-eighth year of his age, of progressive muscular atrophy. He was born in Danville, Vt., and was graduated from the College of Physicians and Surgeons, New York, in the class of 1864. While still a student he served on the medical staff of one of the public institutions of the city, and from there went, in 1863, to St. Luke's Hospital, as assistant house physician. After graduation he served for a time in the army hospital at Willet's Point, and later reentered St. Luke's as house physician. From that time until his death he was continuously connected in one capacity or another with this institution. After having served a long time as interne he became examining physician for the hospital, and later was appointed on the attending staff. When stricken with his final illness and compelled by increasing infirmity to resign, he was immediately appointed consulting physician by the Trustees in recognition of his long and faithful service to the instituton.

Dr. Davis was of the old order of medical men, thoroughly versed in the practical side of medicine, an acute diagnostician and a careful and successful therapeutist, but of a retiring disposition and constitutionally incapable of pushing himself forward into the place in the medical world, which his abilities would have entitled him to fill. He was a plain man, sprung from the ranks of the plain people, retaining to his last day the quaint accent of the New England farmer—but also a man of learning and culture, a lover of good books and pictures, and in a modest way a discriminating collector of both. He thought naught but good of his fellows and his life was filled with kindly acts and helpful counsel to the younger men of the profession, especially those with whom he came in contact in his hospital work. To the poor also he gave of his time and his medical advice freely, and his reward was in their loving gratitude. The esteem in which he was held by his colleagues was expressed in a paper, signed by every member of the attending and consulting staff of St. Luke's Hospital, voicing their sympathy with him in his affliction and the sorrow they felt in losing him as a colleague. His last days were brightened by this touching tribute of affection, for kindliness was the keynote of his nature, and the love of his fellows was more to him than fame or riches. That which he so prized he received in full measure.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PRESIDENT R. C. P.—SANATORIUM TREATMENT—HOSPITAL APPEALS AND MEDICAL COMPETITION—THE KING'S FUND AND THE JUBILEE HOSPITAL TROUBLES—ACTINOMYCOSIS OF THE GALL-BLADDER — JEJUNOSTOMY—CHOLEDOCHOTOMY—CORPUS LUTEUM.

London, April 21, 1905.

Sir Richard Douglas Powell, Baronet, K.C.V.O., M.D., etc., was on Monday elected President of the Royal College of Physicians, in succession to Sir William Selby Church, who has held the office for the unusually long period of six years. The new president became a member of the college in 1867, was elected a Fellow in 1873 and appointed senior censor in 1902. He is physician extraordinary to the King, having been physician in ordinary to Queen Victoria. He is consulting physician to the Middlesex and Consumption Hospitals, and this year president of the Medico-Chirurgical Society. His valuable contributions to diseases of the chest from 1872 onwards are well known to you. The election has given general satisfaction.

On Saturday the chairman of the Metropolitan Asylums Board received a rather influential deputation representing medical officers of health and those specially interested in the prevention of consumption. The object was to induce the board to undertake the duties of a sanatorium authority for London. Dr. Orme Dudfield said he estimated provision for 2,000 beds would suffice to accommodate 4,000 patients per annum at a cost of only £130,000. The secretaries of the hospital Sunday and Saturday Funds spoke in support of the movement.

The chairman of the board was quite sympathetic, but he very naturally doubted whether the ratepayers generally were prepared to incur the expense, as they were scarcely educated on the question. His board in 1903 threw on the local government board the burden of advising in the matter. The whole subject was afterwards referred to the general purposes committee for consideration to report.

The question of the ratepayers' willingness may well cause hesitation. The extravagance of the Asylums Board and the County Council has given rise to much discontent. In some districts the rates have been raised to 10 and 12 shillings in the pound, and there are indications that the long-suffering payers may awake from their apathy and put an end to municipal speculations, and possibly to beneficial institutions.

Hospital appeals for funds increase at an alarming pace. Extensions, rebuildings, enlargements, new departures, are all pleaded, until there is a fear among some that the available fund of charity may be exhausted. The governors of St. George's Hospital have decided to ask for £350,000 for the purpose of rebuilding their institution, which is not quite so up to date as some of the newer or more recently renovated hospitals. But excellent work has been carried on in St. George's up to the present time, and it would be well worth considering whether something less than rebuilding would not suffice for another generation.

Guy's Hospital is again in the field with a large demand. It is but a few years since a huge sum was subscribed by the public, and since then new buildings for nurses and other things have also been appealed for and liberal responses given. Guy's also possesses a noble endowment, but with all seems unable to make ends meet. The new demand is for £100,000, and the appeal is being well engineered. It may be as well perhaps to ask the governors for a more detailed defence of their stewardship. The profession has never been slow to admire the noble work of Guy's, but some of its later doings have produced no little dissatisfaction. Its out-patient department requires overhauling—not in the sense the managers might use the term —but with a view of ascertaining how far it is conducted in a spirit of right—economical and moral. Guy's, like the London, takes pence from its out-patients, nominally for the medicine, but the poor people cannot be expected to draw fine distinctions between advice and medicines, or between selling and partially giving, one or the other. The very fact of paying, however small the sum, gives a different meaning to the transaction, and we already hear many people talking of their rights in hospitals or comparing the prices paid to them and to practitioners. The competition in the profession and the poverty of large sections of the public has reduced the remuneration of medical services to the lowest point, and in some of the poorer districts it is impossible for a doctor to earn a living.

Yet here is a great hospital, richly endowed and with a great subscription list, offering advice and medicine for 2d. or 3d. Either the patients thus brought into its out-department are able to pay the local practitioner or are proper persons for poor law relief. Guy's should spend its income on real charity, maintaining its in-patient department. To sell medicine at prices the poorest pharmacist cannot afford and to throw medical advice into the bargain is degrading its position and its staff, as well as injuring the struggling practitioner. Hospital consultants have never made a stand against this system and may be charged with being parties to it. But when they have ruined their chief supporters, the general practitioners, they may find they have set up more powerful competitors in hospital managers. Already Guy's has wards for pay patients, and those who enter them are withdrawn from the practice of both general and consulting practitioners. More than this, Guy's has set up an electrical department, where paying patients are treated, thus competing with the specialists.

It seems to me a very doubtful point whether a hospital can legally divert trust money given to the poor to such a purpose, and I should like to see the question brought before the courts. I have dealt only with Guy's because the moment of a new appeal is opportune, but you must not suppose that this is the only hospital where such things are being done. The matter is growing more and more urgent.

The troubles of the Queen's Jubilee Hospital are by no means ended. It has never been considered necessary and has never had the confidence of the profession. Its managers having appealed to the King's Fund to inquire into the recent scandal, Mr. F. M. Fry and J. D. Power undertook the investigation. They held three sittings, examined twenty-three witnesses, inspected the house and have made their report. This document is remarkable, if not unique, and illustrates the tendency of committees and arbitrators to compromise matters. The investigators did not confine themselves to the recent troubles. They went back to the founding of the institution by a general practitioner, who claims to have spent a considerable sum upon it and has been a manager and surgeon to it. On this the inquirers say it was reasonable he should have a seat on the board, but not be on the staff, as he was only a member, not a Fellow of the College of Surgeons—a view which will not obtain general acceptance. That these gentlemen are unable to appreciate the relation of various diplomas is shown by the statement that surgeons of hospitals should "at least" be Fellows, although that is the highest grade in the college. They go on to say that after the resignation of a hospital staff an independent inquiry should be made before appointing a new one, and so complicating the matter by the existence of a third body. Then they condemn the management as "slack and unsatisfactory," say the old staff had not a free hand, and the new staff is increased in size, and now numbers more persons than there are beds in the hospital. Further, they conclude that a hospital for in-patients is not required on the spot, but if a new building were erected it might serve as a casualty and out-patient department. Now comes the most amazing part of this extraordinary report. It is proposed that both the new staff and the managers resign—that for twelve months a sort of interregnum shall exist, a small committee appointed by the King's Fund to act *pro tem.* in conjunction with the presidents of the two Royal Colleges, and at the end of the period the governors to resume and frame a reformed constitution. But they do not see how this can be done unless the King's Fund will find £1,000 to start the new board. Thus having shown that the hospital is not required, instead of recommending its abolition, they would patch it up and ask the Fund to give money to build an out-patient dispensary within a short distance of the Chelsea dispensary, which has been obliged to transform itself into a provident institution in order to maintain itself. And this complex proposal to carry on and to waste money, instead of saying what they evidently think, that the hospital ought never to have been established and should be forthwith abolished.

Mr. Mayo Robson had practically the whole meeting of the Medico-Chi. (on the 11th) to himself, and right good use he made of it, his communications being on those points of advanced surgery of which he is so experienced and able an exponent. He read a full account of a case of actinomycosis of the gall-bladder, which may, I think, be said to be the only one met with, though of course there is no reason why the disease should not attack the gall-bladder as well as other abdominal viscera. The patient was a man of 47, who had been out of health for eighteen months, but for the last three had suffered acutely from abdominal pains and constant aching. A tumor was found beneath the right costal cartilage, which extended below the level of the umbilicus. Cholecystitis was diagnosed and an operation performed. Iodide was given, and the man was quite well three years later.

Another case related by Mr. Robson was one of adenoma of the gall-bladder—a rare condition, also somewhat of a pathological curiosity, only two such cases having been recorded. The point in this case was that the tumor produced symptoms exactly like those of gall-stones, for which the patient had been treated without relief. On opening the abdomen, the condition was made out, and cholecystectomy performed. The patient lost all pain and went home at the end of the third week.

Mr. Robson then described a new method of jejunostomy proposed for such extensive cancer of the stomach that gastrotomy or other operation was unavailable.

Finally Mr. Robson read a paper on 123 cases of choledochotomy. Referring to his paper in the *Transactions* for 1902 on calculi in the common duct, he said when choledochotomy was first employed the mortality was 16.2 per cent. Since adopting the method for complete exposure of the bile passages a continuous series of seventy-six operations had resulted in a mortality of 3.9 per cent. In several cases he found calculi in the common duct when there was no jaundice, and but for careful examination the patient would not have been relieved. As operation was the only resource, every recovery was a life saved.

In reply to some questions put to him, Mr. Robson said he thought the reason why jaundice was absent in some cases probably was that the duct in them was not completely occluded. The most unusual feature in the cases was absence of pain. He thought from two to three inches of the surface of the liver should be used in forming an anastomosis. He had never removed the capsule of the liver, but he had that of the kidney.

The Corpus Luteum was discussed lately at the Obstetrical Society, when Dr. C. Lockyer gave a lantern demonstration on its development and retrogression, with special reference to the compound lutein cystomata found in association with vesicular mole and chorioepithelioma. Dr. Williamson did not believe lutein cells migrated from distant corpora lutea: they arose *in situ*. The pigment was a lipochrome.

Dr. Blacker said the corpus luteum was in fashion just now. It was by no means certain that excess of lutein bore any relation to vesicular mole or chorioepithelioma. Seitz had found excess in thirty-six ovaries at different stages of pregnancy. If further observations showed such excess in all normal pregnancies its presence in other cases would only be a coincidence.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

A GENERAL HOSPITAL IN MANILA—SMALLPOX IN THE ISLANDS AND ON WARSHIPS—PERSONAL NOTES.

MANILA, P. I., March 17, 1905.

THE question of providing a proper general hospital in the city of Manila is one that has given the authorities considerable cause for thought. The Commissioner of Public Health has been most active in advocating its establishment. The buildings of the present Civil Hospital, which is maintained by the Insular Government, are most unsatisfactory. Efforts have been made from time to time to induce the Philippine Commission to make an appropriation to defray the cost of constructing suitable buildings, but the reply has always been made that the condition of the treasury would not warrant such a step. For a time it seemed that this highly desirable undertaking might be accomplished by private parties. Bishop Brent, of the Episcopal Church, thought that the necessary funds could be collected in the United States. The principal drawback to such a scheme is to obtain the necessary money to cover the current expenses after the hospital is built. It was thought that the commission would consent to make appropriations for the operation and maintenance of such an institution, but no positive assurance could be had. Unless this condition could be met and the future provided for it would be worse than useless to erect the buildings.

The medical men of the Philippines cannot hope to make much progress toward treating tropical diseases successfully unless proper hospital facilities, where accurate observations can be made, are provided. The layman in Manila, not in the military service, finds it most difficult to obtain admission to a hospital because of the small number of beds, and these are always occupied. The laymen in the provinces is generally even much worse off, because there are not only no hospitals in the provinces, but no medical men. Upon being stricken down with disease the resident of the provinces is compelled to come to Manila for relief and upon arriving here he often finds that the hospitals are filled. The Insular Government hopes to ameliorate this condition of affairs very shortly, at least to a limited extent. The hospital now occupied by the army, usually known as the First Reserve Hospital, is to be vacated in the near future. The army expects to move into its new buildings at Fort William McKinley. By making some repairs and alterations it is hoped that at least two hundred patients may be cared for in the buildings about to be vacated by the army. The structures are not ideal by any means, but they are so far superior to the ones occupied at present by the Civil Hospital that comparison is scarcely necessary.

Smallpox still continues to make its appearance at various points throughout the islands. The vaccinating parties sent to such places usually succeed in stamping out the

disease. It has been reported recently that in one of the churches of the northern provinces the virgin would cure all cases of smallpox and confer immunity upon all the faithful who would come there to worship. Persons suffering with the disease have begun to assemble at the church, and they are accompanied by many others who wish to see the cure or who expect to receive the immunity themselves. The Provincial Board of Health has ordered the church to be closed, but it is understood that the church authorities have objected to this order upon the ground that the health officer who issued the same belonged to another religious sect, and was therefore prejudiced. The Insular Board of Health has decided to meet the situation by sending vaccinators to the church with instructions to inoculate everybody. This will probably have the effect of stamping out the disease, and the result will be variously credited to science and to religion according to the point of view.

Smallpox has broken out a number of times recently among the crew of the battleship Wisconsin. Upon the appearance of the last outbreak the ship was turned over to the United States quarantine authorities, and they remanded the vessel to the Mariveles Quarantine Station for thorough disinfection and the vaccination of the entire personnel. Sixteen days have elapsed since that was done and no further cases have made their appearance, and it may therefore be assumed safely that the disease has been stamped out.

Dr. H. B. Wilkinson, the physician in charge of the San Lazaro Hospitals, has gone to the United States on a four months' leave of absence.

Major Banister, United States Army, the surgeon in charge of the First Reserve Hospital during the past two years, has completed his tour of duty in the Philippines and has been relieved by Major Fitzhugh Carter, United States Army, and has returned to the United States on the transport Sherman.

Major H. I. Raymond, United States Army, the officer in charge of the Medical Supply Depot, has completed his tour of duty in the Philippines and has been relieved by Col. D. M. Appel, United States Army, and has returned to the States on the transport Sherman.

Captain and Assistant Surgeon Hess, United States Army, who has been on duty at the Cuartel de España, has left on a two months' leave of absence in China and Japan.

CEREBROSPINAL MENINGITIS AND THE DISTRIBUTION OF THE BLOOD.

To the Editor of the Medical Record:

Sir: I was very much interested in the communication of Dr. Goodall of Bennington, Vermont, on bleeding in cerebrospinal meningitis. The success of his method has two significances to my mind: Firstly, the release of pressure from the cranial space and spinal canal, and the relation of these pressures to the distribution of the blood. In regard to the first consideration, the evidence is daily accumulating that cerebrospinal pressure bears a very intimate relation to the distribution of the blood, *i. e.* when the circulation is deflected to the cerebrospinal centers, cerebrospinal pressure is the consequence, and conversely when determined from these centers to the periphery, the pressure is relatively reduced.

The recent reports of brilliant results following the equalization of the blood by hypodermically administered ergot, after the method of Dr. Alfred T. Livingston, certainly parallel the cases of Dr. Goodall, and moreover substantiate the analysis of therapeutic action as above given.

Dr. Goodall's additional measure of "steaming" the periphery, is a valuable accessory means of attaining the same end, namely the determination of the blood volume to the periphery, thus relieving cerebrospinal congestion and consequent stasis.

I think few indeed of Dr. Goodall's readers will agree with him that there is any superabundance of blood in the bodies of patients suffering with cerebrospinal meningitis, any more than any other disease, or in fact that bloodletting is other than harmful, except for the relief given to the cerebrospinal pressures, and this as we have seen above is obtainable by other measures, more humane, just as effective, if not more so, and with perfect freedom from untoward effects.

I agree with Dr. Goodall that it is far preferable for physicians, not amply prepared for cerebrospinal puncture, to resort to measures of relief of the nature of his steaming bath, and also to give ergot by Livingston's method, though it must be understood in advance that ergot internally administered is a failure.

Homer Wakefield, M.D.

New York.

Progress of Medical Science.

Boston Medical and Surgical Journal, May 4, 1905.

Subacute Perforation of the Stomach.—The histories of three cases are given by F. B. Lund, who refers particularly to those conditions in which a very small opening may become plugged by a bit of omentum or by fibrin. In such a case the perforation becomes almost at once walled off by adhesions from the general peritoneal cavity. The general ideas the author advances are summarized in the following propositions: (1) The symptoms of subacute perforation of the stomach are similar to those of acute perforation, with the important exception that they are less violent and are not followed by collapse or by the development of general peritonitis. (2) The location of the pain and tenderness depends upon the location of the ulcer and varies with it. (3) The treatment should be, if possible, posterior gastroenterostomy without breaking up the protective adhesions.

Certain Aspects of the Differential Diagnosis between Epilepsy and Hysteria.—J. J. Putnam and G. A. Waterman gives the histories of eleven cases, illustrative of the difficulty of diagnosis between the two conditions named. They realize the difficulty of the situation, especially in dispensary practice, where the patient is seen only at intervals, and where the testimony of friends is so unreliable. They, therefore, suggest that every neurological staff should contain a man skilled in psychopathical research who should review from time to time all doubtful cases. While they are disposed to admit that the diagnosis of so-called idiopathic epilepsy is considerably more brave than that of hysteria, and that these two affections represent different tendencies, they declare that such a statement needs some qualification. It is probable that the term epileptic, as implying a tendency to outbreaks of certain sorts, covers a variety of pathological tendencies, and the mere form of the attack does not always enable us to distinguish between them. Thus, epileptic fits as seen in cases of brain tumor may be indistinguishable in themselves from those met with in cases exhibiting the familiar degenerative tendency associated with the name of epilepsy in general. Again, degeneracy itself is by no means always present in epileptic conditions, even those classified as idiopathic. Too little is known of the physiology of the epileptic seizure, in its varied forms to enable one to say there is a sharp distinction to be drawn between such an attack as occuring in hysteria and another which might be found in epilepsy proper. However much it may be believed that these two forms are different, it is impossible at present to give the ground for such belief.

New York Medical Journal, May 6, 1905.

Adenoids in the Adult.—D. M. Barstow finds from a study of the subject that adenoid growths in the adult are more common than is generally supposed. This lesion is a frequent cause of nasopharyngeal catarrh with its annoying postnasal dropping. It may cause nasal obstruction and apparent hypertrophic rhinitis. The study of the cases narrated by Barstow shows that this condition should always be suspected in ear disease and pulmonary tuberculosis.

Politicosociological Aspects of Tuberculosis Problems.—Jonathan Wright notes the changing view with reference to the real underlying cause of tuberculosis. We have turned from the extreme ideas of Koch in regard to the relative importance of the bacillary factor to the conviction that the question of strengthening the resisting power of the cells of the human body is by far the most important phase of the whole matter. Tuberculosis is not to be classed in the same grade of contagion with cholera. The bacillus is a "thick-hulled" organism and comparatively easily thrown off by healthy tissues. The whole matter turns on the possibility of providing proper housing, food, and exercise for the multitudes. It is by progress along these lines that the mortality rate of tuberculous diseases has fallen and not by any distinctively medical measures as such. Progress in this direction began long before the modern conception of the communicability of the disease. So far as figures show, there has been less improvement in mortality statistics in the years since special measures against the bacillus have been in force than in the corresponding preceding period.

Medical News, May 6, 1905.

Treatment of Non-Malignant Diseases by the Röntgen Ray.—R. H. Boggs presents the following conclusions: (1) It is necessary to distinguish between the non-malignant diseases which should, and those which should not be treated by the *x*-ray. (2) While the continual cry of technic may become tiresome to some who think the subject can be mastered in a few days or a couple of months, the method of application of the rays and the judgment of the operator accounts largely for successful or unsuc-

cessful work. (3) It is just as essential to administer a therapeutic dose when applying the Röntgen rays as it is when prescribing powerful drugs. (4) Idiosyncrasy is not a frequent cause of excessive dermatitis. (5) A dosage which causes stimulation of healthy tissues will usually produce a slight reaction in diseased tissue. (6) At all times, it should be remembered that it is not so much the *x*-ray that cures as the judgment with which it is employed. (7) The *x*-ray is one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is unnecessary in many instances to treat the trivial and less obstinate cases by this method. (8) The *x*-ray, supplemented by Finsen light, is the most efficient therapeutic agent for the treatment of lupus. (9) The *x*-ray is the most efficient agent for the treatment of certain tuberculous glands, Hodgkin's disease, and selected cases of goiter.

Nasal Conditions Dependent Upon the Generative Organs.—J. Sinexon draws attention to the following facts: During coitus there is always a turgescence and hyperesthesia of the nasal mucosa. In women there is a more or less marked periodical engorgement of the nasal tissues coincident with menstruation and it also occurs periodically during pregnancy. Operations destroying the functions of the generative organs cause the nares to revert to the state existing prior to puberty. In the lower animals sexual excitement is always accompanied by nasal occlusions. In the human species, nose bleed or hydrorrhea may result from the same cause. The result of over-stimulation of the nasal mucosa from sexual perversion may lead to permanent relaxation through vasomotor paresis,

American Medicine, May 6, 1905.

Adutlerations of Drugs.—H. W. Wiley says the extent of drug adulterations is probably much greater than is commonly supposed. The fact that properly written prescriptions may result in a concoction of a remedy much different from that required is a matter that cannot be ignored. According to Dr. Wiley these adulterations consist of (1) substitution, *i.e.* providing an article entirely different from the one prescribed or an article which may resemble the one called for in many of its physical, chemical, and therapeutic properties. (2) The degradation of the drug by adding an inert material or extracting a valuable one so that its properties are impaired. (3) Drugs which are "misbranded." These are sold directly to the consumer, without passing under the inspection of the physician. In order to combat the prevailing suspicion concerning drug adulterations, every pharmacist should be taught the necessity of honor and honesty in his dealings and be advised to buy and sell only pure and unadulterated materials.

New Operation for the Relief of Flat-Foot.—Wilson and Patterson present a favorable report of a new operation for flat-foot, consisting of an arthrodesis of the astragaloscaphoid joint and the transplantation of the tendon of the extensor proprius hallucis, through a hole drilled in the scaphoid bone, an adaptation of Wolf's operation for paralytic valgus. The loss of function of the transplanted extensor of the great toe is but temporary and until the extensor brevis digitorum becomes educated to overcome the toe-drop. The after treatment is fully as important as the operative correction and consists of well-adapted physical culture drills. This procedure has yielded better functional results than is possible by the use of arthrodesis alone. The combined operation for flat-foot now described for the first time, offers no serious difficulties, the additional damage to the structures of the foot necessitated by this procedure is inconsiderable, the time required for treatment not longer, and the results obtained more certain and satisfactory. It would, therefore, seem well to adopt the combined operation in all suitable cases.

Diet in Typhoid Fever.—J. B. Nichols advocates a more liberal and more varied diet in typhoid fever than is now customary. He is opposed to the exclusive liquid diet so-called, arguing that liquid foods are not necessarily more digestible or less irritating to the bowel than are solid foods. He believes the consistency and condition of the food in the intestine is a criterion of more importance than the fluidity or solidity of the food before ingestion. Nichols gives the published results obtained from mixed and liberal feeding in typhoid fever, covering a total of 1,000 cases, with 77 deaths. This low mortality of 7.7 per cent. does not bear out the common apprehensions as to the dangers of departure from milk diet. Complications were not increased by the free diet. The patients were markedly more comfortable and contented, their strength appeared better maintained, convalescence was materially shortened, and from the improved resistant power the mortality rates appeared appreciably lowered, comparative statistics showing an improvement in the death rate of from 2 per cent. to 4 per cent.

Benign Strictures of the Esophagus.—C. D. Spivak divides benign stricture of the esophagus into (1) congenital and (2) acquired. Acquired stricture may be divided into: 1. Organic: (a) after ingestion of corrosive substances; (b) after the healing of an esophageal ulcer; and (c) lues, 2. Mechanical; (a) presence of foreign bodies; (b) polypi, and (c) thrush. Due to compression from without, as tumors, enlarged lymphatic glands, aneurism of the aorta, periesophageal abscess; and verticulum of esophagus filled with food. 3. Spasmodic. The majority of all cases of benign stricture are due to cicatricial obliteration, the result of losses of substance following scalds, produced by caustic substances. Spivak says the symptom, epecially referable to deglutition, are, (1) a short period at the beginning when swallowing is impossible—the period of esophagitis—followed by (2) a period lasting several months, when deglutition is not impeded, and (3) a period when the difficulty to swallowing gradually redevelops—the period of stenosis. During the inflammatory period he advises rest, alkalies in acid poisoning, and vice versa, ice to the sternum, stimulants. Gradual dilatation should be employed early. Conic semisolid elastic esophageal bougies should be used. Metallic or whalebone sounds with olive tips should be avoided. The bougie should be left in the esophagus for several minutes. At first the sound should be passed every day, and later every other, or third day. When dilatation is complete, a bougie should still be passed at intervals of one month to prevent relapse. He reports three cases.

The Gynecologist and the General Surgeon: Their Respective Fields.—Brooks H. Wells says there is necessity for the special study of gynecology. It is a broad and important portion of medicine, not by any means all surgical, and necessitating a highly trained judgment, extensive clinical experience and skill in its details of etiology, diagnosis, prognosis and treatment. While theoretically limited to the pelvis, gynecology must practically include the surgery of the abdomen in women. This work can be best done by the trained abdominal or gynecologic surgeon. Wells protests against the recent and increasing tendency for the amateur gynecologist or surgeon, and physicians in general, with little or none of the necessary surgical experience, skill in diagnosis or appreciation of danger, undertaking with a blind confidence the most complicated and serious abdominal or pelvic operations.

Journal of the American Medical Association, May 6, 1905.

The Curability of Early Paresis.—C. L. Dana suggests that paresis, like tabes—with which it is closely related as a parasyphilitic disorder—may be arrested in its earlier stages. By "arrested" he does not mean the well-known remissions of the disease; in these, he says, there still remains a certain amount of paretic mental impairment, but he rather means a complete disappearance of all evidence of degenerative changes in the brain. He reports a number of cases illustrating his contention, in which symptoms decidedly indicative of paresis appeared, characteristic mental changes, convulsions, Argyll-Robertson pupil, etc., but which disappeared under treatment, and the patients remained well for various periods under observation. The treatment generally consisted in complete change of life, antisyphilitic medication, preferably hypodermic, hydrotherapy, and attention to the general nutrition. He says there is no *a priori* reason why paresis in its early stages may not be sometimes cured, and he holds that the cases he here reports point that way and indicate the importance of an early diagnosis and treatment of this disorder which has been heretofore considered incurable.

X-Ray Treatment of Cancer.—The microscopic changes in the tissue, says E. G. Williams, should be our guide as to the therapeutic possibilities in the *x*-ray treatment of malignant growths. It is evident, he states, that the elements of the tissue are affected according to their vitality. Dead organic matter is unaffected, and the more active the growth the greater the effect. Next to this is the accessibility of the tissues to the rays. Hence the better results with superficial or skin cancers. That moderately deep tissues can be affected is shown by experience, and the way to reach them without producing necrosis of overlying tissues is to lengthen the distance of the tube and the time of exposure. For deep growths, radical surgical measures should be recommended, as the patient should be given the benefit of the probability rather than the possibility of good results. In such cases, however, operation might be rationally followed by *x*-ray treatment to destroy what may remain of the malignant growth. Inoperable cases should be treated by the *x*-ray because remarkable results have been obtained and the most distressing symptom of pain relieved.

Protection from Röntgen-Ray Injuries.—C. L. Leonard calls attention to the serious risk that *x*-ray operators undergo, especially if they follow the practice advised of testing the qualities of the rays on their hands with the fluorescent screen. The only practical method is to limit their radiated field by covering the Crookes tube. For this purpose he uses a pasteboard box a little wider than the diameter of the tube and covered with *x*-ray lead foil a little heavier than the ordinary tea lead. This extends two

inches below the bottom of the box, and can be adjusted so as to limit the field to any extent required. It is not necessary to cover the anode end, and the box is held on a bracket over the portion of the body to be treated; if a very small field is required, a local shield may also be employed. He thinks possibly some effects are due to the strong induction field surrounding the coil which, especially in large hospitals, should be kept in another room, but with the controlling apparatus within the operator's reach. For the dermatitis of the operator's hands, he advises, twice daily soaking in very warm water and scrubbing with Eichhoff's superfatted resorcin soap, followed by inunction of lanolin containing half an ounce of boric acid and a dram of resorcin to the ounce. For the acute erythema of *x*-ray treatment, he employs a stearate of zinc powder with 10 per cent. ichthyol, which he thinks acts as a prophylactic against severe burns. This should not be confused with stearate of zinc ointment, which may do harm.

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The Treatment of Inflammatory Conditions by Means of Aspirating Apparatus.—Klapp describes various forms of apparatus to be used for the application of Bier's method of stagnation hyperemia in the treatment of such acute conditions as mastitis, furuncles, paronychia, etc. For use in cases of mastitis a large bottle may be employed, the bottom of which is cut off and the cut edges rounded. The neck is closed with a perforated stopper through which passes a tube connected with an aspirating syringe. The author reports very satisfactory results in the treatment of cases which ordinarily would be subjected to free incision and drainage. The aspiration treatment is continued from three-quarters to one hour daily for the first few days, after which sessions of from twenty minutes to thirty minutes suffice. The suction should not be vigorous enough to give pain and should be frequently interrupted to permit absorption of the disease products. If pus is already present the abscess is opened by a very small incision and suction applied at once. The treatment relieves the pain almost immediately, and brings about a cure at least as promptly as the old method, while the patient is spared the suffering and discomfort attendant on a cutting operation with its subsequent dressings and scarring. The same principles are made use of in the treatment of other acute superficial infections in all parts of the body, by means of suitable smaller glass cups which are exhausted either with a syringe or by rubber bulbs and the results are said to be highly satisfactory.

A Fecal Tumor Simulating a Fibroma.—Wiener's patient presented a hard tumor the size of the fist behind the uterus and slightly movable. Defecation had been painful but it was rare for a day to pass without a movement. No fecal masses could be felt from the rectum, the ovaries were not palpable and a diagnosis was made of either pedunculated uterine fibroid or ovarian fibroma. About ten days later, just before a laparotomy was to be done, another examination was made and it was found that the tumor was much lower down, was doughy in consistency, and the ovaries could be identified. The operation was called off and in the course of the next few days large quantities of feces were expelled, causing the complete disappearance of the mass. The author says that owing to the vigorous ante-operation scrubbing and catharsis, sufficiently active peristalsis was started to move the impaction downward and so enable the diagnosis to be made, and he points out the great importance of making a bimanual examination immediately before every operation.

Death Following the Application of Boric Acid Ointment to a Burn.—Dopfer prescribed the official ten per cent. boric

acid ointment for a two-year-old child, whose arm had been scalded. Several days later he was called again and found the child in collapse and moribund. The injured surface was 12 cm. by 3 cm. and the retè Malphigii was exposed, no granulations having formed. The entire body except the head was covered with a scarlatina-like rash which, over the hands and feet, was of blue-black hue and petechial in appearance. The temperature was subnormal. According to the parents the child had not suffered greatly from the burn, but a few hours after the ointment had first been applied the rash appeared and the little patient began to give evidence of prostration. The symptoms steadily progressed until death occurred shortly after Dopfer's arrival. The author calls attention to the fact that although boric acid is usually regarded as harmless, it evidently should be applied with caution to large wound surfaces, especially in children, and particularly if no granulations are present.

Deutsche medizinische Wochenschrift, April 20, 1905.

Technique of the Alexander Adams Operation.—Robbers describes as follows his method of performing the operation, which he considers less likely to lead to injury of neighboring structures. The usual skin incision, 6 to 7 cm. in length, is made parallel to Poupart's ligament, and the external ring is carefully laid bare. The ligament is identified at its exit from the ring and is clamped. The external oblique is split up in the direction of its fibers and the cut edges are well retracted. By traction on the clamp the ligament is made tense and is then freed at a point about 3 cm. from the external ring, where it can usually be readily identified and is not easily torn off. Its light color and the ease with which it yields to traction with the forceps, distinguish it. It is then drawn forward and the peritoneal investment stripped back by blunt dissection. It is better to tear off the distal end than to cut it, as otherwise a small vessel is sure to bleed. In case it is impossible to find the round ligaments the author recommends ventrofixation by means of the suprapubic transverse incision.

A Remarkable Collection of Foreign Bodies in Appendicitis.—Rebentisch describes the case of a woman of seventy-four who came under observation with what appeared to be an inflamed hernia. The acuteness of the symptoms made it seem likely that the intestine was involved, but the absence of symptoms of obstruction rendered it probable that it was the appendix that was concerned. On operation under local anesthesia, this was found to be the case, and on separating the gangrenous appendix from its adhesions it burst open and a quantity of pus and small foreign bodies escaped. These were over a hundred in number and comprised two grape seeds, two other seeds, six fragments of enamel, three bone spicules, a bit of wood, several small pieces of gravel, numerous fragments of gallstones, and a large number of small, light brown, facetted concretions. These had a white, chalky nucleus, and were composed mainly of calcium phosphate and carbonate. The author believes that they were true enteroliths and that they were formed *in situ*. At a secondary operation the radical cure of the femoral hernia was successfully accomplished.

Annals of Surgery, April, 1905.

Studies on the Pathology and Etiology of Obstructive Hypertrophy and Atrophy of the Prostate Gland.—The following propositions summarize the views of P. M. Pilcher: (1) Pathologically there are three types of prostates causing urinary obstruction: (*a*) The large, soft type, (*b*) the hard, small, contracted type, and (*c*) the mixed type. (2) Infection does not influence the variety of the pathological change. (3) The contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied prostrate, but is distinct from it. (4) In many cases of hypertrophy of the prostrate there is present a true muscular hypertrophy. (5) In some of the atrophic cases the glandular elements diminished and the muscular elements relatively increased. (6) Gonorrhea is not an important etiological factor in the production of this disease, and there is no necessity for assuming it to be. (7) The theory of obstruction to the ducts causing passive dilatation of the glandular elements, as advanced by Ciechanowski and Crandon, does not satisfactorily explain the pathological findings. (8) Hypertrophy of the prostate results from glandular overgrowth, influenced by the degenerative changes of old age, and other agents which tend to produce the formation of fibrous connective tissue in an actively functionating gland.

Has the Catheter a Place in the Treatment of Chronic Prostatic Hypertrophy?—Paul Thorndike notes that radical operations on the prostate are slowly shouldering aside the catheter and other palliative methods of treatment and giving them a gradually contracting field of usefulness, but he realizes that there are some patients unfit to endure the shock of such radical methods and some who are better off with proper palliation rather than with radical intervention. Proper catheter instruction in patients who are old and obviously bad surgical risks may enable them to pass their lives in comparative comfort and with a steadily diminishing risk of infection. If such comfortable palliation ceases to be possible, the time for intervention is at hand, notwithstanding its formidable risks. Again, in younger patients there may be an atonic condition of the bladder muscle and an operation on the prostate does not better his condition at all, because it does not remove what has come to be the main (though secondary) cause of the trouble. In such cases the employment of the catheter is commendable. Such patients should use the catheter regularly and at such intervals as to prevent daily over-distension of the bladder until such time as the bladder shall rejuvenate itself to a degree which will enable it to empty itself, at least in large measure, after its obstruction is removed.

Prostatism without Enlargement of the Prostate.—C. H. Chetwood tabulates thirty-six cases. His experience leads him to conclude that contracture of the neck of the bladder is a common cause of vesical obstruction. He finds that the condition can be safely relieved and surely by means of a galvano-prostatotomy through a perineal opening. The symptoms caused by this vesical contraction constitute what has been called prostatism without enlarged prostate. The lesion is essentially a fibroid stenosis of the vesical orifice, and its cause may be found in previous chronic inflammation in front of or behind the sphincter. Gonorrhea may be the exciting cause. The contraction may occur in the young as well as in the old. Chetwood calls attention to the fact that there is much confusion in the minds of some surgeons even at the present day between the two conditions of vesical neck contracture and prostatic hypertrophy.

Suprapubic Prostatectomy without Ether or Chloroform.—J. Wiener, Jr., declares that this operation can be safely undertaken under nitrous oxide gas even in the most desperate cases. He states that neither nephritis, diabetes, cystitis nor advanced old age are contraindications. Any man who is able to take gas for ten minutes can have the operation safely performed. Eleven personal cases are reported by the author, who counsels against instrumentation to urethra or bladder before operation. The author does not maintain that this particular operation is the most desirable one in every case. He has, however, lost no case and has never seen a severe hemorrhage, bad infection or any shock follow the operation. He denies that the operation itself has any injurious effect on the sexual capacity. No longer time is required for the wound to heal than when the perineal route is followed. Wiener has recently had one case in which the bladder wound healed in nineteen days.

The Cause of Incontinence as a Sequel of Prostatectomy.—F. W. Ruggles finds the cause of incontinence under the conditions named as due to a nerve which runs nearer the prostate than is usually assumed, being distributed to the external vesical sphincter. It seems to him that this theory of a nerve supply running close to the prostate and sometimes injured in the strenuous manipulations attending its removal, must be true, or else the injury must be looked for in the operation of the membranous urethra itself. This is accompanied, nearly always, by great stretching and tearing of the posterior urethra, sufficient to permit the exploration of the bladder with the finger, the passage of instruments and even the extraction of calculi. In these manipulations, especially at the hands of inexperienced or bungling operators, there is certainly great damage done to the external sphincter muscle, and, in addition, its nerve supply may be totally or partially cut off, especially if the incision is not made exactly in the median raphe. Also to be considered is the fact that pressure is capable of producing paralysis. For instance, the very trifling pressure on the ulnar nerve produced by sitting in a chair with padded arms will, if long continued, cause, in some persons, an obstinate ulnar paralysis. It is quite conceivable that the rather violent operative procedures in prostatectomy may produce similar effects by extreme pressure for a short time. Incontinence following simple external urethrotomy, where less cutting, dilatation, and laceration are practised, is, in my personal experience and reading, very rare. His suggestions would therefore be that, if perineal prostatectomy is performed, the incision into the urethra should be made as close to the prostate as possible, exactly in the median raphe of the compressor urethræ, and the utmost care be exercised to avoid stretching and laceration of the muscles.

French and Italian Journals.

Necrosis of the Liver in a Case of Acute Uremia.—Armand Beauvy has observed at autopsy a case of scarlatinal glomerulonephritis. The lesions of the liver in this case were very interesting. The patient was a girl six years old, who had had a light but distinct attack of scarlet fever. Just after her recovery she was exposed to a rain storm and had a chill. Five days afterwards her eyelids became swollen and albumin was found in the urine. Although she was put on a milk diet, the albuminuria increased and head-

inches below the bottom of the box, and can be adjusted so as to limit the field to any extent required. It is not necessary to cover the anode end, and the box is held on a bracket over the portion of the body to be treated; if a very small field is required, a local shield may also be employed. He thinks possibly some effects are due to the strong induction field surrounding the coil which, especially in large hospitals, should be kept in another room, but with the controlling apparatus within the operator's reach. For the dermatitis of the operator's hands, he advises, twice daily soaking in very warm water and scrubbing with Eichhoff's superfatted resorcin soap, followed by inunction of lanolin containing half an ounce of boric acid and a dram of resorcin to the ounce. For the acute erythema of x-ray treatment, he employs a stearate of zinc powder with 10 per cent. ichthyol, which he thinks acts as a prophylactic against severe burns. This should not be confused with stearate of zinc ointment, which may do harm.

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A Fecal Tumor Simulating a Fibroma.—Wiener's p presented a hard tumor the size of the fist behind uterus and slightly movable. Defecation had been p but it was rare for a day to pass without a movement. fecal masses could be felt from the rectum, the ovaries not palpable and a diagnosis was made of either ped lated uterine fibroid or ovarian fibroma. About ten later, just before a laparotomy was to be done, anoth amination was made and it was found that the tumor much lower down, was doughy in consistency, an ovaries could be identified. The operation was cal and in the course of the next few da feces were expelled, causing the of the mass. The author says t ante-operation scrubbing a peristalsis was started and so enable the d the great import mediately be

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acid ointment for a two-year-old child, whose arm had been scalded. Several days later he was called again and found the child in collapse and moribund. The injured surface was 12 cm. by 3 cm. and the reté Malphigii was exposed, no granulations having formed. The entire body except the head was covered with a scarlatina-like rash which, over the hands and feet, was of blue-black hue and petechial in appearance. The temperature was subnormal. According to the parents the child had not suffered greatly from the burn, but a few hours after the ointment had first been applied the rash appeared and the little patient began to give evidence of prostration. The symptoms steadily progressed until death occurred shortly after Dopfer's arrival. The author calls attention to the fact that although boric acid is usually regarded as harmless, it evidently should be applied with caution to large wound surfaces, especially in children, and particularly if no granulations are present.

Deutsche medizinische Wochenschrift, April 20, 1905.

Technique of the Alexander Adams Operation.—Robbers describes as follows his method of performing the operation, which he considers less likely to lead to injury of neighboring structures. The usual skin incision, 6 to 7 cm. in length, is made parallel to Poupart's ligament, and the external ring is carefully laid bare. The ligament is identified at its exit from the ring and is clamped. The external oblique is split up in the direction of its fibers and the cut edges are well retracted. By traction on the clamp the ligament is made tense and is then freed at a point about 3 cm. from the external ring, where it can usually be readily identified and is not easily torn off. Its light color and the ease with which it yields to traction with the forceps, distinguish it. It is then drawn forward and the peritoneal investment stripped back by blunt dissection. It is better to tear off the distal end than to cut it, as otherwise a small vessel is sure to bleed. In case it is impossible to find the round ligaments the author recommends ventrofixation by means of the suprapubic transverse incision.

A Remarkable Collection of Foreign Bodies in Appendicitis.—Rebentisch describes the case of a woman of seventy-four who came under observation with what appeared to be an inflamed hernia. The acuteness of the symptoms made it seem likely that the intestine was involved, but the absence of symptoms of obstruction rendered it probable that it was the appendix that was concerned. On operation under local anesthesia, this was found to be the case, and on separating the gangrenous appendix from its adhesions it burst open and a quantity of pus and small foreign bodies escaped. These were over a hundred in number and comprised two grape seeds, two other seeds, six fragments of enamel, three bone spicules, a bit of wood, several small pieces of gravel, numerous fragments of gallstones, and a large number of small, light brown, facetted concretions. These had a white, chalky nucleus, and were composed mainly of calcium phosphate and carbonate. The author believes that they were true enteroliths and that they were formed *in situ*. At a secondary operation the radical cure of the femoral hernia was successfully accomplished.

Annals of Surgery, April, 1905.

dies on the Pathology and Etiology of Obstructive Hypertrophy and Atrophy of the Prostate Gland.—The following propositions summarize the views of P. M. Pilcher: (1) Pathologically there are three types of prostates causing urinary obstruction: (*a*) The large, soft type, (*b*) the d, small, contracted type, and (*c*) the mixed type. (2) ction does not influence the variety of the pathological ge. (3) The contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied rate, but is distinct from it. (4) In many cases of trophy of the prostrate there is present a true muscular ophy. (5) In some of the atrophic cases the glandular ments diminished and the muscular elements relatively eased. (6) Gonorrhea is not an important etiological in the production of this disease, and there is no for assuming it to be. (7) The theory of obstruction causing passive dilatation of the glandular advanced by Ciechanowski and Crandon, does explain the pathological findings. (8) Hy- [illegible]

viously bad surgical risks may enable them to pass lives in comparative comfort and with a steadily dim ing risk of infection. If such comfortable palliation to be possible, the time for intervention is at hand, not standing its formidable risks. Again, in younger pat there may be an atonic condition of the bladder muscle an operation on the prostate does not better his condi at all, because it does not remove what has come to be main (though secondary) cause of the trouble. In su cases the employment of the catheter is commendable. Su patients should use the catheter regularly and at such i tervals as to prevent daily over-distension of the bladd until such time as the bladder shall rejuvenate itself to degree which will enable it to empty itself, at least in larg measure, after its obstruction is removed.

Prostatism without Enlargement of the Prostate.—C. H. Chetwood tabulates thirty-six cases. His experience leads him to conclude that contracture of the neck of the bladder is a common cause of vesical obstruction. He finds that the condition can be safely relieved and surely by means of a galvano-prostatotomy through a perineal opening. The symptoms caused by this vesical contraction constitute what has been called prostatism without enlarged prostate. The lesion is essentially a fibroid stenosis of the vesical orifice, and its cause may be found in previous chronic inflammation in front of or behind the sphincter. Gonorrhea may be the exciting cause. The contraction may occur in the young as well as in the old. Chetwood calls attention to the fact that there is much confusion in the minds of some surgeons even at the present day between the two conditions of vesical neck contracture and prostatic hypertrophy.

Suprapubic Prostatectomy without Ether or Chloroform.—J. Wiener, Jr., declares that this operation can be safely undertaken under nitrous oxide gas even in the most desperate cases. He states that neither nephritis, diabetes, cystitis nor advanced old age are contraindications. Any man who is able to take gas for ten minutes can have the operation safely performed. Eleven personal cases are reported by the author, who counsels against instrumentation to urethra or bladder before operation. The author does not maintain that this particular operation is the most desirable one in every case. He has, however, lost no case and has never seen a severe hemorrhage, bad infection or any shock follow the operation. He denies that the operation itself has any injurious effect on the sexual capacity. No longer time is required for the wound to heal than when the perineal route is followed. Wiener has recently had one case in which the bladder wound healed in nineteen days.

The Cause of Incontinence as a Sequel of Prostatectomy.—F. W. Ruggles finds the cause of incontinence under the conditions named as due to a nerve which runs nearer the prostate than is usually assumed, being distributed to the external vesical sphincter. It seems to him that this theory of a nerve supply running close to the prostate and sometimes injured in the strenuous manipulations attending its removal, must be true, or else the injury must be looked for in the operation of the membranous urethra itself. This is accompanied, nearly always, by great stretching and tearing of the posterior urethra, sufficient to permit the exploration of the bladder with the finger, the passage of instruments and even the extraction of calculi. In these manipulations, especially at the hands of inexperienced or bungling operators, there is certainly great damage done to the external sphincter muscle, and, in addition, its nerve supply may be totally or partially cut off, especially if the incision is not made exactly in the median raphe. Also to be considered is the fact that pressure is capable of producing paralysis. For instance, the very trifling pressure on the ulnar nerve produced by sitting in a chair with padded arms will, if long continued, cause, in some persons, an obstinate ulnar paralysis. It is quite conceivable that the rather violent operative procedures in prostatectomy may produce similar effects by extreme pressure for a short time. Incontinence following simple external urethrotomy, where less cutting, dilatation, and laceration are practised, is, in my personal experience and reading, very rare. His suggestions would therefore be that, if perineal prostatectomy is performed, the incision into the urethra should be made as close to the prossible, exactly in the median raphe of the urethra, and the utmost care be exercised to avoid d laceration of the muscles.

French and Italian Journals

the Liver in a Case of Acute Uremia—

vy has observed at autopsy a case of [illegible] lonephritis. The les[illegible] y interesting. The [illegible] had a light but [illegible] r recovery she was [illegible] Five days afterwards [illegible] min was found in the [illegible] milk diet, the a[illegible]

disease. It has been reported recently that in one of the churches of the northern provinces the virgin would cure all cases of smallpox and confer immunity upon all the faithful who would come there to worship. Persons suffering with the disease have begun to assemble at the church, and they are accompanied by many others who wish to see the cure or who expect to receive the immunity themselves. The Provincial Board of Health has ordered the church to be closed, but it is understood that the church authorities have objected to this order upon the ground that the health officer who issued the same belonged to another religious sect, and was therefore prejudiced. The Insular Board of Health has decided to meet the situation by sending vaccinators to the church with instructions to inoculate everybody. This will probably have the effect of stamping out the disease, and the result will be variously credited to science and to religion according to the point of view.

Smallpox has broken out a number of times recently among the crew of the battleship Wisconsin. Upon the appearance of the last outbreak the ship was turned over to the United States quarantine authorities, and they remanded the vessel to the Mariveles Quarantine Station for thorough disinfection and the vaccination of the entire personnel. Sixteen days have elapsed since that was done and no further cases have made their appearance, and it may therefore be assumed safely that the disease has been stamped out.

Dr. H. B. Wilkinson, the physician in charge of the San Lazaro Hospitals, has gone to the United States on a four months' leave of absence.

Major Banister, United States Army, the surgeon in charge of the First Reserve Hospital during the past two years, has completed his tour of duty in the Philippines and has been relieved by Major Fitzhugh Carter, United States Army, and has returned to the United States on the transport Sherman.

Major H. I. Raymond, United States Army, the officer in charge of the Medical Supply Depot, has completed his tour of duty in the Philippines and has been relieved by Col. D. M. Appel, United States Army, and has returned to the States on the transport Sherman.

Captain and Assistant Surgeon Hess, United States Army, who has been on duty at the Cuartel de España, has left on a two months' leave of absence in China and Japan.

CEREBROSPINAL MENINGITIS AND THE DISTRIBUTION OF THE BLOOD.

To the Editor of the Medical Record:

Sir: I was very much interested in the communication of Dr. Goodall of Bennington, Vermont, on bleeding in cerebrospinal meningitis. The success of his method has two significances to my mind: Firstly, the release of pressure from the cranial space and spinal canal, and the relation of these pressures to the distribution of the blood. In regard to the first consideration, the evidence is daily accumulating that cerebrospinal pressure bears a very intimate relation to the distribution of the blood, *i. e.* when the circulation is deflected to the cerebrospinal centers, cerebrospinal pressure is the consequence, and conversely when determined from these centers to the periphery, the pressure is relatively reduced.

The recent reports of brilliant results following the equalization of the blood by hypodermically administered ergot, after the method of Dr. Alfred T. Livingston, certainly parallel the cases of Dr. Goodall, and moreover substantiate the analysis of therapeutic action as above given.

Dr. Goodall's additional measure of "steaming" the periphery, is a valuable accessory means of attaining the same end, namely the determination of the blood volume to the periphery, thus relieving cerebrospinal congestion and consequent stasis.

I think few indeed of Dr. Goodall's readers will agree with him that there is any superabundance of blood in the bodies of patients suffering with cerebrospinal meningitis, any more than any other disease, or in fact that bloodletting is other than harmful, except for the relief given to the cerebrospinal pressures, and this as we have seen above is obtainable by other measures, more humane, just as effective, if not more so, and with perfect freedom from untoward effects.

I agree with Dr. Goodall that it is far preferable for physicians, not amply prepared for cerebrospinal puncture, to resort to measures of relief of the nature of his steaming bath, and also to give ergot by Livingston's method, though it must be understood in advance that ergot internally administered is a failure.

Homer Wakefield, M.D.

New York.

Progress of Medical Science.

Boston Medical and Surgical Journal, May 4, 1905.

Subacute Perforation of the Stomach.—The histories of three cases are given by F. B. Lund, who refers particularly to those conditions in which a very small opening may become plugged by a bit of omentum or by fibrin. In such a case the perforation becomes almost at once walled off by adhesions from the general peritoneal cavity. The general ideas the author advances are summarized in the following propositions: (1) The symptoms of subacute perforation of the stomach are similar to those of acute perforation, with the important exception that they are less violent and are not followed by collapse or by the development of general peritonitis. (2) The location of the pain and tenderness depends upon the location of the ulcer and varies with it. (3) The treatment should be, if possible, posterior gastroenterostomy without breaking up the protective adhesions.

Certain Aspects of the Differential Diagnosis between Epilepsy and Hysteria.—J. J. Putnam and G. A. Waterman gives the histories of eleven cases, illustrative of the difficulty of diagnosis between the two conditions named. They realize the difficulty of the situation, especially in dispensary practice, where the patient is seen only at intervals, and where the testimony of friends is so unreliable. They, therefore, suggest that every neurological staff should contain a man skilled in psychopathical research who should review from time to time all doubtful cases. While they are disposed to admit that the diagnosis of so-called idiopathic epilepsy is considerably more brave than that of hysteria, and that these two affections represent different tendencies, they declare that such a statement needs some qualification. It is probable that the term epileptic, as implying a tendency to outbreaks of certain sorts, covers a variety of pathological tendencies, and the mere form of the attack does not always enable us to distinguish between them. Thus, epileptic fits as seen in cases of brain tumor may be indistinguishable in themselves from those met with in cases exhibiting the familiar degenerative tendency associated with the name of epilepsy in general. Again, degeneracy itself is by no means always present in epileptic conditions, even those classified as idiopathic. Too little is known of the physiology of the epileptic seizure, in its varied forms to enable one to say there is a sharp distinction to be drawn between such an attack as occuring in hysteria and another which might be found in epilepsy proper. However much it may be believed that these two forms are different, it is impossible at present to give the ground for such belief.

New York Medical Journal, May 6, 1905.

Adenoids in the Adult.—D. M. Barstow finds from a study of the subject that adenoid growths in the adult are more common than is generally supposed. This lesion is a frequent cause of nasopharyngeal catarrh with its annoying postnasal dropping. It may cause nasal obstruction and apparent hypertrophic rhinitis. The study of the cases narrated by Barstow shows that this condition should always be suspected in ear disease and pulmonary tuberculosis.

Politicosociological Aspects of Tuberculosis Problems.—Jonathan Wright notes the changing view with reference to the real underlying cause of tuberculosis. We have turned from the extreme ideas of Koch in regard to the relative importance of the bacillary factor to the conviction that the question of strengthening the resisting power of the cells of the human body is by far the most important phase of the whole matter. Tuberculosis is not to be classed in the same grade of contagion with cholera. The bacillus is a "thick-hulled" organism and comparatively easily thrown off by healthy tissues. The whole matter turns on the possibility of providing proper housing, food, and exercise for the multitudes. It is by progress along these lines that the mortality rate of tuberculous diseases has fallen and not by any distinctively medical measures as such. Progress in this direction began long before the modern conception of the communicability of the disease. So far as figures show, there has been less improvement in mortality statistics in the years since special measures against the bacillus have been in force than in the corresponding preceding period.

Medical News, May 6, 1905.

Treatment of Non-Malignant Diseases by the Röntgen Ray.—R. H. Boggs presents the following conclusions: (1) It is necessary to distinguish between the non-malignant diseases which should, and those which should not be treated by the *x*-ray. (2) While the continual cry of technic may become tiresome to some who think the subject can be mastered in a few days or a couple of months, the method of application of the rays and the judgment of the operator accounts largely for successful or unsuc-

cessful work. (3) It is just as essential to administer a therapeutic dose when applying the Röntgen rays as it is when prescribing powerful drugs. (4) Idiosyncrasy is not a frequent cause of excessive dermatitis. (5) A dosage which causes stimulation of healthy tissues will usually produce a slight reaction in diseased tissue. (6) At all times, it should be remembered that it is not so much the *x*-ray that cures as the judgment with which it is employed. (7) The *x*-ray is one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is unnecessary in many instances to treat the trivial and less obstinate cases by this method. (8) The *x*-ray, supplemented by Finsen light, is the most efficient therapeutic agent for the treatment of lupus. (9) The *x*-ray is the most efficient agent for the treatment of certain tuberculous glands, Hodgkin's disease, and selected cases of goiter.

Nasal Conditions Dependent Upon the Generative Organs.—J. Sinexon draws attention to the following facts: During coitus there is always a turgescence and hyperesthesia of the nasal mucosa. In women there is a more or less marked periodical engorgement of the nasal tissues coincident with menstruation and it also occurs periodically during pregnancy. Operations destroying the functions of the generative organs cause the nares to revert to the state existing prior to puberty. In the lower animals sexual excitement is always accompanied by nasal occlusions. In the human species, nose bleed or hydrorrhea may result from the same cause. The result of over-stimulation of the nasal mucosa from sexual perversion may lead to permanent relaxation through vasomotor paresis,

American Medicine, May 6, 1905.

Adutlerations of Drugs.—H. W. Wiley says the extent of drug adulterations is probably much greater than is commonly supposed. The fact that properly written prescriptions may result in a concoction of a remedy much different from that required is a matter that cannot be ignored. According to Dr. Wiley these adulterations consist of (1) substitution, *i.e.* providing an article entirely different from the one prescribed or an article which may resemble the one called for in many of its physical, chemical, and therapeutic properties. (2) The degradation of the drug by adding an inert material or extracting a valuable one so that its properties are impaired. (3) Drugs which are "misbranded." These are sold directly to the consumer, without passing under the inspection of the physician. In order to combat the prevailing suspicion concerning drug adulterations, every pharmacist should be taught the necessity of honor and honesty in his dealings and be advised to buy and sell only pure and unadulterated materials.

New Operation for the Relief of Flat-Foot.—Wilson and Patterson present a favorable report of a new operation for flat-foot, consisting of an arthrodesis of the astragaloscaphoid joint and the transplantation of the tendon of the extensor proprius hallucis, through a hole drilled in the scaphoid bone, an adaptation of Wolf's operation for paralytic valgus. The loss of function of the transplanted extensor of the great toe is but temporary and until the extensor brevis digitorum becomes educated to overcome the toe-drop. The after treatment is fully as important as the operative correction and consists of well-adapted physical culture drills. This procedure has yielded better functional results than is possible by the use of arthrodesis alone. The combined operation for flat-foot now described for the first time, offers no serious difficulties, the additional damage to the structures of the foot necessitated by this procedure is inconsiderable, the time required for treatment not longer, and the results obtained more certain and satisfactory. It would, therefore, seem well to adopt the combined operation in all suitable cases.

Diet in Typhoid Fever.—J. B. Nichols advocates a more liberal and more varied diet in typhoid fever than is now customary. He is opposed to the exclusive liquid diet socalled, arguing that liquid foods are not necessarily more digestible or less irritating to the bowel than are solid foods. He believes the consistency and condition of the food in the intestine is a criterion of more importance than the fluidity or solidity of the food before ingestion. Nichols gives the published results obtained from mixed and liberal feeding in typhoid fever, covering a total of 1,000 cases, with 77 deaths. This low mortality of 7.7 per cent. does not bear out the common apprehensions as to the dangers of departure from milk diet. Complications were not increased by the free diet. The patients were markedly more comfortable and contented, their strength appeared better maintained, convalescence was materially shortened, and from the improved resistant power the mortality rates appeared appreciably lowered, comparative statistics showing an improvement in the death rate of from 2 per cent. to 4 per cent.

Benign Strictures of the Esophagus.—C. D. Spivak divides benign stricture of the esophagus into (1) congenital and (2) acquired. Acquired stricture may be divided into: 1. Organic: (a) after ingestion of corrosive substances; (b) after the healing of an esophageal ulcer; and (c) lues, 2. Mechanical; (a) presence of foreign bodies; (b) polypi, and (c) thrush. Due to compression from without, as tumors, enlarged lymphatic glands, aneurism of the aorta, periesophageal abscess; and verticulum of esophagus filled with food. 3. Spasmodic. The majority of all cases of benign stricture are due to cicatricial obliteration, the result of losses of substance following scalds, produced by caustic substances. Spivak says the symptom, epecially referable to deglutition, are, (1) a short period at the beginning when swallowing is impossible—the period of esophagitis—followed by (2) a period lasting several months, when deglutition is not impeded, and (3) a period when the difficulty to swallowing gradually redevelops—the period of stenosis. During the inflammatory period he advises rest, alkalies in acid poisoning, and vice versa, ice to the sternum, stimulants. Gradual dilatation should be employed early. Conic semisolid elastic esophageal bougies should be used. Metallic or whalebone sounds with olive tips should be avoided. The bougie should be left in the esophagus for several minutes. At first the sound should be passed every day, and later every other, or third day. When dilatation is complete, a bougie should still be passed at intervals of one month to prevent relapse. He reports three cases.

The Gynecologist and the General Surgeon: Their Respective Fields.—Brooks H. Wells says there is necessity for the special study of gynecology. It is a broad and important portion of medicine, not by any means all surgical, and necessitating a highly trained judgment, extensive clinical experience and skill in its details of etiology, diagnosis, prognosis and treatment. While theoretically limited to the pelvis, gynecology must practically include the surgery of the abdomen in women. This work can be best done by the trained abdominal or gynecologic surgeon. Wells protests against the recent and increasing tendency for the amateur gynecologist or surgeon, and physicians in general, with little or none of the necessary surgical experience, skill in diagnosis or appreciation of danger, undertaking with a blind confidence the most complicated and serious abdominal or pelvic operations.

Journal of the American Medical Association, May 6, 1905.

The Curability of Early Paresis.—C. L. Dana suggests that paresis, like tabes—with which it is closely related as a parasyphilitic disorder—may be arrested in its earlier stages. By "arrested" he does not mean the well-known remissions of the disease; in these, he says, there still remains a certain amount of paretic mental impairment, but he rather means a complete disappearance of all evidence of degenerative changes in the brain. He reports a number of cases illustrating his contention, in which symptoms decidedly indicative of paresis appeared, characteristic mental changes, convulsions, Argyll-Robertson pupil, etc., but which disappeared under treatment, and the patients remained well for various periods under observation. The treatment generally consisted in complete change of life, antisyphilitic medication, preferably hypodermic, hydrotherapy, and attention to the general nutrition. He says there is no *a priori* reason why paresis in its early stages may not be sometimes cured, and he holds that the cases he here reports point that way and indicate the importance of an early diagnosis and treatment of this disorder which has been heretofore considered incurable.

X-Ray Treatment of Cancer.—The microscopic changes in the tissue, says E. G. Williams, should be our guide as to the therapeutic possibilities in the *x*-ray treatment of malignant growths. It is evident, he states, that the elements of the tissue are affected according to their vitality. Dead organic matter is unaffected, and the more active the growth the greater the effect. Next to this is the accessibility of the tissues to the rays. Hence the better results with superficial or skin cancers. That moderately deep tissues can be affected is shown by experience, and the way to reach them without producing necrosis of overlying tissues is to lengthen the distance of the tube and the time of exposure. For deep growths, radical surgical measures should be recommended, as the patient should be given the benefit of the probability rather than the possibility of good results. In such cases, however, operation might be rationally followed by *x*-ray treatment to destroy what may remain of the malignant growth. Inoperable cases should be treated by the *x*-ray because remarkable results have been obtained and the most distressing symptom of pain relieved.

Protection from Röntgen-Ray Injuries.—C. L. Leonard calls attention to the serious risk that *x*-ray operators undergo, especially if they follow the practice advised of testing the qualities of the rays on their hands with the fluorescent screen. The only practical method is to limit their radiated field by covering the Crookes tube. For this purpose he uses a pasteboard box a little wider than the diameter of the tube and covered with *x*-ray lead foil a little heavier than the ordinary tea lead. This extends two

inches below the bottom of the box, and can be adjusted so as to limit the field to any extent required. It is not necessary to cover the anode end, and the box is held on a bracket over the portion of the body to be treated; if a very small field is required, a local shield may also be employed. He thinks possibly some effects are due to the strong induction field surrounding the coil which, especially in large hospitals, should be kept in another room, but with the controlling apparatus within the operator's reach. For the dermatitis of the operator's hands, he advises, twice daily soaking in very warm water and scrubbing with Eichhoff's superfatted resorcin soap, followed by inunction of lanolin containing half an ounce of boric acid and a dram of resorcin to the ounce. For the acute erythema of *x*-ray treatment, he employs a stearate of zinc powder with 10 per cent. ichthyol, which he thinks acts as a prophylactic against severe burns. This should not be confused with stearate of zinc ointment, which may do harm.

Eyestrain.—A. G. Pohlman takes up the subject of the etiology of eyestrain from a phylogenetic point of view, and assumes that the abnormalities of human vision are due to the change from the aboriginal to a domesticated condition. In this he includes, however, the changes from a horizontal position of the spinal axis to the upright position, and the more anterior and parallel position of the eyes, etc., which are shared by the higher simians with mankind. In man, however, there is a still further extension of the process, and there is developed a power of sustained convergence for nearwork. The divergent tendency exists in all animals, as is evident during sleep and after death. The special headache of sightseers is not due to strain on the elevator muscle, but to that on the internal rectus to overcome the greater divergence caused by looking upward. The tendency of civilized man is toward myopia, and the failure of sight in old age is a reversion toward the animal normal.

The Lancet, April 29, 1905.

On the Absence of Marked Diminution of Free Hydrochloric Acid in the Gastric Contents, in Malignant Disease of Organs Other than the Stomach.—In a series of cases observed by W. Alexander, R. E. Kelly and H. E. Roaf, the amount of free HCl present in the stomach contents was determined in seventeen instances of malignant disease of the uterus, mamma, rectum, tongue, cheek, etc. In about two-thirds of the cases the free HCl was found to be entirely absent, while in the remaining cases the amount was much below the normal. The authors postulate the fact that the absence of free HCl in cancer of the stomach is not due to local action in that organ, but that it is absent or greatly reduced no matter what may be the situation of the malignant process. This result is to be ascribed according to the authors to a diminished concentration of the hydrogen ions in the blood plasma, but we have no means at our command, so far as we know, to prevent this diminution.

Latent Pneumothorax.—B. C. Stevens declares that in addition to those cases of pneumothorax due to phthisis and trauma, there are other cases in asthmatic subjects with emphyema in which one of the distended air vesicles on the surface of the lung may attenuate its pleural covering and this condition plus some slight extra strain may cause the vesicle to burst and allow eau to enter the pleural cavity. He has observed in the post-mortem room such unruptured vesicles, one being as large as a hen's egg. He records the history of a clergyman, who was suddenly attacked by a pain around the heart. When seen by the author twenty-four hours later he had considerable dyspnea, but was not cyanosed, and the left chest presented the classical signs of pneumothorax. Under a sedative régime a normal condition of affairs gradually returned, and in three weeks he was well. The author explains the case as follows: The patient was an asthmatic. As a curate he had been taught to use the lower part of his lungs in phonation so as to save his larynx. This had no doubt been an extra strain on his already over-distended lungs. The treatment in such cases is the expectant one. Put the patient under the best hygienic surroundings, give alcohol, if there is distress; the nutriment must be easily assimilable and not such as might give rise to flatulent dyspepsia. Of drugs iodide and arsenic are useful at first, and some petroleum emulsion later.

A Case of Extensive Cutaneous Diphtheria with an Examination of the Nervous System.—C. Bolton and D. Brewer discuss the question of systemic poisoning from cutaneous diphtheria, and describe the case of a female child eighteen months old, who had a "sore" in the left groin, for a week. No history of a previous trauma could be obtained. Examination showed a gangrenous patch with sinuous edges and about three by two inches in extent, surrounded by an inflammatory areola about half an inch in width. It commenced in the groin where the site of ulceration was occupied by a blackish scab and was apparently spreading upwards mainly on the abdominal wall. This more recent ulceration showed what were evidently sloughing portions of skin of a dirty white color. There was nothing to be seen approaching the appearance of a membrane and the edges gradually merged into healthy skin, but in the more central portion the loss of substance was considerable. The left labium majus was greatly swollen, but no trace of ulceration could be found upon it. No glandular enlargement was noted. A culture was made from the surface of the gangrenous patch and true diphtheria bacilli were found. The case resulted fatally on the forty-first day of the disease, after a course in which evidences of a profound poisoning of the nervous system were manifest.

Berliner klinische Wochenschrift, April 17, 1905.

The Combination of Radiotherapy with Organotherapy. Poehl and Tarchanoff describe a method by means of which it is possible to render organic preparations such as mammin, spermin, cerebrin, thyreoidin, etc. radioactive. The first step is the preparation of radioactive absorbent cotton, and this is accomplished by forcing the air in contact with a quantity of one to one thousand radium bromide solution through tubes containing the cotton. After a quarter to half an hour the cotton becomes strongly activated, and if some of this is placed in any one of the various organopreparations it gives up its radioactivity to this. Going on Poehl's theory that these substances exert a selective action on the type of organ from which they were obtained, the authors believe that by injecting such radioactive preparations it is possible to cause the radium emanations to exercise the same selective action.

Echinococcus of the Thyroid.—Ehrhardt says that this is one of the rarest of the tumors of the thyroid and that Eiselsberg was able to collect only twenty-two cases in his monograph. The author's patient was a man of twenty-one who suffered from serious dyspnea owing to a cystic thyroid growth. In the course of the operation for its removal it became necessary to evacuate it, and thus the true nature of the tumor was revealed. As it was largely restrosternal, considerable difficulty was experienced in performing the extirpation, but it was successfully accomplished, and two years later no recurrence had taken place.

Münchener medizinische Wochenschrift, April 18, 1905.

The Treatment of Inflammatory Conditions by Means of Aspirating Apparatus.—Klapp describes various forms of apparatus to be used for the application of Bier's method of stagnation hyperemia in the treatment of such acute conditions as mastitis, furuncles, paronychia, etc. For use in cases of mastitis a large bottle may be employed, the bottom of which is cut off and the cut edges rounded. The neck is closed with a perforated stopper through which passes a tube connected with an aspirating syringe. The author reports very satisfactory results in the treatment of cases which ordinarily would be subjected to free incision and drainage. The aspiration treatment is continued from three-quarters to one hour daily for the first few days, after which sessions of from twenty minutes to thirty minutes suffice. The suction should not be vigorous enough to give pain and should be frequently interrupted to permit absorption of the disease products. If pus is already present the abscess is opened by a very small incision and suction applied at once. The treatment relieves the pain almost immediately, and brings about a cure at least as promptly as the old method, while the patient is spared the suffering and discomfort attendant on a cutting operation with its subsequent dressings and scarring. The same principles are made use of in the treatment of other acute superficial infections in all parts of the body, by means of suitable smaller glass cups which are exhausted either with a syringe or by rubber bulbs and the results are said to be highly satisfactory.

A Fecal Tumor Simulating a Fibroma.—Wiener's patient presented a hard tumor the size of the fist behind the uterus and slightly movable. Defecation had been painful but it was rare for a day to pass without a movement. No fecal masses could be felt from the rectum, the ovaries were not palpable and a diagnosis was made of either pedunculated uterine fibroid or ovarian fibroma. About ten days later, just before a laparotomy was to be done, another examination was made and it was found that the tumor was much lower down, was doughy in consistency, and the ovaries could be identified. The operation was called off and in the course of the next few days large quantities of feces were expelled, causing the complete disappearance of the mass. The author says that owing to the vigorous ante-operation scrubbing and catharsis, sufficiently active peristalsis was started to move the impaction downward and so enable the diagnosis to be made, and he points out the great importance of making a bimanual examination immediately before every operation.

Death Following the Application of Boric Acid Ointment to a Burn.—Dopfer prescribed the official ten per cent. boric

acid ointment for a two-year-old child, whose arm had been scalded. Several days later he was called again and found the child in collapse and moribund. The injured surface was 12 cm. by 3 cm. and the reté Malphigii was exposed, no granulations having formed. The entire body except the head was covered with a scarlatina-like rash which, over the hands and feet, was of blue-black hue and petechial in appearance. The temperature was subnormal. According to the parents the child had not suffered greatly from the burn, but a few hours after the ointment had first been applied the rash appeared and the little patient began to give evidence of prostration. The symptoms steadily progressed until death occurred shortly after Dopfer's arrival. The author calls attention to the fact that although boric acid is usually regarded as harmless, it evidently should be applied with caution to large wound surfaces, especially in children, and particularly if no granulations are present.

Deutsche medisinische Wochenschrift, April 20, 1905.

Technique of the Alexander Adams Operation.—Robbers describes as follows his method of performing the operation, which he considers less likely to lead to injury of neighboring structures. The usual skin incision, 6 to 7 cm. in length, is made parallel to Poupart's ligament, and the external ring is carefully laid bare. The ligament is identified at its exit from the ring and is clamped. The external oblique is split up in the direction of its fibers and the cut edges are well retracted. By traction on the clamp the ligament is made tense and is then freed at a point about 3 cm. from the external ring, where it can usually be readily identified and is not easily torn off. Its light color and the ease with which it yields to traction with the forceps, distinguish it. It is then drawn forward and the peritoneal investment stripped back by blunt dissection. It is better to tear off the distal end than to cut it, as otherwise a small vessel is sure to bleed. In case it is impossible to find the round ligaments the author recommends ventrofixation by means of the suprapubic transverse incision.

A Remarkable Collection of Foreign Bodies in Appendicitis.—Rebentisch describes the case of a woman of seventy-four who came under observation with what appeared to be an inflamed hernia. The acuteness of the symptoms made it seem likely that the intestine was involved, but the absence of symptoms of obstruction rendered it probable that it was the appendix that was concerned. On operation under local anesthesia, this was found to be the case, and on separating the gangrenous appendix from its adhesions it burst open and a quantity of pus and small foreign bodies escaped. These were over a hundred in number and comprised two grape seeds, two other seeds, six fragments of enamel, three bone spicules, a bit of wood, several small pieces of gravel, numerous fragments of gallstones, and a large number of small, light brown, facetted concretions. These had a white, chalky nucleus, and were composed mainly of calcium phosphate and carbonate. The author believes that they were true enteroliths and that they were formed *in situ*. At a secondary operation the radical cure of the femoral hernia was successfully accomplished.

Annals of Surgery, April, 1905.

Studies on the Pathology and Etiology of Obstructive Hypertrophy and Atrophy of the Prostate Gland.—The following propositions summarize the views of P. M. Pilcher: (1) Pathologically there are three types of prostates causing urinary obstruction: (*a*) The large, soft type, (*b*) the hard, small, contracted type, and (*c*) the mixed type. (2) Infection does not influence the variety of the pathological change. (3) The contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied prostrate, but is distinct from it. (4) In many cases of hypertrophy of the prostrate there is present a true muscular hypertrophy. (5) In some of the atrophic cases the glandular elements diminished and the muscular elements relatively increased. (6) Gonorrhea is not an important etiological factor in the production of this disease, and there is no necessity for assuming it to be. (7) The theory of obstruction to the ducts causing passive dilatation of the glandular elements, as advanced by Ciechanowski and Crandon, does not satisfactorily explain the pathological findings. (8) Hypertrophy of the prostate results from glandular overgrowth, influenced by the degenerative changes of old age, and other agents which tend to produce the formation of fibrous connective tissue in an actively functionating gland.

Has the Catheter a Place in the Treatment of Chronic Prostatic Hypertrophy?—Paul Thorndike notes that radical operations on the prostate are slowly shouldering aside the catheter and other palliative methods of treatment and giving them a gradually contracting field of usefulness, but he realizes that there are some patients unfit to endure the shock of such radical methods and some who are better off with proper palliation rather than with radical intervention. Proper catheter instruction in patients who are old and obviously bad surgical risks may enable them to pass their lives in comparative comfort and with a steadily diminishing risk of infection. If such comfortable palliation ceases to be possible, the time for intervention is at hand, notwithstanding its formidable risks. Again, in younger patients there may be an atonic condition of the bladder muscle and an operation on the prostate does not better his condition at all, because it does not remove what has come to be the main (though secondary) cause of the trouble. In such cases the employment of the catheter is commendable. Such patients should use the catheter regularly and at such intervals as to prevent daily over-distension of the bladder until such time as the bladder shall rejuvenate itself to a degree which will enable it to empty itself, at least in large measure, after its obstruction is removed.

Prostatism without Enlargement of the Prostate.—C. H. Chetwood tabulates thirty-six cases. His experience leads him to conclude that contracture of the neck of the bladder is a common cause of vesical obstruction. He finds that the condition can be safely relieved and surely by means of a galvano-prostatotomy through a perineal opening. The symptoms caused by this vesical contraction constitute what has been called prostatism without enlarged prostate. The lesion is essentially a fibroid stenosis of the vesical orifice, and its cause may be found in previous chronic inflammation in front of or behind the sphincter. Gonorrhea may be the exciting cause. The contraction may occur in the young as well as in the old. Chetwood calls attention to the fact that there is much confusion in the minds of some surgeons even at the present day between the two conditions of vesical neck contracture and prostatic hypertrophy.

Suprapubic Prostatectomy without Ether or Chloroform.—J. Wiener, Jr., declares that this operation can be safely undertaken under nitrous oxide gas even in the most desperate cases. He states that neither nephritis, diabetes, cystitis nor advanced old age are contraindications. Any man who is able to take gas for ten minutes can have the operation safely performed. Eleven personal cases are reported by the author, who counsels against instrumentation to urethra or bladder before operation. The author does not maintain that this particular operation is the most desirable one in every case. He has, however, lost no case and has never seen a severe hemorrhage, bad infection or any shock follow the operation. He denies that the operation itself has any injurious effect on the sexual capacity. No longer time is required for the wound to heal than when the perineal route is followed. Wiener has recently had one case in which the bladder wound healed in nineteen days.

The Cause of Incontinence as a Sequel of Prostatectomy.—F. W. Ruggles finds the cause of incontinence under the conditions named as due to a nerve which runs nearer the prostate than is usually assumed, being distributed to the external vesical sphincter. It seems to him that this theory of a nerve supply running close to the prostate and sometimes injured in the strenuous manipulations attending its removal, must be true, or else the injury must be looked for in the operation of the membranous urethra itself. This is accompanied, nearly always, by great stretching and tearing of the posterior urethra, sufficient to permit the exploration of the bladder with the finger, the passage of instruments and even the extraction of calculi. In these manipulations, especially at the hands of inexperienced or bungling operators, there is certainly great damage done to the external sphincter muscle, and, in addition, its nerve supply may be totally or partially cut off, especially if the incision is not made exactly in the median raphe. Also to be considered is the fact that pressure is capable of producing paralysis. For instance, the very trifling pressure on the ulnar nerve produced by sitting in a chair with padded arms will, if long continued, cause, in some persons, an obstinate ulnar paralysis. It is quite conceivable that the rather violent operative procedures in prostatectomy may produce similar effects by extreme pressure for a short time. Incontinence following simple external urethrotomy, where less cutting, dilatation, and laceration are practised, is, in my personal experience and reading, very rare. His suggestions would therefore be that, if perineal prostatectomy is performed, the incision into the urethra should be made as close to the prostate as possible, exactly in the median raphe of the compressor urethræ, and the utmost care be exercised to avoid stretching and laceration of the muscles.

French and Italian Journals.

Necrosis of the Liver in a Case of Acute Uremia.—Armand Beauvy has observed at autopsy a case of scarlatinal glomerulonephritis. The lesions of the liver in this case were very interesting. The patient was a girl six years old, who had had a light but distinct attack of scarlet fever. Just after her recovery she was exposed to a rain storm and had a chill. Five days afterwards her eyelids became swollen and albumin was found in the urine. Although she was put on a milk diet, the albuminuria increased and head-

ache developed. On her entrance to the hospital there was considerable dyspnea. The face was pale and slightly cyanosed. There was slight generalized anascarca. Râles were heard at both pulmonary bases. There was no jaundice and the temperature was normal. The child died in a day or two quite suddenly. All of the organs were congested. There was slight effusion in the pleuræ. There was no pulmonary tuberculosis. Microscopically, the kidney did not show any old sclerosis. The tubules were normal and there was some albuminous exudate. The glomeruli were greatly distended. In spite of the enlargement the blood vessels were invisible in this part. This was more noticeable because the rest of the kidney was very much congested. To sum up, there was a condition of proliferative glomerulitis. About the portal region there was a slight fatty degeneration, although the cells stained well. On the contrary, in the subhepatic region the tissues were very much congested, and there was distinct necrosis. From the fact that there had been an absence of hepatic symptoms, the writer inclines towards the theory that these lesions of the liver were due to uremic poisoning.—*Bulletins et Mémoires de la Société Anatomique de Paris,* February, 1905.

Rapid Treatment of Vaginal Gonorrhea.—C. Daniels thinks that gonorrheal is the most common type of vaginitis. The lesions are located especially in the cul-de-sacs. The writer describes the following method of treatment, which is advocated by Tuffier as being the most rapid. The vagina is first carefully cleansed with a sterilized compress or a soft brush. It is then rinsed with plain boiled water. Injections are then given of six liters of a 1 to 4,000 solution of permanganate at 35° to 50°. The vagina is then tamponed with five or six large wicks of sterilized gauze, soaked with the same solution of permanganate. After twenty-four hours the wicks are withdrawn and new ones are inserted. After from twelve to twenty-four hours this treatment is completed. The patient is carefully looked after for about two weeks, although after the second day there are no more gonococci. The cul-de-sacs are painted with tincture of iodine, which is also used to disinfect the cervicouterine cavity. Daniel approves of introducing a stick of nitrate of silver into the urethra. This is immediately withdrawn. Three or four treatments, eight days apart, will effect a complete cure of the urethral infection.—*Revue Française de Médecine et de Chirurgie,* April 10, 1905.

Nervous Symptoms in the Course of Scarlatina; Leucocytosis of the Cerebrospinal Liquid.—Several observers have shown by lumbar puncture that mumps, in spite of its benignity, may affect the meninges. Dufour and Giroux have demonstrated that this is true likewise of scarlatina. Several cases in point are reported. The first patient attacked with scarlatina suffered from nasolabial herpes. There was intense headache; the pulse was 51. On the ninth day lumbar puncture was performed, and the headache diminished in severity. The liquid showed a very abundant lymphocytosis. Pressure was normal. A second patient on the seventh day of the illness showed a narrowing of the palpebral fissure on the right side with depression of the ocular globe. There was a slight bilateral myosis without inequality of the pupils. There was also a slight degree of facial paresis. On the eleventh day lumbar puncture was practised. In the liquid there were found albumen, lymphocytes, and polynuclears. Recovery took place. In the third case numerous lymphoctyes were found. The patient recovered.—*Gazette des Hôpitaux Civiles et Militaires,* April 4, 1905.

Malady of Recklinghausen and Arrest of Development of the Bones.—Hallopeau and Jeanselme have had two patients in whom besides the ordinary lesions of the disease of Recklinghausen, there was an absence of an important bony segment. In one the fibula was lacking. The *x*-ray showed that only the epiphyses were present. The diaphyses were completely lacking. These cases show that an arrest of development is intimately connected with the disease of Recklinghausen, and they prove that this disease can affect all parts of the economy.—*Le Bulletin Médical,* April 19, 1905.

Functional Treatment of Mild Scoliosis.—A. Codivilla tells us that every case of scoliosis, no matter how slight, should be treated, because it predisposes to tuberculosis, and because it indicates a morbid condition of health. Instructors of all kinds should be on their guard to detect these slight cases, and have them placed under treatment. Research has demonstrated that scoliosis is a form of contracture, and for such conditions the rational treatment is active and passive movements. The apparatus should permit of movements in the deformed portions of the spine alone, the normal portions remaining fixed. The best results were obtained by the author with the apparatus of Schulten. The apparatus of Zander is easier of application and also gives excellent results.—*Rivista Critica di Clinica Medica,* April 1, 1905.

Action of Adrenal Extract on the Renal Parenchyma.—Luigi Vaccari made experiments on rabbits to determine the effects of injection of adrenal extract before operations on the kidneys, making a careful microscopical examination from one day to ten days after killing the animals. He injected adrenal extract into one kidney, salt solution into the other, and then performed the same operation on the two kidneys. He concludes that adrenal extract far from preventing the bad effects of operation on the renal parenchyma, rather exaggerates them, having a deleterious action on the cells themselves, and influencing their nutrition unfavorably. Therefore, the use of this substance before operations on the kidneys does not decrease the hemorrhage, and acts unfavorably as well.—*Il Policlinico,* April, 1905.

Treatment of Intestinal Obstruction.—Ferdinando Gangitano gives us his experience of the use of injections of atropine in case of intestinal obstruction. He includes 12 cases. On the use of this drug there have been the most opposite opinions given by eminent surgeons. In nine cases the author made use of hypodermic injections of atropine, the cases being all of a nature in which the symptoms were not very urgent, nor such as to call for immediate operation to preserve life. The dose varied from 1 to 6 milligrammes, and no bad effects were noted. The intervals between the injections were from one-half to one hour. In general there was a beneficial effect on the pains, and the vomiting. In two cases the obstruction was removed entirely. The author believes that the use atropine merits the attention of surgeons. In some cases the apparent improvement is followed by a worse condition, and operation becomes necessary. Hence the cases for its use should be selected with care, and it should not be kept up more than 7-8 hours if relief is not obtained. An accurate diagnosis is necessary. It is most useful in cases in which the obstruction is fecal.—*La Riforma Medico,* April 15, 1905.

Bacillus of Koch in the Blood.—Ch. Lesieur, in speaking of his technique, states that the obstacle which always has to be avoided is the formation of clot in the blood which is experimented with. In the course of his experiments, he has always observed that Koch's bacillus is rapidly taken up by the organs and destroyed by the leucocytes, and that it disappears from the general circulation in about fifteen minutes, on the average. As to the clinical results, of thirty patients, six only have shown positive results. In one of these, tuberculosis has been produced in a guinea pig by intraperitoneal inoculation with blood taken from the living patient. Tuberculosis bacillaemia and its consequences, whether in the course of experiment or in the course of chronic phthisis, are phenomena which are very transitory. The direct examination of blood is not the method of choice. It is useful for diagnostic purposes only if it is positive, which happens in a very small number of cases.—*Lyon Médical,* April 16, 1905.

Two Cases of Sclerosis of the Coronary Arteries.—Marchiafava presents two new cases of sclerosis of the coronary arteries, which constitutes a group by themselves, because in one case there was obliteration of long standing of the descending branch of the left coronary artery, and in the other old obliteration of a bifurcation of the same artery, and marked stenosis of the circumflex artery. He presents the anatomical specimens and gives the histories of the two cases, both of which died, and gives the anatomical findings, from which he deduced the conclusion that grave distrophic alterations of the walls of the left ventricles, which existed in both cases, are a sufficient cause for the cardiac insufficiency, from which neither of the patients had experienced attacks of angina pectoris.—*La Riforma Medica,* April 8, 1905.

Simulation Considered as a Biological and Sociological Phenomenon.—Edmondo Grombetta tells us that it has been shown that simulation is an inevitable episode of the struggle for existence, and a biological and sociological phenomenon of great importance. Ingegneros goes so far as to say that it is encountered everywhere in organic and superorganic life, and is a useful aid in the struggle for existence, a result of the natural adaptation to the surroundings. It is always a means to this end, to know how to live is to know how to simulate. Man succeeds in life in proportion as he knows how to simulate successfully. As we rise in the scale of life violence grows of less value and deception of more value. Our author does not go quite as far as Ingegneros, whom he criticizes for giving as the reason for simulation of disease among soldiers a high moral position, taken as a result of the conviction that war is wrong in the present age of the world, and that the country should not be preserved under its present form of government. The author says that the average peasant, laborer, or student does not all think of these things. He simulates because he does not wish to leave his fields, his work, his studies; he cannot leave his family, change his environment or his plans; he does not wish to meet danger or death.—*Giornale Medico del Regio Esercito e della Marina,* March, 1905.

Book Reviews.

The Vermiform Appendix and Its Diseases. By Howard A. Kelly, A.B., M.D., Professor of Gynecology in the Johns Hopkins University, Baltimore, and E. Hurdon, M.D., Assistant in Gynecology in the Johns Hopkins University, Baltimore. With 399 original illustrations, some in colors, and 3 lithographic plates. Philadelphia and London: W. B. Saunders & Co. 1905.

The appearance of this volume is as important a contribution to the history of appendicitis as the senior author's "Operative Gynecology" was to the annals of that branch of abdominal surgery when it was published a decade ago. Since that time but few changes have been made in the teachings of the latter book, and it is likely that the lore of appendicitis as here expressed will remain for the most part unaltered for at least the same period of time. The first three chapters are devoted to the history of the disease. Mr. Brödel, the well-known medical illustrator, has written the succeeding four chapters on the anatomy of the appendix, and these with his illustrations throughout the book show the value of the combination of scientific knowledge with the art of the draughtsman. Then come three chapters on the physiology of the organ and its post-mortem appearances; the following five chapters deal with bacteriology and pathology, and the remainder of the book, comprising twenty chapters, is devoted to appendicitis in all its various aspects of etiology, diagnosis, treatment, and relation to other conditions. A large portion of the text, as is natural, is devoted to operative methods. These are amply discussed, all the recognized procedures being given and the authors' preferences or innovations described. Kelly uses the McBurney incision in nonsuppurative cases and Battle's semilunar incision when pus must be evacuated and there is necessity for extensive packing with gauze. He adopts a radical stand in regard to drainage, and advises that in all doubtful cases the wound be left partly open. Washed-out iodoform gauze is considered the best drainage material, and is used in large amount; the presence in the exudate of colon bacilli on the one hand or of cocci on the other indicating whether ordinary precautions will suffice or there must be a wider drain with everything left open. Kelly's technique of dealing with the stump by means of special crushing forceps and the cautery is clearly described and figured. In harmony with the opinion of most surgeons the authors believe that the healthy appendix should not be molested in the course of an operation on some other part, while if adherent it should be removed. The standpoint adopted in regard to early operation is also that of most surgeons in this country. It seems strange in the sections on leucocytosis as an aid to diagnosis, not to find any mention of the value of differential counts. Even in so brief a review of this reference should be made to the illustrations which, by reason of their profusion, beauty, and interest, contribute to an unusual degree to the value of the book.

The Practical Medicine Series of Year Books. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate School. Volume I, General Medicine. Edited by Frank Billings, M.S., M.D. Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago; and J. H. Salisbury, M.D., Professor of Medicine, Chicago Clinical School. Volume II, General Surgery. Edited by John B. Murphy, M.D., Professor of Surgery, Northampton University Medical School. Series, 1905. Chicago: The Year Book Publishers, 1905.

This new series of the well-known year-books issued by the Chicago publishers presents the same features as have characterized previous annual issues. Volume I, dealing with general medicine, contains a review of progress in this field during the year 1904. The book is written chiefly from the viewpoint of the general practitioner, and is a convenient desk manual. No attempts have been made to offer the complete literature of any subject, but well-selected articles on each theme are abstracted, many of them very fully, and annotated by the editors. Good judgment has been used in allotting the space available, so that important subjects, such as tuberculosis, pneumonia, gout, diabetes, nephritis, cardiac lesions, etc., receive detailed attention, although considerable space is devoted to such themes as splenic anemia and spondylitis deformans, which have figured much of late in literature.

Volume II comprises general surgery in all its departments. It is intended to reflect the progress of surgery during the year 1904, and the name of the editor is sufficient guarantee that the ground has been satisfactorily covered. A number of illustrations of instruments, operations, etc., are included. The treatment of the subject is that which characterized the former edition, namely, abstracts and annotations are given of selected articles by writers with the greatest experience in their individual field. In this way the best and most authentic information on each topic is presented, and the value of the work as a reference book is enhanced. All the important subjects have been well covered, and the book is of undoubted value to both physicians and surgeons.

Wharton & Stillé's Medical Jurisprudence. Vol II, Poisons. By Robert Amory, A.M., M.D., President of the Sixth National Convention of 1880 for Revising the U. S. Pharmacopœia; formerly Professor of Physiology, Bowdoin Medical College, and Lecturer on the Physiological Action of Drugs, Harvard Medical School, etc., and Robert L. Emerson, A.B., M.D., Instructor in Physiological Chemistry Medical School of Harvard University; Assistant in Clinical Pathology, Boston City Hospital, etc. Fifth Edition. Rochester, N. Y.: The Lawyers' Cooperative Publishing Co. 1905.

In passing through the various editions since its first appearance in 1873, this treatise on toxicology has undergone many changes, so that now but little of the classical original remains. As it stands, the work is in every respect representative of modern methods for the detection and identification of poisons, and though designed primarily as an aid in medicolegal work, it should prove valuable for reference to practitioners as well. The old plan or arrangement in which the drugs are grouped according to their physiological actions has been discarded, and a scheme adopted which more nearly follows physical and chemical properties so as to facilitate investigations on the nature of poisons detected after death. The recent researches on the toxicology of wood alcohol have been incorporated, as well as a consideration of the biological tests for the identification of blood and seminal stains. Although, as is natural from its scope, but little attention is devoted to the subject of treatment, the book is such a mine of information on the physical properties of poisons, the symptoms produced in overdose, post-mortem appearances, tests of identity, means of detection, etc., that it should prove of value to practitioners as well as to those especially interested in forensic medicine.

The Physical Culture Life. A Guide for All Who Seek the Simple Laws of Abounding Health. By H. Irving Hancock, author of "Japanese Physical Training," "Physical Training for Women by Japanese Methods," "Physical Training for Children by Japanese Methods," "Jiu-Jitsu Combat Tricks," "Life at West Point," etc. Illustrated. New York and London: G. P. Putnam's Sons, 1905.

The present volume presents, as the author says in his preface, the real aims and methods of the physical-culture movement so prominent just now in England and in the United States. The underlying idea is that the physical-culture life is not complex, but simple, natural, and sensible, The writer disclaims any allegiance to fads, so many of which are advocated nowadays in the search for health. He considers the effect of exercise on muscles and the tests of muscular weakness and strength. The importance of the right use of air, water, and food in their relations to body growth is emphasized. The simpler outdoor pleasures—walking, riding, swimming, rowing, and bicycle riding—are discussed from various points of view. One chapter is devoted to Non-Competitive Track Athletics for Health, Not for Records, while another one considers the Safe Non-Competitive Idea Applied to Field Athletics. The writer concludes this excellent common-sense manual with the consideration of the mental factors in physical culture.

Errors of Refraction and Their Treatment. A Clinical Pocketbook for Practitioners and Students. By Charles Blair, M.D., Fellow of the Royal College of Surgeons of England; Surgeon to the Western Ophthalmic Hospital, London; Ophthalmic Surgeon to the Royal Hospital, Richmond. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. 1905.

The author of this neat little book of one hundred pages has given us quite a complete primer on the elements of refraction. It is written in a simple and interesting style, and is clear and comprehensible alike to the general practitioner and to the beginner in his study of optics.

The British Journal of Children's Diseases. Edited by George Carpenter, M.D. Vol. I. London: Adlard & Son, 1904.

The editor in his introduction states that the object of this journal will be to keep its readers in touch with advances in knowledge in all that relates to the study of disease in children, whether of a scientific or a practical nature. Not only disease itself, but the prevention of disease is considered. The volume is well illustrated. It will prove of value to all interested in pediatrics. Several of the articles have already appeared in abstracts in the Medical Record.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

(Special Report to the MEDICAL RECORD.)

Thirty-fifth Annual Meeting, held April 18, 19, and 20, at Riverside.

THE PRESIDENT, DR. FRANK L. ADAMS IN THE CHAIR.

THE attendance was the largest in the history of the society, and the interest manifested by those present was correspondingly great. After the address of welcome, by Dr. W. W. Roblee, president of the Riverside County Medical Society, the remainder of the first morning session was devoted to

A Symposium on Typhoid Fever.—Dr. C. M. COOPER of San Francisco read on the pathology of the disease, reviewing in an interesting and thorough manner all the lesions and their relation to the infection.

Dr. F. C. E. MATTISON of Pasadena read a paper on the surgery of typhoid fever, general and immediate, in which an impartial discussion of the best methods of dealing with perforation and other accidents and complications was presented.

Dr. S. J. HUNKIN of San Francisco dealt particularly with the rare affections of the joints, and reported a case in which the hip-joint had become infected, his diagnosis having been confirmed by the serum reaction, with blood from several patients, as well as with the blood of an immunized guinea-pig.

Dr. RAY L. WILBUR of Stamford University read a paper on the routine treatment and complications. After reviewing the general clinical characteristics of the disease, the essayist addressed himself to the more important methods of treatment, including the use of serum and the other so-called specific methods. While he hoped for good results in the future from the serum treatment, he regarded it as purely experimental at the present time. Until something better shall have been found, he considered the most advisable plan the adoption of proper dietetic, hydrotherapeutic and symptomatic measures. Of the utmost importance, however, is the attendance of a suitable nurse, a well ventilated, large and properly arranged room, a bed of proper size, height, width, etc., and the presence of supplies to be used in cases of emergency, a thing too often overlooked. He recognized milk as the basis of the proper food, and in many cases the best for exclusive use. Broths, gruels, and solid foods were also considered with reference to their use in convalescence or in particular cases. Of great importance is an abundant supply of pure water, both for drink and for external use. The proper application of the full bath, the abdominal coil, the ice-cap, and sponge baths was well brought out. The general medicinal treatment, the use of intestinal antiseptics, antipyretics, stimulants, diuretics and sedatives, and methods of regulating the action of the bowels were all discussed. Of particular interest also was the consideration of complications, the statistics of which were given with commendable fulness, together with the recorded mortality. Perforation, hemorrhage, nephritis, myocarditis, and late arterio-sclerosis were referred to as important remote factors in the mortality.

Dr. GEORGE B. ROWELL of San Bernardino read a paper on the accessory treatment, in which much the same course of treatment was recommended, but more directly in reference to the management of special symptoms and complications. The serum treatment, the use of antiseptics, and the feeding of the patient were all dealt with.

Is Pulmonary Tuberculosis a Menace to the Health of Los Angeles?—Dr. GEORGE H. KRESS, of Los Angeles, in his paper, in addition to the points of purely local interest, called attention to the facts that the mortality from this disease in Los Angeles is second in the United States only to that of San Antonio. Twenty-five per cent. of the cases that die have been the subjects of charity. The general death rate of the city is exceptionally low, and it was made evident that the excessively high rate from tuberculosis is due to the influx of hopeless cases from other States. This was further established by the records of short residence in this State. Among people who have resided in the city many years, the mortality is low. The influence of the cheap lodging house, lack of sanitary measures, and poor food among the poor immigrants was also shown. As measures for relief, he advocated compulsory notification of the disease, ordinances for the regulation of lodging houses, the establishment of municipal dispensaries, sanatoria and hospitals exclusively for consumptives.

The Heart in Tuberculosis.—Dr. WOODS HUTCHINSON of Portland, Oregon, called attention to the manner in which the profession has been led astray from time to time by fallacious teaching with regard to the most important factors in the production of tuberculosis. At one time it was the dietetic and digestive ideas, at another time the one thing was infection, then the disease was regarded as purely pulmonary, and every possible contrivance was devised for its treatment. Now we resort more to methods which ignore the bacilli and ignore the lungs. He regarded the size and action of the heart as of much greater importance in the causation of tuberculosis than the condition of the lungs, and the pulse as a better guide in diagnosis than any other symptom. Referring to the size of the heart, he stated that a study of the susceptibility to the disease among lower animals confirmed the previous statement. The smaller the heart in ratio to the weight of the animal, the greater was the liability of the animal to infection. The sheep is practically immune, with a heart that is about one one-hundredth the weight of the animal. The horse also is practically immune, the weight of the heart being about one ninetieth that of the animal; goats have the same immunity, for the same reason. On the other hand, the antelope, with a heart weighing one one-hundred-and-fiftieth the weight of the body, takes the disease readily, and the cow, with a heart one two-hundred-and-twentieth of its body weight, is exceedingly prone to infection. He stated further that his own investigations and those of others have added strength to the assertion made by him several years ago that not the shallow, flat chest, but the narrow, long and deep chest, is typical of tubercular predisposition. The drooping of the shoulders, from weakness of the muscles, produces a false appearance of shallowness. The lung that is attacked by tuberculosis is the large lung, the lung that is not used. In this connection, however, it has been shown that the tuberculous patient takes into his lungs and uses a much larger quantity of oxygen than a person in health; there is not a deficiency of oxygen, but an excess of it, so that nutrition is interfered with by the excessive oxidation. With reference to treatment, he advocated the open-air method, keeping the patient absolutely at rest and forcing the feeding to such an extent that the nutrition of the body will be kept up and the size of the body made to correspond more closely to that of the lungs, at the same time reducing the excessive oxidation.

A Brief Consideration of Some of the Difficulties Attending the Artificial Feeding of Infants.—D. A. B. COWAN of Fresno, after reviewing the many perplexing things to be considered in the selection of a suitable food for the young bottle-fed infant, he concluded that cow's milk, without particular reference to its being obtained from a single animal or from the herd, is the best foundation for the food. It should, however, be as fresh as possible, and in some cases the addition of a cereal, to prevent firm coagulation of the casein, and sometimes also an alkali is advisable.

The Adams-Stokes Syndrome.—Dr. H. S. GORDON of Santa Ana then read on this subject and reported two cases. the views of Stokes, Adams, and other authorities with reference to the origin and nature of the condition were reviewed. He thought that the usual definition was too narrow, as the syndrome may occur in any one of several conditions of the heart and nervous system, and a great variety of symptoms may be observed in it. While the disease is more common in adult life, it may occur at any time from infancy to advanced age. The frequency of the attacks also vary greatly; in one of his own cases there were sixty in a single day. Bradycardia he regarded as the essential symptom. Arteriosclerosis he did not regard as necessary in its production. In one case he had administered digitalis with apparent benefit, although it is theoretically contraindicated.

Dr. Woods Hutchinson, in discussing the paper, thought that the whole condition can be referred to disease or injury of the spinal accessory nerve. He had seen two cases. In one of them, before any attack had occurred, the man had fallen and injured his spine severely, close to the occiput. The second case had been in a serious railroad accident and received an injury of the neck in the cervical region. The attacks in this case came on immediately and became more and more numerous in their recurrence, and the spasms affected parts supplied by every branch of the spinal accessory nerve.

Uncinariasis in California.—Dr. Herbert Gunn of San Francisco read this paper, which was based on the observation of sixty cases. No case has been known to have originated in the State of California, but the disease is being imported daily, chiefly from Hawaii. Since the infested laborers spread all over the State, there is great danger of place-infection, and that the disease will soon appear sporadically or in epidemic form. The importance of early recognition and correct treatment were emphasized. Specimens of the hook-worm were exhibited, and the ova, some containing living embryos, were shown under the microscope. The essayist thought the thymol treatment the best, but had not found it entirely satisfactory. There was always a tendency to recurrence of the disease in a few weeks, and it was difficult to induce the ignorant class, who generally harbored the worms, to remain for completion of the treatment.

Dr. Philip King Brown of San Francisco urged methods for quarantining the immigrants until they could be freed from infection.

Human Glanders, with Report of a Case.—Dr. W. F. Cheney of San Francisco read this paper. After a general treatment of the subject, the speaker narrated the case of a man who became infected from a horse not known to have the disease. The lesions were not typical for a time, but the diagnosis was established by staining and culture methods. Inoculation experiments were not successful. The horse was found to be infected by the same methods. Several other cases were referred to. The discussion revealed the fact that glanders is comparatively frequent among the lower animals in the State, but hat human beings are not often infected, owing to the early destruction of the diseased animals.

A Case of Poisoning by Ceonothus Velutinus was reported by Dr. R. F. Rooney of Auburn. This plant, known also as "honey dew," or "snow brush," grows abundantly in northern California, and in a slightly different variety in Oregon. It is not considered poisonous, but in the case reported it was the only source discoverable. Repeated attacks of a rash, resembling that of rhus-poisoning, had occurred on exposed surfaces. Rhus is unknown, however, in the region.

Hyoscine Hydrobromate in the Treatment of the Morphine Habit.—Dr. R. E. Bering, of Tulare, described this method in detail. He favored the so-called elimination treatment, beginning with catharsis, a vapor bath, and strychnine hypodermically; this to be followed by withdrawal of the morphine and free administration of the hyoscine in the usual manner.

Address of the President.—Dr. Frank L. Adams of Oakland, in this address, dealt for the most part with topics of interest to the profession of California, especially the workings of the State Board of Health and the difficulties constantly encountered by it. The best methods of dealing with tuberculosis were also discussed in an interesting and instructive manner.

The Report of the Committee on Tuberculosis was then read by Dr. F. M. Pottenger of Los Angeles. This also dealt with the needed measures for the suppression of the disease, compulsory notification, instruction of the people in prophylaxis, but especially in the need by the State of a hospital for the tuberculous poor. The committee had succeeded in having a bill passed by the legislature providing for such an institution, but the Governor had refused to sign it on account of the scarcity of funds in the State treasury.

The Hopes, Disappointments and Successes of the State Board of Health, was the subject of a report by Dr. N. K. Foster, secretary of the State Board. A history was given of the board from its organization, nearly thirty years ago, to the present time.

The Report of and Suggestions on the Work of the State Board of Medical Examiners was read by Dr. Dudley Tait, president of the board. The report served only to emphasize the fact that the California Board of Examiners is one of the most efficient in the United States.

Symposium on Diseases of the Gall-Bladder and Ducts.—Dr. H. C. Moffitt of San Francisco presented the first paper on diagnosis. It was a lucid presentation, not only of the signs and symptoms of these diseases, but of the differentiation of every possible condition that may present in the investigation of a case. An adequate review of the paper is impossible. The importance of recurrent pain in the epigastrium as a symptom of gall-stones was emphasized, but the plan is often misleading. The presence of Riedel's lobe is also important, but the essayist considered the use of the *x*-ray one of the most valuable and positive means of recognizing these concretions. It is sometimes necessary, however, to make as many as four or five exposures in order to get the best plate-results. Several excellent plates were exhibited. Jaundice is not a trustworthy indication of obstruction by gallstones. Neither can leucocytosis be depended upon to confirm the diagnosis, since it is often absent during periods of latency. Slow coagulation of the blood is of value in the differentiation of pancreatic disease.

The next paper, by Dr. Ernest B. Hoag of Pasadena, was an interesting review of the pathology of the diseases under consideration. It was briefly discussed by Dr. H. A. L. Ryfkogel of San Francisco.

This was followed by a report on "Experimental Studies on Gall-Bladder Infection," by Dr. A. J. Lartigau of San Francisco, read by Dr. Tait, in the absence of the author. After a brief review of the literature of his subject and a reference to the experimental work of others, the essayist reported his own work, very little of which can be recorded in this report. Bacteria, sand, and other foreign substances, separately or together, were introduced into the gall-bladder, and allowed to remain for longer or shorter times. The introduction of bacteria generally resulted in the production of stones, but the sand and other foreign bodies failed as a rule, unless bacteria were also present. Small stones were obtained in six weeks, but nine months or longer time was required for the development of large calculi. The gall-bladder containing stones was rarely found to contain any bacteria of a different species than those originally introduced. He could not assert that a mixed infection, as with the colon and other bacilli, resulted in an earlier production of the stones than the presence of only the one kind of microorganism. The presence of foreign bodies, as grains of sand along with the bacteria, produced the stones more rapidly; but the presence of a foreign body is not at all necessary. A partial or complete obstruction of the bile duct did not induce the formation of gallstones, except when bacteria were present. Bacteria enclosed in impervious bags led to the production of calculi, especially when the bacillus pyocyaneus was thus introduced. A number of experiments were made also with

Society Reports.

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

(Special Report to the MEDICAL RECORD.)

Thirty-fifth Annual Meeting, held April 18, 19, and 20, at Riverside.

THE PRESIDENT, DR. FRANK L. ADAMS IN THE CHAIR.

THE attendance was the largest in the history of the society, and the interest manifested by those present was correspondingly great. After the address of welcome, by Dr. W. W. Roblee, president of the Riverside County Medical Society, the remainder of the first morning session was devoted to

A Symposium on Typhoid Fever.—Dr. C. M. COOPER of San Francisco read on the pathology of the disease, reviewing in an interesting and thorough manner all the lesions and their relation to the infection.

Dr. F. C. E. MATTISON of Pasadena read a paper on the surgery of typhoid fever, general and immediate, in which an impartial discussion of the best methods of dealing with perforation and other accidents and complications was presented.

Dr. S. J. HUNKIN of San Francisco dealt particularly with the rare affections of the joints, and reported a case in which the hip-joint had become infected, his diagnosis having been confirmed by the serum reaction, with blood from several patients, as well as with the blood of an immunized guinea-pig.

Dr. RAY L. WILBUR of Stamford University read a paper on the routine treatment and complications. After reviewing the general clinical characteristics of the disease, the essayist addressed himself to the more important methods of treatment, including the use of serum and the other so-called specific methods. While he hoped for good results in the future from the serum treatment, he regarded it as purely experimental at the present time. Until something better shall have been found, he considered the most advisable plan the adoption of proper dietetic, hydrotherapeutic and symptomatic measures. Of the utmost importance, however, is the attendance of a suitable nurse, a well ventilated, large and properly arranged room, a bed of proper size, height, width, etc., and the presence of supplies to be used in cases of emergency, a thing too often overlooked. He recognized milk as the basis of the proper food, and in many cases the best for exclusive use. Broths, gruels, and solid foods were also considered with reference to their use in convalescence or in particular cases. Of great importance is an abundant supply of pure water, both for drink and for external use. The proper application of the full bath, the abdominal coil, the ice-cap, and sponge baths was well brought out. The general medicinal treatment, the use of intestinal antiseptics, antipyretics, stimulants, diuretics and sedatives, and methods of regulating the action of the bowels were all discussed. Of particular interest also was the consideration of complications, the statistics of which were given with commendable fulness, together with the recorded mortality. Perforation, hemorrhage, nephritis, myocarditis, and late arterio-sclerosis were referred to as important remote factors in the mortality.

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id the General Practitioner," by Dr. R. L.)iego; "A Case of Cerebral Abscess Following ative Otitis Media with Mastoiditis," by Dr. , of Los Angeles, and "The Relation of s Media to Other Diseases of the Ear, and Treatment," by Dr. F. C. Welty, of San

he society adjourned, to meet next at San he following officers were elected: *President,* oney of Auburn; *Vice-President,* Dr. W. W. verside; *Secretary,* Dr. Philip Mills Jones of o.

:W YORK ACADEMY OF MEDICINE.

Stated Meeting, April 20, 1905.

)ENT, DR. CHARLES L. DANA, IN THE CHAIR.

nt of Epidemic Cerebrospinal Meningitis with :hiefly Intraspinous) of Diphtheria Antitoxin.

L. PEABODY read this paper. (See page 735.)

. DRAPER said that thirty cases of cerebro- ıgitis had been treated during the present the First Medical Division of Bellevue Hos- :se, seventeen had died, two were discharged, ·ere still in the hospital. Of the thirty cases, ı treated with diphtheria antitoxin, which in :e was given subcutaneously. Of these ten, and only two of them lived more than six vs. Three of the patients were still in the ı good condition; two in fair condition. One bly recover. Two of the thirty cases were plain horse serum; one of these was now ther was in fairly good condition. Of the ted on general principles, ten died, two were ımproved, and the other six were still in the of them in a serious condition, while the :re likely to recover. Dr. Draper said their ith diphtheria antitoxin in the treatment of meningitis at Bellevue Hospital had led them onclusion as that expressed by Dr. Peabody, : had no influence on the disease whatever.

IS P. KINNICUT said the experience ntitoxin treatment in the Presbyterian been very similar to that reported by Dr. e total number of cases of cerebrospinal :ived into the wards since January 1st, 1905, e; the number of deaths, thirty-two. Two ·ed; nine were still in the hospital. There cases treated with antitoxin; of these, six four were still in the hospital with a very s. The intraspinous method was used in the remaining eight the antitoxin was given ubcutaneous method. Of the two patients ·ered, one was improving at the time of o the hospital, and was given but a single antitoxin. The other did not receive it.

M. LESZYNSKY said that thirty-five cases l meningitis had been treated during the c in the Lebanon Hospital, with a mor- :ent. In only one case was diphtheria anti- the only result was the production of a In that instance, the remedy was given The patient died.

OOMIS said that forty-two cases had been New York Hospital, with a mortality of)iphtheria antitoxin was used early in eight cing with a dose of about 10,000 units in out 6,000 in children. After experimenting :dy for a few weeks, it was decided to dis- In not a single instance could any improve- ıced to the antitoxin, as far as the general of the patient was concerned, although after ıjection the number of leucocytes was doubled were slight temperature changes. Horse serum, is used in three cases, produced no effect on the

disease. It has been reported recently that in one of the churches of the northern provinces the virgin would cure all cases of smallpox and confer immunity upon all the faithful who would come there to worship. Persons suffering with the disease have begun to assemble at the church, and they are accompanied by many others who wish to see the cure or who expect to receive the immunity themselves. The Provincial Board of Health has ordered the church to be closed, but it is understood that the church authorities have objected to this order upon the ground that the health officer who issued the same belonged to another religious sect, and was therefore prejudiced. The Insular Board of Health has decided to meet the situation by sending vaccinators to the church with instructions to inoculate everybody. This will probably have the effect of stamping out the disease, and the result will be variously credited to science and to religion according to the point of view.

Smallpox has broken out a number of times recently among the crew of the battleship Wisconsin. Upon the appearance of the last outbreak the ship was turned over to the United States quarantine authorities, and they remanded the vessel to the Mariveles Quarantine Station for thorough disinfection and the vaccination of the entire personnel. Sixteen days have elapsed since that was done and no further cases have made their appearance, and it may therefore be assumed safely that the disease has been stamped out.

Dr. H. B. Wilkinson, the physician in charge of the San Lazaro Hospitals, has gone to the United States on a four months' leave of absence.

Major Banister, United States Army, the surgeon in charge of the First Reserve Hospital during the past two years, has completed his tour of duty in the Philippines and has been relieved by Major Fitzhugh Carter, United States Army, and has returned to the United States on the transport Sherman.

Major H. I. Raymond, United States Army, the officer in charge of the Medical Supply Depot, has completed his tour of duty in the Philippines and has been relieved by Col. D. M. Appel, United States Army, and has returned to the States on the transport Sherman.

Captain and Assistant Surgeon Hess, United States Army, who has been on duty at the Cuartel de España, has left on a two months' leave of absence in China and Japan.

CEREBROSPINAL MENINGITIS AND THE DISTRIBUTION OF THE BLOOD.

To the Editor of the Medical Record:

Sir: I was very much interested in the communication of Dr. Goodall of Bennington, Vermont, on bleeding in cerebrospinal meningitis. The success of his method has two significances to my mind: Firstly, the release of pressure from the cranial space and spinal canal, and the relation of these pressures to the distribution of the blood. In regard to the first consideration, the evidence is daily accumulating that cerebrospinal pressure bears a very intimate relation to the distribution of the blood, *i. e.* when the circulation is deflected to the cerebrospinal centers, cerebrospinal pressure is the consequence, and conversely when determined from these centers to the periphery, the pressure is relatively reduced.

The recent reports of brilliant results following the equalization of the blood by hypodermically administered ergot, after the method of Dr. Alfred T. Livingston, certainly parallel the cases of Dr. Goodall, and moreover substantiate the analysis of therapeutic action as above given.

Dr. Goodall's additional measure of "steaming" the periphery, is a valuable accessory means of attaining the same end, namely the determination of the blood volume to the periphery, thus relieving cerebrospinal congestion and consequent stasis.

I think few indeed of Dr. Goodall's readers will agree with him that there is any superabundance of blood in the bodies of patients suffering with cerebrospinal meningitis, any more than any other disease, or in fact that bloodletting is other than harmful, except for the relief given to the cerebrospinal pressures, and this as we have seen above is obtainable by other measures, more humane, just as effective, if not more so, and with perfect freedom from untoward effects.

I agree with Dr. Goodall that it is far preferable for physicians, not amply prepared for cerebrospinal puncture, to resort to measures of relief of the nature of his steaming bath, and also to give ergot by Livingston's method, though it must be understood in advance that ergot internally administered is a failure.

Homer Wakefield, M.D.

New York.

Progress of Medical Science.

Boston Medical and Surgical Journal, May 4, 1905.

Subacute Perforation of the Stomach.—The histories of three cases are given by F. B, Lund, who refers particularly to those conditions in which a very small opening may become plugged by a bit of omentum or by fibrin. In such a case the perforation becomes almost at once walled off by adhesions from the general peritoneal cavity. The general ideas the author advances are summarized in the following propositions: (1) The symptoms of subacute perforation of the stomach are similar to those of acute perforation, with the important exception that they are less violent and are not followed by collapse or by the development of general peritonitis. (2) The location of the pain and tenderness depends upon the location of the ulcer and varies with it. (3) The treatment should be, if possible, posterior gastroenterostomy without breaking up the protective adhesions.

Certain Aspects of the Differential Diagnosis between Epilepsy and Hysteria.—J. J. Putnam and G. A. Waterman gives the histories of eleven cases, illustrative of the difficulty of diagnosis between the two conditions named. They realize the difficulty of the situation, especially in dispensary practice, where the patient is seen only at intervals, and where the testimony of friends is so unreliable. They, therefore, suggest that every neurological staff should contain a man skilled in psychopathical research who should review from time to time all doubtful cases. While they are disposed to admit that the diagnosis of so-called idiopathic epilepsy is considerably more brave than that of hysteria, and that these two affections represent different tendencies, they declare that such a statement needs some qualification. It is probable that the term epileptic, as implying a tendency to outbreaks of certain sorts, covers a variety of pathological tendencies, and the mere form of the attack does not always enable us to distinguish between them. Thus, epileptic fits as seen in cases of brain tumor may be indistinguishable in themselves from those met with in cases exhibiting the familiar degenerative tendency associated with the name of epilepsy in general. Again, degeneracy itself is by no means always present in epileptic conditions, even those classified as idiopathic. Too little is known of the physiology of the epileptic seizure, in its varied forms to enable one to say there is a sharp distinction to be drawn between such an attack as occuring in hysteria and another which might be found in epilepsy proper. However much it may be believed that these two forms are different, it is impossible at present to give the ground for such belief.

New York Medical Journal, May 6, 1905.

Adenoids in the Adult.—D. M. Barstow finds from a study of the subject that adenoid growths in the adult are more common than is generally supposed. This lesion is a frequent cause of nasopharyngeal catarrh with its annoying postnasal dropping. It may cause nasal obstruction and apparent hypertrophic rhinitis. The study of the cases narrated by Barstow shows that this condition should always be suspected in ear disease and pulmonary tuberculosis.

Politicosociological Aspects of Tuberculosis Problems.—Jonathan Wright notes the changing view with reference to the real underlying cause of tuberculosis. We have turned from the extreme ideas of Koch in regard to the relative importance of the bacillary factor to the conviction that the question of strengthening the resisting power of the cells of the human body is by far the most important phase of the whole matter. Tuberculosis is not to be classed in the same grade of contagion with cholera. The bacillus is a "thick-hulled" organism and comparatively easily thrown off by healthy tissues. The whole matter turns on the possibility of providing proper housing, food, and exercise for the multitudes. It is by progress along these lines that the mortality rate of tuberculous diseases has fallen and not by any distinctively medical measures as such. Progress in this direction began long before the modern conception of the communicability of the disease. So far as figures show, there has been less improvement in mortality statistics in the years since special measures against the bacillus have been in force than in the corresponding preceding period.

Medical News, May 6, 1905.

Treatment of Non-Malignant Diseases by the Röntgen Ray.—R. H. Boggs presents the following conclusions: (1) It is necessary to distinguish between the non-malignant diseases which should, and those which should not be treated by the *x*-ray. (2) While the continual cry of technic may become tiresome to some who think the subject can be mastered in a few days or a couple of months, the method of application of the rays and the judgment of the operator accounts largely for successful or unsuc-

cessful work. (3) It is just as essential to administer a therapeutic dose when applying the Röntgen rays as it is when prescribing powerful drugs. (4) Idiosyncrasy is not a frequent cause of excessive dermatitis. (5) A dosage which causes stimulation of healthy tissues will usually produce a slight reaction in diseased tissue. (6) At all times, it should be remembered that it is not so much the *x*-ray that cures as the judgment with which it is employed. (7) The *x*-ray is one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is unnecessary in many instances to treat the trivial and less obstinate cases by this method. (8) The *x*-ray, supplemented by Finsen light, is the most efficient therapeutic agent for the treatment of lupus. (9) The *x*-ray is the most efficient agent for the treatment of certain tuberculous glands, Hodgkin's disease, and selected cases of goiter.

Nasal Conditions Dependent Upon the Generative Organs.—J. Sinexon draws attention to the following facts: During coitus there is always a turgescence and hyperesthesia of the nasal mucosa. In women there is a more or less marked periodical engorgement of the nasal tissues coincident with menstruation and it also occurs periodically during pregnancy. Operations destroying the functions of the generative organs cause the nares to revert to the state existing prior to puberty. In the lower animals sexual excitement is always accompanied by nasal occlusions. In the human species, nose bleed or hydrorrhea may result from the same cause. The result of over-stimulation of the nasal mucosa from sexual perversion may lead to permanent relaxation through vasomotor paresis,

American Medicine, May 6, 1905.

Adutlerations of Drugs.—H. W. Wiley says the extent of drug adulterations is probably much greater than is commonly supposed. The fact that properly written prescriptions may result in a concoction of a remedy much different from that required is a matter that cannot be ignored. According to Dr. Wiley these adulterations consist of (1) substitution, *i.e.* providing an article entirely different from the one prescribed or an article which may resemble the one called for in many of its physical, chemical, and therapeutic properties. (2) The degradation of the drug by adding an inert material or extracting a valuable one so that its properties are impaired. (3) Drugs which are "misbranded." These are sold directly to the consumer, without passing under the inspection of the physician. In order to combat the prevailing suspicion concerning drug adulterations, every pharmacist should be taught the necessity of honor and honesty in his dealings and be advised to buy and sell only pure and unadulterated materials.

New Operation for the Relief of Flat-Foot.—Wilson and Patterson present a favorable report of a new operation for flat-foot, consisting of an arthrodesis of the astragaloscaphoid joint and the transplantation of the tendon of the extensor proprius hallucis, through a hole drilled in the scaphoid bone, an adaptation of Wolf's operation for paralytic valgus. The loss of function of the transplanted extensor of the great toe is but temporary and until the extensor brevis digitorum becomes educated to overcome the toe-drop. The after treatment is fully as important as the operative correction and consists of well-adapted physical culture drills. This procedure has yielded better functional results than is possible by the use of arthrodesis alone. The combined operation for flat-foot now described for the first time, offers no serious difficulties, the additional damage to the structures of the foot necessitated by this procedure is inconsiderable, the time required for treatment not longer, and the results obtained more certain and satisfactory. It would, therefore, seem well to adopt the combined operation in all suitable cases.

Diet in Typhoid Fever.—J. B. Nichols advocates a more liberal and more varied diet in typhoid fever than is now customary. He is opposed to the exclusive liquid diet so-called, arguing that liquid foods are not necessarily more digestible or less irritating to the bowel than are solid foods. He believes the consistency and condition of the food in the intestine is a criterion of more importance than the fluidity or solidity of the food before ingestion. Nichols gives the published results obtained from mixed and liberal feeding in typhoid fever, covering a total of 1,000 cases, with 77 deaths. This low mortality of 7.7 per cent. does not bear out the common apprehensions as to the dangers of departure from milk diet. Complications were not increased by the free diet. The patients were markedly more comfortable and contented, their strength appeared better maintained, convalescence was materially shortened, and from the improved resistant power the mortality rates appeared appreciably lowered, comparative statistics showing an improvement in the death rate of from 2 per cent. to 4 per cent.

Benign Strictures of the Esophagus.—C. D. Spivak divides benign stricture of the esophagus into (1) congenital and (2) acquired. Acquired stricture may be divided into: 1. Organic: (a) after ingestion of corrosive substances; (b) after the healing of an esophageal ulcer; and (c) lues, 2. Mechanical; (a) presence of foreign bodies; (b) polypi, and (c) thrush. Due to compression from without, as tumors, enlarged lymphatic glands, aneurism of the aorta, periesophageal abscess; and verticulum of esophagus filled with food. 3. Spasmodic. The majority of all cases of benign stricture are due to cicatricial obliteration, the result of losses of substance following scalds, produced by caustic substances. Spivak says the symptom, epecially referable to deglutition, are, (1) a short period at the beginning when swallowing is impossible—the period of esophagitis—followed by (2) a period lasting several months, when deglutition is not impeded, and (3) a period when the difficulty to swallowing gradually redevelops—the period of stenosis. During the inflammatory period he advises rest, alkalies in acid poisoning, and vice versa, ice to the sternum, stimulants. Gradual dilatation should be employed early. Conic semisolid elastic esophageal bougies should be used. Metallic or whalebone sounds with olive tips should be avoided. The bougie should be left in the esophagus for several minutes. At first the sound should be passed every day, and later every other, or third day. When dilatation is complete, a bougie should still be passed at intervals of one month to prevent relapse. He reports three cases.

The Gynecologist and the General Surgeon: Their Respective Fields.—Brooks H. Wells says there is necessity for the special study of gynecology. It is a broad and important portion of medicine, not by any means all surgical, and necessitating a highly trained judgment, extensive clinical experience and skill in its details of etiology, diagnosis, prognosis and treatment. While theoretically limited to the pelvis, gynecology must practically include the surgery of the abdomen in women. This work can be best done by the trained abdominal or gynecologic surgeon. Wells protests against the recent and increasing tendency for the amateur gynecologist or surgeon, and physicians in general, with little or none of the necessary surgical experience, skill in diagnosis or appreciation of danger, undertaking with a blind confidence the most complicated and serious abdominal or pelvic operations.

Journal of the American Medical Association, May 6, 1905.

The Curability of Early Paresis.—C. L. Dana suggests that paresis, like tabes—with which it is closely related as a parasyphilitic disorder—may be arrested in its earlier stages. By "arrested" he does not mean the well-known remissions of the disease; in these, he says, there still remains a certain amount of paretic mental impairment, but he rather means a complete disappearance of all evidence of degenerative changes in the brain. He reports a number of cases illustrating his contention, in which symptoms decidedly indicative of paresis appeared, characteristic mental changes, convulsions, Argyll-Robertson pupil, etc., but which disappeared under treatment, and the patients remained well for various periods under observation. The treatment generally consisted in complete change of life, antisyphilitic medication, preferably hypodermic, hydrotherapy, and attention to the general nutrition. He says there is no *a priori* reason why paresis in its early stages may not be sometimes cured, and he holds that the cases he here reports point that way and indicate the importance of an early diagnosis and treatment of this disorder which has been heretofore considered incurable.

X-Ray Treatment of Cancer.—The microscopic changes in the tissue, says E. G. Williams, should be our guide as to the therapeutic possibilities in the *x*-ray treatment of malignant growths. It is evident, he states, that the elements of the tissue are affected according to their vitality. Dead organic matter is unaffected, and the more active the growth the greater the effect. Next to this is the accessibility of the tissues to the rays. Hence the better results with superficial or skin cancers. That moderately deep tissues can be affected is shown by experience, and the way to reach them without producing necrosis of overlying tissues is to lengthen the distance of the tube and the time of exposure. For deep growths, radical surgical measures should be recommended, as the patient should be given the benefit of the probability rather than the possibility of good results. In such cases, however, operation might be rationally followed by *x*-ray treatment to destroy what may remain of the malignant growth. Inoperable cases should be treated by the *x*-ray because remarkable results have been obtained and the most distressing symptom of pain relieved.

Protection from Röntgen-Ray Injuries.—C. L. Leonard calls attention to the serious risk that *x*-ray operators undergo, especially if they follow the practice advised of testing the qualities of the rays on their hands with the fluorescent screen. The only practical method is to limit their radiated field by covering the Crookes tube. For this purpose he uses a pasteboard box a little wider than the diameter of the tube and covered with *x*-ray lead foil a little heavier than the ordinary tea lead. This extends two

inches below the bottom of the box, and can be adjusted so as to limit the field to any extent required. It is not necessary to cover the anode end, and the box is held on a bracket over the portion of the body to be treated; if a very small field is required, a local shield may also be employed. He thinks possibly some effects are due to the strong induction field surrounding the coil which, especially in large hospitals, should be kept in another room, but with the controlling apparatus within the operator's reach. For the dermatitis of the operator's hands, he advises, twice daily soaking in very warm water and scrubbing with Eichhoff's superfatted resorcin soap, followed by inunction of lanolin containing half an ounce of boric acid and a dram of resorcin to the ounce. For the acute erythema of *x*-ray treatment, he employs a stearate of zinc powder with 10 per cent. ichthyol, which he thinks acts as a prophylactic against severe burns. This should not be confused with stearate of zinc ointment, which may do harm.

Eyestrain.—A. G. Pohlman takes up the subject of the etiology of eyestrain from a phylogenetic point of view, and assumes that the abnormalities of human vision are due to the change from the aboriginal to a domesticated condition. In this he includes, however, the changes from a horizontal position of the spinal axis to the upright position, and the more anterior and parallel position of the eyes, etc., which are shared by the higher simians with mankind. In man, however, there is a still further extension of the process, and there is developed a power of sustained convergence for nearwork. The divergent tendency exists in all animals, as is evident during sleep and after death. The special headache of sightseers is not due to strain on the elevator muscle, but to that on the internal rectus to overcome the greater divergence caused by looking upward. The tendency of civilized man is toward myopia, and the failure of sight in old age is a reversion toward the animal normal.

The Lancet, April 29, 1905.

On the Absence of Marked Diminution of Free Hydrochloric Acid in the Gastric Contents, in Malignant Disease of Organs Other than the Stomach.—In a series of cases observed by W. Alexander, R. E. Kelly and H. E. Roaf, the amount of free HCl present in the stomach contents was determined in seventeen instances of malignant disease of the uterus, mamma, rectum, tongue, cheek, etc. In about two-thirds of the cases the free HCl was found to be entirely absent, while in the remaining cases the amount was much below the normal. The authors postulate the fact that the absence of free HCl in cancer of the stomach is not due to local action in that organ, but that it is absent or greatly reduced no matter what may be the situation of the malignant process. This result is to be ascribed according to the authors to a diminished concentration of the hydrogen ions in the blood plasma, but we have no means at our command, so far as we know, to prevent this diminution.

Latent Pneumothorax.—B. C. Stevens declares that in addition to those cases of pneumothorax due to phthisis and trauma, there are other cases in asthmatic subjects with emphyema in which one of the distended air vesicles on the surface of the lung may attenuate its pleural covering and this condition plus some slight extra strain may cause the vesicle to burst and allow eau to enter the pleural cavity. He has observed in the post-mortem room such unruptured vesicles, one being as large as a hen's egg. He records the history of a clergyman, who was suddenly attacked by a pain around the heart. When seen by the author twenty-four hours later he had considerable dyspnea, but was not cyanosed, and the left chest presented the classical signs of pneumothorax. Under a sedative régime a normal condition of affairs gradually returned, and in three weeks he was well. The author explains the case as follows: The patient was an asthmatic. As a curate he had been taught to use the lower part of his lungs in phonation so as to save his larynx. This had no doubt been an extra strain on his already over-distended lungs. The treatment in such cases is the expectant one. Put the patient under the best hygienic surroundings, give alcohol, if there is distress; the nutriment must be easily assimilable and not such as might give rise to flatulent dyspepsia. Of drugs iodide and arsenic are useful at first, and some petroleum emulsion later.

A Case of Extensive Cutaneous Diphtheria with an Examination of the Nervous System.—C. Bolton and D. Brewer discuss the question of systemic poisoning from cutaneous diphtheria, and describe the case of a female child eighteen months old, who had a "sore" in the left groin, for a week. No history of a previous trauma could be obtained. Examination showed a gangrenous patch with sinuous edges and about three by two inches in extent, surrounded by an inflammatory areola about half an inch in width. It commenced in the groin where the site of ulceration was occupied by a blackish scab and was apparently spreading upwards mainly on the abdominal wall. This more recent ulceration showed what were evidently sloughing portions of skin of a dirty white color. There was nothing to be seen approaching the appearance of a membrane and the edges gradually merged into healthy skin, but in the more central portion the loss of substance was considerable. The left labium majus was greatly swollen, but no trace of ulceration could be found upon it. No glandular enlargement was noted. A culture was made from the surface of the gangrenous patch and true diphtheria bacilli were found. The case resulted fatally on the forty-first day of the disease, after a course in which evidences of a profound poisoning of the nervous system were manifest.

Berliner klinische Wochenschrift, April 17, 1905.

The Combination of Radiotherapy with Organotherapy. Poehl and Tarchanoff describe a method by means of which it is possible to render organic preparations such as mammin, spermin, cerebrin, thyreoidin, etc. radioactive. The first step is the preparation of radioactive absorbent cotton, and this is accomplished by forcing the air in contact with a quantity of one to one thousand radium bromide solution through tubes containing the cotton. After a quarter to half an hour the cotton becomes strongly activated, and if some of this is placed in any one of the various organopreparations it gives up its radioactivity to this. Going on Poehl's theory that these substances exert a selective action on the type of organ from which they were obtained, the authors believe that by injecting such radioactive preparations it is possible to cause the radium emanations to exercise the same selective action.

Echinococcus of the Thyroid.—Ehrhardt says that this is one of the rarest of the tumors of the thyroid and that Eiselsberg was able to collect only twenty-two cases in his monograph. The author's patient was a man of twenty-one who suffered from serious dyspnea owing to a cystic thyroid growth. In the course of the operation for its removal it became necessary to evacuate it, and thus the true nature of the tumor was revealed. As it was largely restrosternal, considerable difficulty was experienced in performing the extirpation, but it was successfully accomplished, and two years later no recurrence had taken place.

Münchener medizinische Wochenschrift, April 18, 1905.

The Treatment of Inflammatory Conditions by Means of Aspirating Apparatus.—Klapp describes various forms of apparatus to be used for the application of Bier's method of stagnation hyperemia in the treatment of such acute conditions as mastitis, furuncles, paronychia, etc. For use in cases of mastitis a large bottle may be employed, the bottom of which is cut off and the cut edges rounded. The neck is closed with a perforated stopper through which passes a tube connected with an aspirating syringe. The author reports very satisfactory results in the treatment of cases which ordinarily would be subjected to free incision and drainage. The aspiration treatment is continued from three-quarters to one hour daily for the first few days, after which sessions of from twenty minutes to thirty minutes suffice. The suction should not be vigorous enough to give pain and should be frequently interrupted to permit absorption of the disease products. If pus is already present the abscess is opened by a very small incision and suction applied at once. The treatment relieves the pain almost immediately, and brings about a cure at least as promptly as the old method, while the patient is spared the suffering and discomfort attendant on a cutting operation with its subsequent dressings and scarring. The same principles are made use of in the treatment of other acute superficial infections in all parts of the body, by means of suitable smaller glass cups which are exhausted either with a syringe or by rubber bulbs and the results are said to be highly satisfactory.

A Fecal Tumor Simulating a Fibroma.—Wiener's patient presented a hard tumor the size of the fist behind the uterus and slightly movable. Defecation had been painful but it was rare for a day to pass without a movement. No fecal masses could be felt from the rectum, the ovaries were not palpable and a diagnosis was made of either pedunculated uterine fibroid or ovarian fibroma. About ten days later, just before a laparotomy was to be done, another examination was made and it was found that the tumor was much lower down, was doughy in consistency, and the ovaries could be identified. The operation was called off and in the course of the next few days large quantities of feces were expelled, causing the complete disappearance of the mass. The author says that owing to the vigorous ante-operation scrubbing and catharsis, sufficiently active peristalsis was started to move the impaction downward and so enable the diagnosis to be made, and he points out the great importance of making a bimanual examination immediately before every operation.

Death Following the Application of Boric Acid Ointment to a Burn.—Dopfer prescribed the official ten per cent. boric

acid ointment for a two-year-old child, whose arm had been scalded. Several days later he was called again and found the child in collapse and moribund. The injured surface was 12 cm. by 3 cm. and the retē Malphigii was exposed, no granulations having formed. The entire body except the head was covered with a scarlatina-like rash which, over the hands and feet, was of blue-black hue and petechial in appearance. The temperature was subnormal. According to the parents the child had not suffered greatly from the burn, but a few hours after the ointment had first been applied the rash appeared and the little patient began to give evidence of prostration. The symptoms steadily progressed until death occurred shortly after Dopfer's arrival. The author calls attention to the fact that although boric acid is usually regarded as harmless, it evidently should be applied with caution to large wound surfaces, especially in children, and particularly if no granulations are present.

Deutsche medizinische Wochenschrift, April 20, 1905.

Technique of the Alexander Adams Operation.—Robbers describes as follows his method of performing the operation, which he considers less likely to lead to injury of neighboring structures. The usual skin incision, 6 to 7 cm. in length, is made parallel to Poupart's ligament, and the external ring is carefully laid bare. The ligament is identified at its exit from the ring and is clamped. The external oblique is split up in the direction of its fibers and the cut edges are well retracted. By traction on the clamp the ligament is made tense and is then freed at a point about 3 cm. from the external ring, where it can usually be readily identified and is not easily torn off. Its light color and the ease with which it yields to traction with the forceps, distinguish it. It is then drawn forward and the peritoneal investment stripped back by blunt dissection. It is better to tear off the distal end than to cut it, as otherwise a small vessel is sure to bleed. In case it is impossible to find the round ligaments the author recommends ventrofixation by means of the suprapubic transverse incision.

A Remarkable Collection of Foreign Bodies in Appendicitis.—Rebentisch describes the case of a woman of seventy-four who came under observation with what appeared to be an inflamed hernia. The acuteness of the symptoms made it seem likely that the intestine was involved, but the absence of symptoms of obstruction rendered it probable that it was the appendix that was concerned. On operation under local anesthesia, this was found to be the case, and on separating the gangrenous appendix from its adhesions it burst open and a quantity of pus and small foreign bodies escaped. These were over a hundred in number and comprised two grape seeds, two other seeds, six fragments of enamel, three bone spicules, a bit of wood, several small pieces of gravel, numerous fragments of gallstones, and a large number of small, light brown, facetted concretions. These had a white, chalky nucleus, and were composed mainly of calcium phosphate and carbonate. The author believes that they were true enteroliths and that they were formed *in situ*. At a secondary operation the radical cure of the femoral hernia was successfully accomplished.

Annals of Surgery, April, 1905.

Studies on the Pathology and Etiology of Obstructive Hypertrophy and Atrophy of the Prostate Gland.—The following propositions summarize the views of P. M. Pilcher: (1) Pathologically there are three types of prostates causing urinary obstruction: (*a*) The large, soft type, (*b*) the hard, small, contracted type, and (*c*) the mixed type. (2) Infection does not influence the variety of the pathological change. (3) The contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied prostrate, but is distinct from it. (4) In many cases of hypertrophy of the prostrate there is present a true muscular hypertrophy. (5) In some of the atrophic cases the glandular elements diminished and the muscular elements relatively increased. (6) Gonorrhea is not an important etiological factor in the production of this disease, and there is no necessity for assuming it to be. (7) The theory of obstruction to the ducts causing passive dilatation of the glandular elements, as advanced by Ciechanowski and Crandon, does not satisfactorily explain the pathological findings. (8) Hypertrophy of the prostate results from glandular overgrowth, influenced by the degenerative changes of old age, and other agents which tend to produce the formation of fibrous connective tissue in an actively functionating gland.

Has the Catheter a Place in the Treatment of Chronic Prostatic Hypertrophy?—Paul Thorndike notes that radical operations on the prostate are slowly shouldering aside the catheter and other palliative methods of treatment and giving them a gradually contracting field of usefulness, but he realizes that there are some patients unfit to endure the shock of such radical methods and some who are better off with proper palliation rather than with radical intervention. Proper catheter instruction in patients who are old and obviously bad surgical risks may enable them to pass their lives in comparative comfort and with a steadily diminishing risk of infection. If such comfortable palliation ceases to be possible, the time for intervention is at hand, notwithstanding its formidable risks. Again, in younger patients there may be an atonic condition of the bladder muscle and an operation on the prostate does not better his condition at all, because it does not remove what has come to be the main (though secondary) cause of the trouble. In such cases the employment of the catheter is commendable. Such patients should use the catheter regularly and at such intervals as to prevent daily over-distension of the bladder until such time as the bladder shall rejuvenate itself to a degree which will enable it to empty itself, at least in large measure, after its obstruction is removed.

Prostatism without Enlargement of the Prostate.—C. H. Chetwood tabulates thirty-six cases. His experience leads him to conclude that contracture of the neck of the bladder is a common cause of vesical obstruction. He finds that the condition can be safely relieved and surely by means of a galvano-prostatotomy through a perineal opening. The symptoms caused by this vesical contraction constitute what has been called prostatism without enlarged prostate. The lesion is essentially a fibroid stenosis of the vesical orifice, and its cause may be found in previous chronic inflammation in front of or behind the sphincter. Gonorrhea may be the exciting cause. The contraction may occur in the young as well as in the old. Chetwood calls attention to the fact that there is much confusion in the minds of some surgeons even at the present day between the two conditions of vesical neck contracture and prostatic hypertrophy.

Suprapubic Prostatectomy without Ether or Chloroform.—J. Wiener, Jr., declares that this operation can be safely undertaken under nitrous oxide gas even in the most desperate cases. He states that neither nephritis, diabetes, cystitis nor advanced old age are contraindications. Any man who is able to take gas for ten minutes can have the operation safely performed. Eleven personal cases are reported by the author, who counsels against instrumentation to urethra or bladder before operation. The author does not maintain that this particular operation is the most desirable one in every case. He has, however, lost no case and has never seen a severe hemorrhage, bad infection or any shock follow the operation. He denies that the operation itself has any injurious effect on the sexual capacity. No longer time is required for the wound to heal than when the perineal route is followed. Wiener has recently had one case in which the bladder wound healed in nineteen days.

The Cause of Incontinence as a Sequel of Prostatectomy.—F. W. Ruggles finds the cause of incontinence under the conditions named as due to a nerve which runs nearer the prostate than is usually assumed, being distributed to the external vesical sphincter. It seems to him that this theory of a nerve supply running close to the prostate and sometimes injured in the strenuous manipulations attending its removal, must be true, or else the injury must be looked for in the operation of the membranous urethra itself. This is accompanied, nearly always, by great stretching and tearing of the posterior urethra, sufficient to permit the exploration of the bladder with the finger, the passage of instruments and even the extraction of calculi. In these manipulations, especially at the hands of inexperienced or bungling operators, there is certainly great damage done to the external sphincter muscle, and, in addition, its nerve supply may be totally or partially cut off, especially if the incision is not made exactly in the median raphe. Also to be considered is the fact that pressure is capable of producing paralysis. For instance, the very trifling pressure on the ulnar nerve produced by sitting in a chair with padded arms will, if long continued, cause, in some persons, an obstinate ulnar paralysis. It is quite conceivable that the rather violent operative procedures in prostatectomy may produce similar effects by extreme pressure for a short time. Incontinence following simple external urethrotomy, where less cutting, dilatation, and laceration are practised, is, in my personal experience and reading, very rare. His suggestions would therefore be that, if perineal prostatectomy is performed, the incision into the urethra should be made as close to the prostate as possible, exactly in the median raphe of the compressor urethræ, and the utmost care be exercised to avoid stretching and laceration of the muscles.

French and Italian Journals.

Necrosis of the Liver in a Case of Acute Uremia.—Armand Beauvy has observed at autopsy a case of scarlatinal glomerulonephritis. The lesions of the liver in this case were very interesting. The patient was a girl six years old, who had had a light but distinct attack of scarlet fever. Just after her recovery she was exposed to a rain storm and had a chill. Five days afterwards her eyelids became swollen and albumin was found in the urine. Although she was put on a milk diet, the albuminuria increased and head-

ache developed. On her entrance to the hospital there was considerable dyspnea. The face was pale and slightly cyanosed. There was slight generalized anascarca. Râles were heard at both pulmonary bases. There was no jaundice and the temperature was normal. The child died in a day or two quite suddenly. All of the organs were congested. There was slight effusion in the pleuræ. There was no pulmonary tuberculosis. Microscopically, the kidney did not show any old sclerosis. The tubules were normal and there was some albuminous exudate. The glomeruli were greatly distended. In spite of the enlargement the blood vessels were invisible in this part. This was more noticeable because the rest of the kidney was very much congested. To sum up, there was a condition of proliferative glomerulitis. About the portal region there was a slight fatty degeneration, although the cells stained well. On the contrary, in the subhepatic region the tissues were very much congested, and there was distinct necrosis. From the fact that there had been an absence of hepatic symptoms, the writer inclines towards the theory that these lesions of the liver were due to uremic poisoning.—*Bulletins et Mémoires de la Société Anatomique de Paris,* February, 1905.

Rapid Treatment of Vaginal Gonorrhea.—C. Daniels thinks that gonorrheal is the most common type of vaginitis. The lesions are located especially in the cul-de-sacs. The writer describes the following method of treatment, which is advocated by Tuffier as being the most rapid. The vagina is first carefully cleansed with a sterilized compress or a soft brush. It is then rinsed with plain boiled water. Injections are then given of six liters of a 1 to 4,000 solution of permanganate at 35° to 50°. The vagina is then tamponed with five or six large wicks of sterilized gauze, soaked with the same solution of permanganate. After twenty-four hours the wicks are withdrawn and new ones are inserted. After from twelve to twenty-four hours this treatment is completed. The patient is carefully looked after for about two weeks, although after the second day there are no more gonococci. The cul-de-sacs are painted with tincture of iodine, which is also used to disinfect the cervicouterine cavity. Daniel approves of introducing a stick of nitrate of silver into the urethra. This is immediately withdrawn. Three or four treatments, eight days apart, will effect a complete cure of the urethral infection.—*Revue Française de Médecine et de Chirurgie,* April 10, 1905.

Nervous Symptoms in the Course of Scarlatina; Leucocytosis of the Cerebrospinal Liquid.—Several observers have shown by lumbar puncture that mumps, in spite of its benignity, may affect the meninges. Dufour and Giroux have demonstrated that this is true likewise of scarlatina. Several cases in point are reported. The first patient attacked with scarlatina suffered from nasolabial herpes. There was intense headache; the pulse was 51. On the ninth day lumbar puncture was performed, and the headache diminished in severity. The liquid showed a very abundant lymphocytosis. Pressure was normal. A second patient on the seventh day of the illness showed a narrowing of the palpebral fissure on the right side with depression of the ocular globe. There was a slight bilateral myosis without inequality of the pupils. There was also a slight degree of facial paresis. On the eleventh day lumbar puncture was practised. In the liquid there were found albumen, lymphocytes, and polynuclears. Recovery took place. In the third case numerous lymphoctyes were found. The patient recovered.—*Gasette des Hôpitaux Civiles et Militaires,* April 4, 1905.

Malady of Recklinghausen and Arrest of Development of the Bones.—Hallopeau and Jeanselme have had two patients in whom besides the ordinary lesions of the disease of Recklinghausen, there was an absence of an important bony segment. In one the fibula was lacking. The *x*-ray showed that only the epiphyses were present. The diaphyses were completely lacking. These cases show that an arrest of development is intimately connected with the disease of Recklinghausen, and they prove that this disease can affect all parts of the economy.—*Le Bulletin Médical,* April 19, 1905.

Functional Treatment of Mild Scoliosis.—A. Codivilla tells us that every case of scoliosis, no matter how slight, should be treated, because it predisposes to tuberculosis, and because it indicates a morbid condition of health. Instructors of all kinds should be on their guard to detect these slight cases, and have them placed under treatment. Research has demonstrated that scoliosis is a form of contracture, and for such conditions the rational treatment is active and passive movements. The apparatus should permit of movements in the deformed portions of the spine alone, the normal portions remaining fixed. The best results were obtained by the author with the apparatus of Schulten. The apparatus of Zander is easier of application and also gives excellent results.—*Rivista Critica di Clinica Medica,* April 1, 1905.

Action of Adrenal Extract on the Renal Parenchyma.—Luigi Vaccari made experiments on rabbits to determine the effects of injection of adrenal extract before operations on the kidneys, making a careful microscopical examination from one day to ten days after killing the animals. He injected adrenal extract into one kidney, salt solution into the other, and then performed the same operation on the two kidneys. He concludes that adrenal extract far from preventing the bad effects of operation on the renal parenchyma, rather exaggerates them, having a deleterious action on the cells themselves, and influencing their nutrition unfavorably. Therefore, the use of this substance before operations on the kidneys does not decrease the hemorrhage, and acts unfavorably as well.—*Il Policlinico,* April, 1905.

Treatment of Intestinal Obstruction.—Ferdinando Gangitano gives us his experience of the use of injections of atropine in case of intestinal obstruction. He includes 12 cases. On the use of this drug there have been the most opposite opinions given by eminent surgeons. In nine cases the author made use of hypodermic injections of atropine, the cases being all of a nature in which the symptoms were not very urgent, nor such as to call for immediate operation to preserve life. The dose varied from 1 to 6 milligrammes, and no bad effects were noted. The intervals between the injections were from one-half to one hour. In general there was a beneficial effect on the pains, and the vomiting. In two cases the obstruction was removed entirely. The author believes that the use atropine merits the attention of surgeons. In some cases the apparent improvement is followed by a worse condition, and operation becomes necessary. Hence the cases for its use should be selected with care, and it should not be kept up more than 7-8 hours if relief is not obtained. An accurate diagnosis is necessary. It is most useful in cases in which the obstruction is fecal.—*La Riforma Medico,* April 15, 1905.

Bacillus of Koch in the Blood.—Ch. Lesieur, in speaking of his technique, states that the obstacle which always has to be avoided is the formation of clot in the blood which is experimented with. In the course of his experiments, he has always observed that Koch's bacillus is rapidly taken up by the organs and destroyed by the leucocytes, and that it disappears from the general circulation in about fifteen minutes, on the average. As to the clinical results, of thirty patients, six only have shown positive results. In one of these, tuberculosis has been produced in a guinea pig by intraperitoneal inoculation with blood taken from the living patient. Tuberculosis bacillaemia and its consequences, whether in the course of experiment or in the course of chronic phthisis, are phenomena which are very transitory. The direct examination of blood is not the method of choice. It is useful for diagnostic purposes only if it is positive, which happens in a very small number of cases.—*Lyon Médical,* April 16, 1905.

Two Cases of Sclerosis of the Coronary Arteries.—Marchiafava presents two new cases of sclerosis of the coronary arteries, which constitutes a group by themselves, because in one case there was obliteration of long standing of the descending branch of the left coronary artery, and in the other old obliteration of a bifurcation of the same artery, and marked stenosis of the circumflex artery. He presents the anatomical specimens and gives the histories of the two cases, both of which died, and gives the anatomical findings, from which he deduced the conclusion that grave distrophic alterations of the walls of the left ventricles, which existed in both cases, are a sufficient cause for the cardiac insufficiency, from which neither of the patients had experienced attacks of angina pectoris.—*La Riforma Medica,* April 8, 1905.

Simulation Considered as a Biological and Sociological Phenomenon.—Edmondo Grombetta tells us that it has been shown that simulation is an inevitable episode of the struggle for existence, and a biological and sociological phenomenon of great importance. Ingegneros goes so far as to say that it is encountered everywhere in organic and superorganic life, and is a useful aid in the struggle for existence, a result of the natural adaptation to the surroundings. It is always a means to this end, to know how to live is to know how to simulate. Man succeeds in life in proportion as he knows how to simulate successfully. As we rise in the scale of life violence grows of less value and deception of more value. Our author does not go quite as far as Ingegneros, whom he criticizes for giving as the reason for simulation of disease among soldiers a high moral position, taken as a result of the conviction that war is wrong in the present age of the world, and that the country should not be preserved under its present form of government. The author says that the average peasant, laborer, or student does not all think of these things. He simulates because he does not wish to leave his fields, his work, his studies; he cannot leave his family, change his environment or his plans; he does not wish to meet danger or death.—*Giornale Medico del Regio Esercito e della Marina,* March, 1905.

Book Reviews.

The Vermiform Appendix and Its Diseases. By Howard A. Kelly, A.B., M.D., Professor of Gynecology in the Johns Hopkins University, Baltimore, and E. Hurdon, M.D., Assistant in Gynecology in the Johns Hopkins University, Baltimore. With 399 original illustrations, some in colors, and 3 lithographic plates. Philadelphia and London: W. B. Saunders & Co. 1905.

The appearance of this volume is as important a contribution to the history of appendicitis as the senior author's "Operative Gynecology" was to the annals of that branch of abdominal surgery when it was published a decade ago. Since that time but few changes have been made in the teachings of the latter book, and it is likely that the lore of appendicitis as here expressed will remain for the most part unaltered for at least the same period of time. The first three chapters are devoted to the history of the disease. Mr. Brödel, the well-known medical illustrator, has written the succeeding four chapters on the anatomy of the appendix, and these with his illustrations throughout the book show the value of the combination of scientific knowledge with the art of the draughtsman. Then come three chapters on the physiology of the organ and its post-mortem appearances; the following five chapters deal with bacteriology and pathology, and the remainder of the book, comprising twenty chapters, is devoted to appendicitis in all its various aspects of etiology, diagnosis, treatment, and relation to other conditions. A large portion of the text, as is natural, is devoted to operative methods. These are amply discussed, all the recognized procedures being given and the authors' preferences or innovations described. Kelly uses the McBurney incision in nonsuppurative cases and Battle's semilunar incision when pus must be evacuated and there is necessity for extensive packing with gauze. He adopts a radical stand in regard to drainage, and advises that in all doubtful cases the wound be left partly open. Washed-out iodoform gauze is considered the best drainage material, and is used in large amount; the presence in the exudate of colon bacilli on the one hand or of cocci on the other indicating whether ordinary precautions will suffice or there must be a wider drain with everything left open. Kelly's technique of dealing with the stump by means of special crushing forceps and the cautery is clearly described and figured. In harmony with the opinion of most surgeons the authors believe that the healthy appendix should not be molested in the course of an operation on some other part, while if adherent it should be removed. The standpoint adopted in regard to early operation is also that of most surgeons in this country. It seems strange in the sections on leucocytosis as an aid to diagnosis, not to find any mention of the value of differential counts. Even in so brief a review of this reference should be made to the illustrations which, by reason of their profusion, beauty, and interest, contribute to an unusual degree to the value of the book.

The Practical Medicine Series of Year Books. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate School. Volume I, General Medicine. Edited by Frank Billings, M.S., M.D. Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago; and J. H. Salisbury, M.D., Professor of Medicine, Chicago Clinical School. Volume II, General Surgery. Edited by John B. Murphy, M.D., Professor of Surgery, Northampton University Medical School. Series, 1905. Chicago: The Year Book Publishers, 1905.

This new series of the well-known year-books issued by the Chicago publishers presents the same features as have characterized previous annual issues. Volume I, dealing with general medicine, contains a review of progress in this field during the year 1904. The book is written chiefly from the viewpoint of the general practitioner, and is a convenient desk manual. No attempts have been made to offer the complete literature of any subject, but well-selected articles on each theme are abstracted, many of them very fully, and annotated by the editors. Good judgment has been used in allotting the space available, so that important subjects, such as tuberculosis, pneumonia, gout, diabetes, nephritis, cardiac lesions, etc., receive detailed attention, although considerable space is devoted to such themes as splenic anemia and spondylitis deformans, which have figured much of late in literature.

Volume II comprises general surgery in all its departments. It is intended to reflect the progress of surgery during the year 1904, and the name of the editor is sufficient guarantee that the ground has been satisfactorily covered. A number of illustrations of instruments, operations, etc., are included. The treatment of the subject is that which characterized the former edition, namely, abstracts and annotations are given of selected articles by writers with the greatest experience in their individual field. In this way the best and most authentic information on each topic is presented, and the value of the work as a reference book is enhanced. All the important subjects have been well covered, and the book is of undoubted value to both physicians and surgeons.

Wharton & Stillé's Medical Jurisprudence. Vol II, Poisons. By Robert Amory, A.M., M.D., President of the Sixth National Convention of 1880 for Revising the U. S. Pharmacopœia; formerly Professor of Physiology, Bowdoin Medical College, and Lecturer on the Physiological Action of Drugs, Harvard Medical School, etc., and Robert L. Emerson, A.B., M.D., Instructor in Physiological Chemistry Medical School of Harvard University; Assistant in Clinical Pathology, Boston City Hospital, etc. Fifth Edition. Rochester, N. Y.: The Lawyers' Cooperative Publishing Co. 1905.

In passing through the various editions since its first appearance in 1873, this treatise on toxicology has undergone many changes, so that now but little of the classical original remains. As it stands, the work is in every respect representative of modern methods for the detection and identification of poisons, and though designed primarily as an aid in medicolegal work, it should prove valuable for reference to practitioners as well. The old plan or arrangement in which the drugs are grouped according to their physiological actions has been discarded, and a scheme adopted which more nearly follows physical and chemical properties so as to facilitate investigations on the nature of poisons detected after death. The recent researches on the toxicology of wood alcohol have been incorporated, as well as a consideration of the biological tests for the identification of blood and seminal stains. Although, as is natural from its scope, but little attention is devoted to the subject of treatment, the book is such a mine of information on the physical properties of poisons, the symptoms produced in overdose, post-mortem appearances, tests of identity, means of detection, etc., that it should prove of value to practitioners as well as to those especially interested in forensic medicine.

The Physical Culture Life. A Guide for All Who Seek the Simple Laws of Abounding Health. By H. Irving Hancock, author of "Japanese Physical Training," "Physical Training for Women by Japanese Methods," "Physical Training for Children by Japanese Methods," "Jiu-Jitsu Combat Tricks," "Life at West Point," etc. Illustrated. New York and London: G. P. Putnam's Sons, 1905.

The present volume presents, as the author says in his preface, the real aims and methods of the physical-culture movement so prominent just now in England and in the United States. The underlying idea is that the physical-culture life is not complex, but simple, natural, and sensible, The writer disclaims any allegiance to fads, so many of which are advocated nowadays in the search for health. He considers the effect of exercise on muscles and the tests of muscular weakness and strength. The importance of the right use of air, water, and food in their relations to body growth is emphasized. The simpler outdoor pleasures—walking, riding, swimming, rowing, and bicycle riding—are discussed from various points of view. One chapter is devoted to Non-Competitive Track Athletics for Health, Not for Records, while another one considers the Safe Non-Competitive Idea Applied to Field Athletics. The writer concludes this excellent common-sense manual with the consideration of the mental factors in physical culture.

Errors of Refraction and Their Treatment. A Clinical Pocketbook for Practitioners and Students. By Charles Blair, M.D., Fellow of the Royal College of Surgeons of England; Surgeon to the Western Ophthalmic Hospital, London; Ophthalmic Surgeon to the Royal Hospital, Richmond. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. 1905.

The author of this neat little book of one hundred pages has given us quite a complete primer on the elements of refraction. It is written in a simple and interesting style, and is clear and comprehensible alike to the general practitioner and to the beginner in his study of optics.

The British Journal of Children's Diseases. Edited by George Carpenter, M.D. Vol. I. London: Adlard & Son, 1904.

The editor in his introduction states that the object of this journal will be to keep its readers in touch with advances in knowledge in all that relates to the study of disease in children, whether of a scientific or a practical nature. Not only disease itself, but the prevention of disease is considered. The volume is well illustrated. It will prove of value to all interested in pediatrics. Several of the articles have already appeared in abstracts in the Medical Record.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

(Special Report to the MEDICAL RECORD.)

Thirty-fifth Annual Meeting, held April 18, 19, and 20, at Riverside.

THE PRESIDENT, DR. FRANK L. ADAMS IN THE CHAIR.

THE attendance was the largest in the history of the society, and the interest manifested by those present was correspondingly great. After the address of welcome, by Dr. W. W. Roblee, president of the Riverside County Medical Society, the remainder of the first morning session was devoted to

A Symposium on Typhoid Fever.—Dr. C. M. COOPER of San Francisco read on the pathology of the disease, reviewing in an interesting and thorough manner all the lesions and their relation to the infection.

Dr. F. C. E. MATTISON of Pasadena read a paper on the surgery of typhoid fever, general and immediate, in which an impartial discussion of the best methods of dealing with perforation and other accidents and complications was presented.

Dr. S. J. HUNKIN of San Francisco dealt particularly with the rare affections of the joints, and reported a case in which the hip-joint had become infected, his diagnosis having been confirmed by the serum reaction, with blood from several patients, as well as with the blood of an immunized guinea-pig.

Dr. RAY L. WILBUR of Stamford University read a paper on the routine treatment and complications. After reviewing the general clinical characteristics of the disease, the essayist addressed himself to the more important methods of treatment, including the use of serum and the other so-called specific methods. While he hoped for good results in the future from the serum treatment, he regarded it as purely experimental at the present time. Until something better shall have been found, he considered the most advisable plan the adoption of proper dietetic, hydrotherapeutic and symptomatic measures. Of the utmost importance, however, is the attendance of a suitable nurse, a well ventilated, large and properly arranged room, a bed of proper size, height, width, etc., and the presence of supplies to be used in cases of emergency, a thing too often overlooked. He recognized milk as the basis of the proper food, and in many cases the best for exclusive use. Broths, gruels, and solid foods were also considered with reference to their use in convalescence or in particular cases. Of great importance is an abundant supply of pure water, both for drink and for external use. The proper application of the full bath, the abdominal coil, the ice-cap, and sponge baths was well brought out. The general medicinal treatment, the use of intestinal antiseptics, antipyretics, stimulants, diuretics and sedatives, and methods of regulating the action of the bowels were all discussed. Of particular interest also was the consideration of complications, the statistics of which were given with commendable fulness, together with the recorded mortality. Perforation, hemorrhage, nephritis, myocarditis, and late arterio-sclerosis were referred to as important remote factors in the mortality.

Dr. GEORGE B. ROWELL of San Bernardino read a paper on the accessory treatment, in which much the same course of treatment was recommended, but more directly in reference to the management of special symptoms and complications. The serum treatment, the use of antiseptics, and the feeding of the patient were all dealt with.

Is Pulmonary Tuberculosis a Menace to the Health of Los Angeles?—Dr. GEORGE H. KRESS, of Los Angeles, in his paper, in addition to the points of purely local interest, called attention to the facts that the mortality from this disease in Los Angeles is second in the United States only to that of San Antonio. Twenty-five per cent. of the cases that die have been the subjects of charity. The general death rate of the city is exceptionally low, and it was made evident that the excessively high rate from tuberculosis is due to the influx of hopeless cases from other States. This was further established by the records of short residence in this State. Among people who have resided in the city many years, the mortality is low. The influence of the cheap lodging house, lack of sanitary measures, and poor food among the poor immigrants was also shown. As measures for relief, he advocated compulsory notification of the disease, ordinances for the regulation of lodging houses, the establishment of municipal dispensaries, sanatoria and hospitals exclusively for consumptives.

The Heart in Tuberculosis.—Dr. WOODS HUTCHINSON of Portland, Oregon, called attention to the manner in which the profession has been led astray from time to time by fallacious teaching with regard to the most important factors in the production of tuberculosis. At one time it was the dietetic and digestive ideas, at another time the one thing was infection, then the disease was regarded as purely pulmonary, and every possible contrivance was devised for its treatment. Now we resort more to methods which ignore the bacilli and ignore the lungs. He regarded the size and action of the heart as of much greater importance in the causation of tuberculosis than the condition of the lungs, and the pulse as a better guide in diagnosis than any other symptom. Referring to the size of the heart, he stated that a study of the susceptibility to the disease among lower animals confirmed the previous statement. The smaller the heart in ratio to the weight of the animal, the greater was the liability of the animal to infection. The sheep is practically immune, with a heart that is about one one-hundredth the weight of the animal. The horse also is practically immune, the weight of the heart being about one ninetieth that of the animal; goats have the same immunity, for the same reason. On the other hand, the antelope, with a heart weighing one one-hundred-and-fiftieth the weight of the body, takes the disease readily, and the cow, with a heart one two-hundred-and-twentieth of its body weight, is exceedingly prone to infection. He stated further that his own investigations and those of others have added strength to the assertion made by him several years ago that not the shallow, flat chest, but the narrow, long and deep chest, is typical of tubercular predisposition. The drooping of the shoulders, from weakness of the muscles, produces a false appearance of shallowness. The lung that is attacked by tuberculosis is the large lung, the lung that is not used. In this connection, however, it has been shown that the tuberculous patient takes into his lungs and uses a much larger quantity of oxygen than a person in health; there is not a deficiency of oxygen, but an excess of it, so that nutrition is interfered with by the excessive oxidation. With reference to treatment, he advocated the open-air method, keeping the patient absolutely at rest and forcing the feeding to such an extent that the nutrition of the body will be kept up and the size of the body made to correspond more closely to that of the lungs, at the same time reducing the excessive oxidation.

A Brief Consideration of Some of the Difficulties Attending the Artificial Feeding of Infants.—D. A. B. COWAN of Fresno, after reviewing the many perplexing things to be considered in the selection of a suitable food for the young bottle-fed infant, he concluded that cow's milk, without particular reference to its being obtained from a single animal or from the herd, is the best foundation for the food. It should, however, be as fresh as possible, and in some cases the addition of a cereal, to prevent firm coagulation of the casein, and sometimes also an alkali is advisable.

The Adams-Stokes Syndrome.—Dr. H. S. GORDON of Santa Ana then read on this subject and reported two cases. the views of Stokes, Adams, and other authorities with reference to the origin and nature of the condition were reviewed. He thought that the usual definition was too narrow, as the syndrome may occur in any one of several conditions of the heart and nervous system, and a great variety of symptoms may be observed in it. While the disease is more common in adult life, it may occur at any time from infancy to advanced age. The frequency of the attacks also vary greatly; in one of his own cases there were sixty in a single day. Bradycardia he regarded as the essential symptom. Arteriosclerosis he did not regard as necessary in its production. In one case he had administered digitalis with apparent benefit, although it is theoretically contraindicated.

Dr. Woods Hutchinson, in discussing the paper, thought that the whole condition can be referred to disease or injury of the spinal accessory nerve. He had seen two cases. In one of them, before any attack had occurred, the man had fallen and injured his spine severely, close to the occiput. The second case had been in a serious railroad accident and received an injury of the neck in the cervical region. The attacks in this case came on immediately and became more and more numerous in their recurrence, and the spasms affected parts supplied by every branch of the spinal accessory nerve.

Uncinariasis in California.—Dr. Herbert Gunn of San Francisco read this paper, which was based on the observation of sixty cases. No case has been known to have originated in the State of California, but the disease is being imported daily, chiefly from Hawaii. Since the infested laborers spread all over the State, there is great danger of place-infection, and that the disease will soon appear sporadically or in epidemic form. The importance of early recognition and correct treatment were emphasized. Specimens of the hook-worm were exhibited, and the ova, some containing living embryos, were shown under the microscope. The essayist thought the thymol treatment the best, but had not found it entirely satisfactory. There was always a tendency to recurrence of the disease in a few weeks, and it was difficult to induce the ignorant class, who generally harbored the worms, to remain for completion of the treatment.

Dr. Philip King Brown of San Francisco urged methods for quarantining the immigrants until they could be freed from infection.

Human Glanders, with Report of a Case.—Dr. W. F. Cheney of San Francisco read this paper. After a general treatment of the subject, the speaker narrated the case of a man who became infected from a horse not known to have the disease. The lesions were not typical for a time, but the diagnosis was established by staining and culture methods. Inoculation experiments were not successful. The horse was found to be infected by the same methods. Several other cases were referred to. The discussion revealed the fact that glanders is comparatively frequent among the lower animals in the State, but hat human beings are not often infected, owing to the early destruction of the diseased animals.

A Case of Poisoning by Ceonothus Velutinus was reported by Dr. R. F. Rooney of Auburn. This plant, known also as "honey dew," or "snow brush," grows abundantly in northern California, and in a slightly different variety in Oregon. It is not considered poisonous, but in the case reported it was the only source discoverable. Repeated attacks of a rash, resembling that of rhus-poisoning, had occurred on exposed surfaces. Rhus is unknown, however, in the region.

Hyoscine Hydrobromate in the Treatment of the Morphine Habit.—Dr. R. E. Bering, of Tulare, described this method in detail. He favored the so-called elimination treatment, beginning with catharsis, a vapor bath, and strychnine hypodermically; this to be followed by withdrawal of the morphine and free administration of the hyoscine in the usual manner.

Address of the President.—Dr. Frank L. Adams of Oakland, in this address, dealt for the most part with topics of interest to the profession of California, especially the workings of the State Board of Health and the difficulties constantly encountered by it. The best methods of dealing with tuberculosis were also discussed in an interesting and instructive manner.

The Report of the Committee on Tuberculosis was then read by Dr. F. M. Pottenger of Los Angeles. This also dealt with the needed measures for the suppression of the disease, compulsory notification, instruction of the people in prophylaxis, but especially in the need by the State of a hospital for the tuberculous poor. The committee had succeeded in having a bill passed by the legislature providing for such an institution, but the Governor had refused to sign it on account of the scarcity of funds in the State treasury.

The Hopes, Disappointments and Successes of the State Board of Health, was the subject of a report by Dr. N. K. Foster, secretary of the State Board. A history was given of the board from its organization, nearly thirty years ago, to the present time.

The Report of and Suggestions on the Work of the State Board of Medical Examiners was read by Dr. Dudley Tait, president of the board. The report served only to emphasize the fact that the California Board of Examiners is one of the most efficient in the United States.

Symposium on Diseases of the Gall-Bladder and Ducts.—Dr. H. C. Moffitt of San Francisco presented the first paper on diagnosis. It was a lucid presentation, not only of the signs and symptoms of these diseases, but of the differentiation of every possible condition that may present in the investigation of a case. An adequate review of the paper is impossible. The importance of recurrent pain in the epigastrium as a symptom of gall-stones was emphasized, but the plan is often misleading. The presence of Riedel's lobe is also important, but the essayist considered the use of the *x*-ray one of the most valuable and positive means of recognizing these concretions. It is sometimes necessary, however, to make as many as four or five exposures in order to get the best plate-results. Several excellent plates were exhibited. Jaundice is not a trustworthy indication of obstruction by gallstones. Neither can leucocytosis be depended upon to confirm the diagnosis, since it is often absent during periods of latency. Slow coagulation of the blood is of value in the differentiation of pancreatic disease.

The next paper, by Dr. Ernest B. Hoag of Pasadena, was an interesting review of the pathology of the diseases under consideration. It was briefly discussed by Dr. H. A. L. Ryfkogel of San Francisco.

This was followed by a report on "Experimental Studies on Gall-Bladder Infection," by Dr. A. J. Lartigau of San Francisco, read by Dr. Tait, in the absence of the author. After a brief review of the literature of his subject and a reference to the experimental work of others, the essayist reported his own work, very little of which can be recorded in this report. Bacteria, sand, and other foreign substances, separately or together, were introduced into the gall-bladder, and allowed to remain for longer or shorter times. The introduction of bacteria generally resulted in the production of stones, but the sand and other foreign bodies failed as a rule, unless bacteria were also present. Small stones were obtained in six weeks, but nine months or longer time was required for the development of large calculi. The gall-bladder containing stones was rarely found to contain any bacteria of a different species than those originally introduced. He could not assert that a mixed infection, as with the colon and other bacilli, resulted in an earlier production of the stones than the presence of only the one kind of microorganism. The presence of foreign bodies, as grains of sand along with the bacteria, produced the stones more rapidly; but the presence of a foreign body is not at all necessary. A partial or complete obstruction of the bile duct did not induce the formation of gallstones, except when bacteria were present. Bacteria enclosed in impervious bags led to the production of calculi, especially when the bacillus pyocyaneus was thus introduced. A number of experiments were made also with reference to the route by which bacteria reach the liver. It was found that, while it may be possible for some bacteria to reach the organ through the bile ducts, most of them pass through the portal circulation. The author had taken the precaution, in his experiments, to use varieties of bacteria not known to have an independent existence in the gall-bladder. He observed also the possibility of infection from the peritoneum, and that trauma may act by inducing infection, with the subsequent production of stones.

Dr. Dudley Tait called attention to the importance of using proper methods of culture, referring especially to the difficulty of recoginizing the anærobes, and the impropriety of deciding that gallstones had formed in the absence of bacterial infection unless all this class of organisms, so frequently present, has been excluded.

The Value of Early Operation in Gallstone Diseases.—Dr. Emmet Rixford of San Francisco took this as his subject. Rational treatment, he said, should be based not merely upon immediate relief of symptoms and the danger of mortality, but upon a proper regard for the possibility of future complications and final results. The passage of gallstones, with relief of the attack of colic, does not constitute a cure. Medical treatment is only palliative, curative treatment is necessarily surgical. Calculi are generally found in successive crops, and the passage of a small stone does not guarantee thât other stones will pass. The presence of biliary sand, if prolonged, will do as much harm as a large stone. For these reasons the propriety of an operation after an attack of gallstone colic should be seriously considered. Serious consideration should be given also to the possibility that recurrent attacks of acute indigestion, persistent colic, or indefinite pain, may be due to gallstones, and the abdomen may be opened for exploration in obscure cases. An operation may sometimes be considered as prophylactic. The cases in which gallstones have been found to have caused no symptoms are becoming few. The author thought, however, that the stones should be removed whenever found, even if they have not caused symptoms, just as the appendix is removed whenever it presents anything pathological, even in cases in which there has been no recognized disturbance by it. He thought that the medical men should be more on the lookout for gallstones, not only because they are sometimes overlooked, but because, among other reasons, the late operations are vastly more serious than those performed early. The various operations were then briefly referred to. The essayist preferred the removal of the gall-bladder when this is possible, as a primary operation.

Dr. H. C. Moffitt, in the discussion, did not fully agree with the last speaker with reference to early operations. He referred to ten cases that he had sent to the surgeons for operation. Of these, only two obtained complete relief. There are cases, he thought, which ought never to be submitted to operation, cases in which the failure of an operation can be predicted from the condition and temperament of the patient. Many of these cases get along very well without either medical or surgical treatment, if they are kept quiet and permitted to take their Carlsbad salts, or similar apperient every morning, with regulation of the diet. They are not cured, but the result is better than that of operation.

Dr. Dudley Tait called attention to the reformation of the gall-bladder after removal in lower animals, providing the cystic duct has not been excised. Several of his own experiments were reported.

Affections of the Pancreas in Their Relation to Affections of the Gall-Bladder.—Dr. A. S. Lobingier of Los Angeles read this paper. He attributed the bad results in most cases of operation on the gall-bladder to cholemia. This, he thought, could be to a great extent prevented by proper preparation of the patient through correct diet, etc., previous to the time of operation.

Treatment of Compound Fractures.—Dr. George N. Drysdale of Eureka read this paper, in which he dwelt upon the necessity of converting an infected wound into an asceptic one, and that this was possible only at the beginning, immediately after the receipt of the injury.

Adolescence in Girls.—Dr. F. R. Burnham of San Diego, in this paper, referred to the important changes in the circulation at puberty, the diversion of the blood from other parts of the uterus, with marked disturbance of other functions. While puberty in boys amounts to little more than a change of voice, it means much more to girls, and the dangers attendant are beyond comparison. He called attention also to the evils of the present system of education, as well as to the home life of the period. At school the same tasks are imposed without regard to the physiological welfare of the girl, and at home she generally ceases her outdoor exercise and romping for a more sedentary mode of living, and too often for a life of drudgery in the care of the home. He thought that coeducation ought to be suspended, or better, that the girl should be taken from school until the menstrual function has been fully established. The girl should at least be permitted to absent herself from her classes during menstruation.

Dr Charlotte Baker of San Diego, in discussing the paper, objected to the statement that puberty in the boy was little more than a change of voice. She thought that the changes were just as profound and important as those in the girl. The difference was chiefly in the habits of the boy and girl, and she thought that if girls were given the same freedom of outdoor life and comfortable clothing there would be no need of interrupting their education.

When to Operate for Fibroid Tumors of the Uterus.—Dr. Rose T. Bullard read this paper, in which she advocated operation in all cases; in the young because of sterility or the danger in childbearing, near the menopause on account of probable degeneration. Preference was expressed for myomectomy when it is practicable.

Dr. W. F. B. Wakefield of San Francisco, in discussion, agreed with the essayist in the main, and referred to the classes of cases in which the various operations are indicated.

Dr. Raymond Russ of San Francisco demonstrated a new interdental splint for the treatment of fractures of the lower jaw, presenting also a review of the former methods of treating the condition.

Plea for a More Simple Technic in Herniotomy.—Dr. F. O. Witherbee of Los Angeles said that his method was demonstrated in detail and illustrated by diagrams. He regarded it as so simple that the general practitioner was warranted in performing it, rather than leave his cases to the uncertainty of trusses. The method was a modification of the Andrews operation, the author using figure of 8 sutures, non-absorbable suture material and an external plate for their support. The operation, he said, is virtually a plastic one, with prolonged tension on the sutures, hence the necessity of non-absorbable material. He has devised the operation with special reference to the placing of the sutures in a manner that would not interfere with the circulation.

Multiple Tenotomy for the Relief of Spastic Paralysis.—Dr. A. M. Henderson, referring to the causes of spastic paralysis and the complexity of the symptoms in different cases, the most important of which are paresis of the lower extremities and exaggeration of the reflexes, the essayist recommended tenotomy and subsequent mechanical treatment in all cases in which there is any deformity due to contraction of the muscles.

Dr. Elbert Wing of Los Angeles, in discussing the paper, reviewed the more minute lesions of the cord and the consequent paralyses. In regard to treatment, he favored the division of the tendons, in order to put the stronger muscles at rest, but insisted on the importance of re-educating the patient in the use of the paralyzed members.

The Radical Cure of Umbilical Hernia.—Dr. A. W. Morton of San Francisco reviewed the influences which give us the greater liability to umbilical hernia in the male child and in the woman during childbearing peariod. He then discussed the advisability of operation, and demonstrated on a manakin the Mayo method, using the transverse overlapping operation. Several cases were reported. Some credit, it was said, should be given to Andrews of Chicago for this operation, since he described the method of closing the abdominal openings by the flap, although he did not apply it to umbilical hernia.

Dr. LeMoyne Wills of Los Angeles, in opening the discussion, desired to go back a little further and give credit to Championnière of Paris, since he practised the flap method in hernia cases and introduced the mattrass suture. He did not consider Mayo's operation at all suitable to children, the cases to which his experience had been largely limited. Many of these cases, he thought, can be cured with adhesive strips and regulation of the feeding.

Dr. E. Rixford stated that the only credit claimed by Mayo for originality in his method was for having turned the flap to an angle of 90°, but it is this modification which gives success to the operation.

Surgical Treatment of Bright's Disease.—Dr. Z. T. Malaby of Pasadena read this paper. In the selection of cases, he followed Edebohls. In the examination of cases, he regarded the chemical and microscopic examination of the urine as of less importance than the physical qualities. The quantity of urine voided, and its weight, are of greater importance, and should be considered in connection with the general metabolism of the body, the condition of the heart and other organs. Increase of the quantity of night urine, he regarded as one of the most important symptoms of chronic Bright's disease during the primary stage. The result depends upon the character of the cases operated upon. In mild cases, the results are excellent. Cases of chronic nephritis, in which the kidneys are tender and painful, are benefited by decapsulation. Chronic interstitial, parenchymatous, or diffuse nephritis, "either unilateral or bilateral," may be cured, he said, as shown by reported cases. Cures have been reported, also, from decapsulation in renal hematuria, due to chronic nephritis. Reference was made also to removal of the kidney in nephrorrhagia, and it was stated that the floating kidney affected with Bright's disease should be operated upon. The importance of cystoscopic examination for determining the exact degree of disease in either kidney was dwelt upon. In conclusion, the speaker admitted that decapsulation has not been accepted as a routine method by the majority of surgeons.

Dr. E. Wing, in discussing the paper, expressed a fear that we are becoming too scientific. While he favored the acquiring of as much scientific knowledge as possible, he objected to such statements as go the rounds of the journals, that the presence of albumin and casts are not a trustworthy indication of disease of the kidneys.

Section on Genitourinary and Skin Diseases.—The program of this section included the following titles: "Erythema Keratodes," by Dr. Alexander C. Garceau, of San Francisco; "The Conveyance of Syphilis by Medical Men," by Dr. D. W. Montgomery, of San Francisco. The latter included, however, midwives and dentists with his medical men, and cautioned against the possibility of infection in skin grafting, genitourinary examinations, the use of the nitrate of silver stick, and catheterization of the eustachian tube. Dr. A. B. Grosse read on the "Uses and Abuses of the *X*-Rays," and Dr. W. Lehman, also of San Francsico, on the "Indications for Roentgen Therapy." He regarded skin diseases as the main field for the rays. The work of the section was concluded with a paper on the "Practical Application of Functional Diagnosis in Unilateral Kidney Lesions," by Drs. M. Krotoszyner and W. P. Willard, of San Francisco. After a brief review of the older and less accurate methods, attention was given to cystoscopy, ureteral catheterization, cryoscopy, the phloridzin test, that for urea, and the microscopal findings.

Section on the Eye, Ear, Nose, and Throat.—The following papers were read: "Skiascopy," by Dr. F. D. Bullard, of Los Angeles; "Adenoids from the Standpoint of the Parent and the General Practitioner," by Dr. R. L. Doig, of San Diego; "A Case of Cerebral Abscess Following Acute Suppurative Otitis Media with Mastoiditis," by Dr. Hill Hastings, of Los Angeles, and "The Relation of Chronic Otitis Media to Other Diseases of the Ear, and the Operative Treatment," by Dr. F. C. Welty, of San Francisco.

Officers.—The society adjourned, to meet next at San Francisco. The following officers were elected: *President*, Dr. R. F. Rooney of Auburn; *Vice-President*, Dr. W. W. Roblee of Riverside; *Secretary*, Dr. Philip Mills Jones of San Francisco.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 20, 1905.

The President, Dr. Charles L. Dana, in the Chair.

The Treatment of Epidemic Cerebrospinal Meningitis with Injections (Chiefly Intraspinous) of Diphtheria Antitoxin.—Dr. George L. Peabody read this paper. (See page 735.)

Dr. W. K. Draper said that thirty cases of cerebrospinal meningitis had been treated during the present epidemic in the First Medical Division of Bellevue Hospital. Of these, seventeen had died, two were discharged, and eleven were still in the hospital. Of the thirty cases, ten had been treated with diphtheria antitoxin, which in every instance was given subcutaneously. Of these ten, seven died, and only two of them lived more than six or seven days. Three of the patients were still in the wards, one in good condition; two in fair condition. One would probably recover. Two of the thirty cases were treated with plain horse serum; one of these was now dying; the other was in fairly good condition. Of the eighteen treated on general principles, ten died, two were discharged unimproved, and the other six were still in the wards, four of them in a serious condition, while the other two were likely to recover. Dr. Draper said their experience with diphtheria antitoxin in the treatment of cerebrospinal meningitis at Bellevue Hospital had led them to the same conclusion as that expressed by Dr. Peabody, namely, that it had no influence on the disease whatever.

Dr. Francis P. Kinnicut said the experience with the antitoxin treatment in the Presbyterian Hospital had been very similar to that reported by Dr. Peabody. The total number of cases of cerebrospinal meningitis received into the wards since January 1st, 1905, was forty-three; the number of deaths, thirty-two. Two cases were cured; nine were still in the hospital. There had been ten cases treated with antitoxin; of these, six had died and four were still in the hospital with a very grave prognosis. The intraspinous method was used in two cases. In the remaining eight the antitoxin was given by the usual subcutaneous method. Of the two patients who had recovered, one was improving at the time of his admission to the hospital, and was given but a single injection of the antitoxin. The other did not receive it.

Dr. William M. Leszynsky said that thirty-five cases of cerebrospinal meningitis had been treated during the present epidemic in the Lebanon Hospital, with a mortality of 45 per cent. In only one case was diphtheria antitoxin used, and the only result was the production of a giant urticaria. In that instance, the remedy was given subcutaneously. The patient died.

Dr. H. P. Loomis said that forty-two cases had been treated in the New York Hospital, with a mortality of 70 per cent. Diphtheria antitoxin was used early in eight cases, commencing with a dose of about 10,000 units in adults, and about 6,000 in children. After experimenting with the remedy for a few weeks, it was decided to discontinue it. In not a single instance could any improvement be traced to the antitoxin, as far as the general condition of the patient was concerned, although after the first injection the number of leucocytes was doubled and there were slight temperature changes. Horse serum, which was used in three cases, produced no effect on the leucocytes, nor any other effect. Tetanus antitoxin was used in three cases, with apparently no effect. Six cases, treated symptomatically, were discharged cured. The speaker said he had practically gone back to the old treatment of keeping the patient quiet under morphine or opium, and applying ice to the head.

Dr. Richard Van Santvoord said that at the Harlem Hospital, in the service of Dr. Richard G. Wener, where forty cases of cerebrospinal meningitis had been treated, the conclusion had been reached that diphtheria antitoxin was of no use whatever in the treatment of the disease.

The President, Dr. Dana, said that three cases of cerebrospinal meningitis had been under his observation at Bellevue Hospital. All three were admitted about the same time, and received the antitoxin treatment. In two of them the temperature fell after the first injection, then rose, and fell again after a second injection. Both these patients were now convalescing. In the third case, the injection of the antitoxin produced no appreciable effect on the temperature of the disease, but the patient was also recovering. On the face, this would show 100 per cent. of cures under the antitoxin treatment, and was a good illustration of the fallacy of the statistics. Dr. Dana said he agreed with the previous speakers regarding the uselessness of diphtheria antitoxin in cerebrospinal meningitis.

Epilepsy.—Dr. A. Jacobi reported a case of Jacksonian epilepsy in a child three and a half years old. The family history was negative. There were two older children, both in good health. The child had been nursed during the first year of life. Dentition had not been attended by any special difficulty; there was no history of rheumatism or other infectious disease, and until the onset of the present illness the personal history was unimportant, with the exception of the fact that the child suffered from congenital constipation, and an examination of the heart showed an aortic systolic murmur. About the middle of February, 1905, the child sustained a fall. It was apparently not very severe, as there was no loss of consciousness, and the child played immediately afterwards. About a week later, slight twitching of the right side of the body, together with the upper and lower extremity, was first noticed. The child was irritable and easily frightened. There was occasional palpitation, and at times the face muscles on the right side seemed to be affected. A few days later a convulsion occurred, limited to the right side. The attacks were frequently repeated, especially at night. Sleepiness was a pronounced factor in the occurrence of the paroxysms. The treatment consisted of nitroglycerin and sodium iodide, together with elevation of the foot of the bed, in order to overcome the cerebral anemia. The most probable cause of the epilepsy in this case, Dr. Jacobi said, was the valvular heart lesion with resulting cerebral embolism.

The Formal Treatment of Epilepsy.—Dr. Charles L. Dana said that while it was conceded that the colony treatment of epilepsy approached most nearly the ideal in effectiveness, it could not be applied to all classes. Many epileptics had to be treated at their homes, and for that class of persons he had gradually evolved a conventional, or, as he had termed it, a "formal" method of treatment, which seemed to produce the most satisfactory results in those cases in which a reasonable opportunity for therapeutic effort existed. That was to say, cases which were not of very long standing, and which had not already undergone serious mental deterioration, and those in which the mental and physical degeneration, at the beginning, was not of a very high grade. The features upon which emphasis must be laid in the treatment of epilepsy were: (1) The fact that the course of treatment was to last for at least two years, and that all measures prescribed were to be carried out with the greatest fidelity and exactness during that time, no matter how well the patient might seem, or how unnecessary regimen and drugs might appear to be. (2) The use of pure bromide of sodium, in combination with the glycerophosphate of sodium, so that a patient took on an average sixty grains of the bromide of sodium and twenty to thirty grains of the phosphate of sodium in twenty-four hours. To this combination the glycerophosphate of iron and a little arsenic might be added. (3) The intermittence of the medication for either one or two days in each seven. During those days the above drugs were stopped, and in their place was given, three times a day, before meals, a tumblerful of hot water, and with it an alkaline laxative. The ordinary tablet of rhubarb and soda, with nux vomica, usually answered this purpose. (4) The securing of violent physical exercise for about twenty or thirty minutes, at least three times a week. This could be obtained by some active sport in the gymnasium, by punching the bag, or by chopping or sawing wood, and should always be continued until free perspiration took place. After this exercise, the patient was given a cold bath. With delicate persons, a hot-box sweat, followed by a cool bath, three times a week, could be substituted for physical exercise. (5) The diet should be regulated. No special regimen was ordered, other than a moderate mixed diet, with the small amount of meat that was usually recommended.

Paraepilepsy.—Under this name, Dr. Dana discussed certain nervous phenomena occurring in persons of unstable system, or in those who had, perhaps, arterial changes too actively or too early begun. They consisted of vasomotor or sensory discharges, which came on with a suddenness that entitled them to be called seizures or shocks. They were practically nervous discharges, such as were seen in migraine or epilepsy. The occurrence of these sensory shocks and seizures indicated that the patient had unstable nervous centers, but not to that degree nor of that specific character shown in the severer neuroses. They might be indications only of arterial sclerosis, or disturbances in the thyroid gland, or in the gastrointestinal tract, or they might be simply a hereditary effect of the instability of the nervous cells. When they were persistent and dominant in the symptoms of the patient, they furnished an indication for treatment, for they could be controlled by bromides and by hyoscine, by nitroglycerin, by tonics, and by attention to the general health of the patient.

Dr. M. Allen Starr said that in the case reported by Dr. Jacobi the possibility of a developing neoplasm should be considered, inasmuch as neoplasms of the brain were common in early life, and often gave rise to Jacksonian epilepsy, the attacks later becoming general. Dr. Starr said that epileptics could readily be separated into different categories. There were, first, the mild cases, with long intervals between the attacks, which were slight in character. These patients showed no evidence of an organic brain lesion or other disease. In the second type, the attacks were more severe and more frequent, and interfered with the proper mental and physical development of the patient. In the third type the individual presented definite evidences of degeneracy, by which he meant certain physical and mental characteristics that would enable one to say that the individual was not up to the normal. In the first type, the comparatively healthy epileptic, it was difficult to say that there was any organic disease. In the second type, the existence of organic disease was probable, but not certain, while in the third type there was absolutely no doubt about it. The pathological examination of the brain, Dr. Starr said, was extremely difficult, and small diseased foci involving the cortex, and giving rise to Jacksonian epilepsy, might readily escape microscopical examination and only be discovered by a very careful microscopical search. The speaker said he was quite familiar with cases of epilepsy developing after the age of 60. They could almost invariably be traced to arterial changes or a thrombus, with small areas of softening which were sufficient to cause epilepsy, but would not give rise to marked mental defects. Dr. Starr said the only criticism he had to suggest to Dr. Dana's paper was in regard to the term paraepilepsy, because if a patient was told that he was suffering from anything epileptic in character the word usually gave him a decided shock. For that reason, he would rather class this group of vasomotor disturbances under some other name.

Dr. L. Pierce Clark said he thought the case reported by Dr. Jacobi was undoubtedly one of organic disease, and was not epilepsy proper. He based his opinion not so much upon the focal convulsions as upon the subsequent paresis. True idiopathic epilepsy might at times begin focally and result in paresis of the parts previously convulsed, but in an idiopathic case the paresis was but temporary, which was not so in organic epilepsy. In discussing Dr. Dana's paper, Dr. Clark said he was not in favor of intermitting the bromides in the treatment of epilepsy. The absence of attacks in the discontinuance period could not be cited as good proof of the harmlessness of the procedure, as it always took some time for the bromides to be eliminated. He had seen many cases of fatal status epilepticus precipitated by intermitting the bromides. One should skill himself to know when bromism was about to occur, and not continue such large amounts of the bromides as to necessitate a discontinuance of treatment, even for the short period of a few days. An important factor in the dietetic treatment of epilepsy was to carefully regulate the amount of starchy food ingested, as epileptic seizures were apt to follow the occurrence of starchy indigestion. As regards cathartics, the speaker said he preferred calomel to the salines, in order to increase the flow of bile in the intestinal tract, and thus reduce intestinal fermentation. He saw no reason why the term "minor epilepsy" should not be retained to designate all those bizarre manifestations which Dr. Dana had cited under the name of para-epilepsy.

Dr. B. Sachs said that so far as he knew, Jacksonian epilepsy was invariably of organic origin, with but a single exception, and that was when it occurred in the course of uremia. The fact was first brought to his attention some years ago, and he was able to confirm it only a few days ago in a case of unquestioned uremia, with complete suppression of urine in a woman who had been entirely well until the onset of an attack of acute nephritis. She had repeated convulsions, which were always limited to the face on one side, and never involved the opposite side of the body. In that case there was noting to indicate the presence of a localized neoplasm. The speaker said he had no explanation to offer for the character of the convulsive seizures in these cases. He did not agree with Dr. Clark in regard to the harmful effect of intermitting the bromides for a day or two each week, when large doses were given to control epileptic attacks. On the contrary, he thought it was a good plan, and he was in favor of going back to the old principle advised by the late Dr. Seguin, to ascertain the minimum dose of bromide that was necessary to stave off the attacks in each particular case.

Dr. J. F. Terriberry emphasized the importance of a carefully restricted diet in the treatment of epilepsy.

The Educational Treatment of Tics.—Dr. B. Sachs read a paper on this subject. He stated that everyone who had been called upon to classify functional disordered movements had found great difficulty in distinguishing between tics, habitchorea, general choreiform movements, myoclonia, paramyoclonus, and the like. The subject was complicated by the suspicion of hysteria which often arose. Furthermore, reflex neuroses had been made to include tics and many choreiform movements, although none of these were ever truly reflex in origin. If the entire series of reflex neuroses were eliminated from neurological text-books, Dr. Sachs thought that neurological science would be none the worse for it. According to our present-day cenception, a tic was an involuntary movement which could for a time be controlled, or even inhibited, at will. Tic was a coordinated or systematized movement, with a definite object in view, repeated frequently and in exaggerated fashion. The frequent repetition of such movements created the habit, and the habit once established, the movements became automatic. When a tic became firmly established, the movements were not intentional. It was certain that they could be suppressed if the will to do so were strong enough and was exercised to that end. If tics were merely oddities of muscular contraction, they could be dismissed with a few words, but they had a far deeper significance. They were often associated with mental disease, and with evident psychic and motor disturbances. At times they were the first expression of mental degeneracy. They might be developed early in life, even in very young children, and if not seriously dealt with would lead to disastrous results. The simple tic might affect any group of muscles, those of the face and neck, including the platysma, being commonest. They were not merely muscular contractions, but they were the more complicated movements of winking, sniffing, whistling, shrugging of the shoulders, twisting of the neck, and so on; in children we also observed tics consisting of screaming, snapping, scratching or biting. Speech habits or speech tics were particularly distressing. In addition to these simple tics, there were what Osler had styled "superadded psychic phenomena." These were characterized by explosive, and often foul, utterances, by the repetition of words and actions, and by imperative concepts. In former days, the treatment of this condition presented great difficulty. The ordinary sedatives and the various surgical procedures which were resorted to for the cure of some of these tics were wholly unsatisfactory. The pedagogic, or educational, treatment was based entirely upon the idea that the disordered psychic and motor functions must be disciplined in various ways. It might be called the common sense treatment, and had been practiced for years. The essence of it was to make the patient stop the movement if he could, and that he should perform systematic movements entirely opposed to those involved in the tic. The French and Germans had given dignified names to these therapeutic procedures, and had apparently enhanced their value thereby. After carefully regulated and gradually increasing periods of immobility, the patient should be subjected to well disciplined movements, particularly of the muscles in the region in which the tic occurred. Dr. Sachs believed that if this educational plan of treatment was to be a success, it could be carried out only at a private hospital or in the home of the patient, if the patient could be isolated and placed under the care of a competent nurse or younger physician. The exact exercises would vary according to the special character of the tic.

Dr. Henderson B. Deady said that in the treatment of the class of cases described in Dr. Sachs' paper, he was inclined to lay most stress upon improving their general health, and their capacity for voluntary attention, thus giving the tic a secondary place as a symptom only of a general mental condition. In all these patients, excepting the true hysterical subject of a tic, the tic was associated with a conscious psychic or ideational element, sometimes amounting to an obsession, though in many cases the patient was but vaguely conscious of the idea. In other words, the tic was always, as Dr. Sachs had maintained, a psychomotor phenomena and not a reflex. That while there were well recognized stammering tics, the usual form of stammering was not a tic, nor associated with any psychic element of the obsessional type, but was simply a failure on the part of the stammerer to maintain his attention completely on the idea which he wished to express. He maintained that the most important condition in the treatment of the subpects of tic was the recognition of their peculiar mental inability, of which the essential, practical feature was a very unstable power for voluntary attention under relatively complex conditions. Aside from the degenerate and feeble-minded class, which required institutional conditions, these patients should be treated individually. Good hygienic and easy social conditions, such as the freedom of country life offered, would often be sufficient, particularly for young children. For older children and adults we should add physical and mental exercises designed to improve their general mental condition, particularly to strengthen their powers for voluntary attention. These would consist in physical work requiring skill, such as juggling, and others involving resistance and continued effort. Also mental tasks, such as mental arithmetic, memorizing, and geometry, all conducted under increasingly diverting conditions. After such a course of training we could direct the patient's attention specifically to the tic, in the way described by Drs. Sachs and Dana. But in addition to all this, the patient should acquire, through carefully directed introspection, a correct understanding of his mental traits, and the *modus operandi* of his tic. This would give him the incentive to spontaneous personal effort, and tend to overcome his natural "necessity for direction"; the dependence on routine and personal influence of their teacher or physician.

Dr. LESZYNSKY said that while the educational method of treating these cases was very satisfactory if it could be properly carried out, it could hardly be adapted to older patients. After the habit had been established many years, particularly after the age of puberty, very little could be accomplished. In any case where the spasm affected the facial muscles, the condition of the eyes and nose should be carefully looked into before advising the educational method of treatment.

Dr. L. PIERCE CLARK said he was in favor of the medico-pedagogical training of the tics, but he wished to speak against the use of reversal movements in their educational treatment. With every physical act, as that of flexion of the forearm, there was an accompanying increased tension of the extensor muscles which opposed the act, and which might be defined as the anthithesis tendency of the flexion movement. In the psychomotor sphere there were also latent reversal tendencies. These contrary impulses were in a great measure responsible for the hesitating and spasmodic character of the tics. This fact was admirably shown in the manner stammerers often expressed the exact contrary to the idea intended. In any case, the anthithesis tendency must not be yielded to or encouraged, as thereby the speech or facial tic would be aggravated. Hence the importance of avoiding the reversal system of training in tics. The patient should practice slow, volitional, and forcible mimic movements of the tic itself. In this way the automatic muscle movement of the tic might be brought under the control of the will, and inhibited. In other words, the patient should go with the tic and not against it in the educational training, in order to rid himself of the disorder.

Dr. A. JACOBI said that while he agreed with Dr. Sachs that many of these tics were not of a reflex character after they had once become established, he thought that in a large proportion of them the habit would have never become fixed if they had been properly treated at the start. The speaker said he could recall many cases of constant winking, shaking the shoulders, twitching one angle of the mouth, and so on, which were due to nasal catarrh or hypertrophy of the nasal mucous membrane, with or without adenoids. Dr. Jacobi said he had emphasized this point in a paper written over twenty years ago, but at that time, instead of calling them cases of tic, he had wrongly classified them as partial chorea, because some of the more aggravated ones eventually developed into chorea. Attention to the nose should never be overlooked in dealing with these cases.

Dr. DANA reported the case of a man, 51 years old, a glass-cutter by occupation. His mother was healthy. His father had been a hard drinker. The patient had always been well, but not robust, and of a nervous temperament. He had syphilis twenty years ago, but gave no history of secondary or tertiary symptoms. He had never used alcohol or tobacco to excess, and was the father of healthy children. His present trouble began at the age of 46 with a twitching of the left eye. This increased in severity, and involved all the muscles supplied by the left facial nerve in its upper and to some extent middle branch. The spasm was at times tonic, closing the eye. There was no pain. The attacks recurred every hour or two; they lasted five or ten minutes, and were increased by laughing, talking, eating, or excitement. There was no paralysis of the face. The eyes were examined and pronounced normal. When the patient was asleep, there was a rhythmical motion of the left arm. The bodily functions, aside from the above, were normal. The man was treated by a number of neurologists, who did not help him materially. He was lost sight of for ten years, and upon his return he was entirely well, and stated that he had been so for a number of years. His cure, he said, was brought about by the following procedure: Every morning he spent an hour in general calesthenic exercises, followed by a bath. With these exercises, he went through a series of movements of the eye. Standing at one side of the room, he moved his eyes slowly in a horizontal line from one angle of the room to the other, then along a vertical plane from the top of the wall to the bottom, then from the upper left to the lower right corner and back again, then from the upper right to the lower left corner and back again. These movements he went through fifty times each day.

Dr. SACHS said he differed with Dr. Deady that in the treatment of these cases the attention of the patient should not be specifically directed to the tic. This, Dr. Sachs thought, was the essential feature of the educational method of treating these cases, and was even more important than the treatment of the patient's general condition. The speaker said he agreed with Dr. Jacobi to the extent that in many of these cases the tic was of reflex origin, but once having been established, it became automatic, and the habit was formed. He did not deny that they were reflex acts, but he did deny that they were reflex motor neuroses.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a stated meeting held April 12, Dr. G. G. DAVIS exhibited a girl 18 years old who, at the age of six had fallen into a quarry, suffering a fracture of the bones of the left upper extremity, in consequence of which there were shortening and deformity with pain from inclusion of nerve-tissue in the cicatrix. An operation recently performed to free the nerve did not relieve the pain, but as a result of a subsequent resection and the employment of an ingenious device to secure movement at the elbow-joint the usefulness of the member was greatly increased. Dr. H. E. WETHERILL exhibited a stethoscope of wood with a hollow stem provided with lateral openings over which thumb and fingers can be placed for the purpose of measuring the intensity of murmurs due to valvular lesions of the heart; the instrument had projecting extension of the ear piece to fit into the auditory canal. Dr. EDMUND W. HOLMES exhibited "An Encysted Calculus Removed by Suprapubic Cystotomy, with Skiagraph." The patient presented symptoms of vesical calculus which could not, however, be discovered with the aid of exploring instruments. *X*-ray examination on the other hand disclosed the presence of a stone, as well as its size, and it was subsequently removed through a suprapubic opening. Dr. Holmel exhibited also an enlarged prostate gland enucleated through a perineal opening. Dr. WM. H. MORRISON read a paper entitled "Posterior Gastrojejunostomy for Benign Stenosis of the Pylorus," and he exhibited the patient. The latter was a man who had been struck in the epigastrium by the handle of an iron implement. Later on the symptoms of gastric ulcer developed and eventually those of pyloric obstruction. Other measures failing to afford relief, the abdomen was opened and a communication established between the stomach on its posterior aspect and the adjacent jejunum by means of a Murphy button, which had not been found in the discharges at the time of report. Marked improvement followed upon the operation, with great gain in weight. Dr. F. J. KALTEYER read for Dr. J. C. Wilson a paper entitled "Cerebrospinal Fever," in which were discussed the history, epidemiology, etiology, pathology, symptomatology, diagnosis, and treatment of the disease. The discussion was participated in by Drs. Jas. Tyson A. C. Abbott, W. T. Longcope, N. B. Gwyn, Frank Woodbury, A. E. Roussel, B. F. Royer, W. S. Wadsworth.

Chicago Laryngological and Otological Society.

At the February meeting of this society, Dr. **A. H. Andrews** showed a young man, 19 years of age, who had had rhinolalia almost from infancy. Dr. **P. J. H. Farrell** read a paper on "Mastoiditis in Typhoid Patients." The history sheets and charts showed that all of them ran the typical fever curve, with rose spots on the abdomen, and Widal, diazo, and blood cultures showing typhoid bacilli, so that there was no question about the accuracy of the diagnosis. To begin with, they were not his typhoid cases, but his mastoid cases, and came to him as such for operation. Their histories were carefully taken, and there could be no question as to the accuracy of the diagnosis of typhoid. The cases showed a more severe and destructive course than was generally observed in acute cases. In all of them the necrosis was very extensive. Rapid convalescence from typhoid was most marked in all cases operated upon. Dr. **Otto T. Freer** read a paper on "The Maxillary Antrum; the Removal of the Greater Part of Its Nasal Wall for Empyema." The author presented a patient upon whom he had operated, and referred to the work done by Curtis in this direction, as well as to 12 cases reported by Claoué, and 7 reported by Escat. The operations in 9 of Claoué's cases, and in all of Escat's, resulted in perfect recoveries. The imperfect relief and annoyance to patient and surgeon given by alveolar drainage was considered and the reluctance of patients to consent to the radical Caldwell-Luc procedure, as this required general anesthesia and ablation of most of the facial wall. Compared to this severer method, Dr. Freer gave as the advantages of the operation he described: Operation under cocaine anesthesia instead of narcosis; the avoidance of resection of the facial wall of the antrum; the free access in spite of this given to the interior of the antrum for inspection and curettage, and the perect drainage and ventilation of the antrum obtained. While admitting that the radical operation would still be required for the severest cases, the author contended that in a great majority the nearly complete removal of the nasal wall would suffice, as it offered the advantages of the radical operation without its usually needless removal of the facial wall. Dr. Freer's patient had had empyema of the right antrum of Highmore, with intensely fetid purulent discharge for a year. Diagnosis made by transillumination and washing through a Myles trocar, which had been made to pierce the antrum in the inferior meatus. The operation was performed as follows: Local anesthesia was produced by the application (with a minute swab) of powdered cocaine. The anterior two-thirds of the right inferior turbinal were resected with Grünwald scissors and an angular knife. A long, straight trephine was then applied to the outer wall of the nose in the inferior meatus, its shank pressing the cutaneous septum, and with it the nasal tip, strongly over to the left, so that the trephine crossed the inferior meatus at an angle of about forty-five degrees. After perforating the nasal wall of the antrum with the trephine in the place indicated, a long, barrel-shaped bur was placed in the hole made and the greater part of the nasal wall of the antrum cut away. The opening was still further enlarged with Rhodes' large punch forceps. The window so made in the nasal wall of the antrum extended from above the lower border of the middle turminated body in the middle meatus downwards to the nasal floor, the base of the nasal wall of the antrum being trimmed off to the very bottom with the bur. Behind, the opening extended to the perpendicular plate of the palatal bone in front to within five-eighths of an inch of the apertura pyriformis. Large amounts of foul, coagulated pus escaped, and all of the interior of the antrum could be inspected excepting the inner surface of its facial wall. Curettage was not needed, but could have been thoroughly performed. The hemorrhage was insignificant. The interior of the antrum was palpated with the little finger. The cavity was firmly packed with a long strip of lint saturated with subnitrate of bismuth. Complete recovery ensued in about three weeks. Dr. Freer warned of the danger from arterial hemorrhage, if the posterior wall of the antrum lying in front of the spheno-maxillary fossa was pierced, or if the palate bones were included in the resection. The success of the operation depended on the making of a large opening, and especially upon the complete cutting away with the bur of the ridge between the floor of the nose and that of the antrum, as only a large opening would remain permanently.

Chicago Medical Society.

At a meeting held April 5, 1905, Dr. **James B. Herrick** reported a case of "Intermittent Claudication," which showed the typical symptom-complex of that affection, namely, intermittent limp or lameness, which occurs when the patient walks a greater or less distance. The patient was a Hebrew, 45 years of age, who, a little less than two years ago, noticed that in walking he had stiffness and pain in the calf of the right leg, and also some pain in the right foot. He was obliged to cease walking and to rest for a short time, after which he could continue walking again. A little later he noticed a change in the color of the feet on walking. After walking a short distance the right foot would become pale or, "as white as a sheet of paper," as the patient expressed it. Four months later he had similar symptoms in the left foot. Pain annoyed him not only in walking, but in changing the position of the foot, particularly if it were elevated, so that the blood did not circulate as freely in the foot as it should. The patient became worse, and finally, when he came under Dr. Herrick's care, two months ago, he was suffering more or less pain paroxysmally, even when he did not walk, or when he was quiet in bed, at times. About three months ago a small ulcer appeared just at the inner side of the nail on the great toe, which gradually increased in size and was the seat of more or less burning and pain, which later the patient described as almost unbearable. A small ulcer appeared under the nail of the little toe of the right foot. The ulcer on the great toe increased in size until the pain became so unbearable that an amputation of the little toe was made. This relieved the pain somewhat, but the patient has suffered a great deal since. The edges of the wound were sloughing. The symptom-complex of intermittent claudication was first described by Charcot in 1859. The patient on walking experienced pain in the calf of the right leg, with stiffness in the calf of that leg and pain in the foot, so that he walked with a limp. The other symptom was extreme pallor of the foot on walking. It was rare to find a pulsating artery in the foot. No sclerotic change could be made out in this case, either in the foot, the leg, or of the arteries of the wrist. The heart was not enlarged, and there were no physical signs of sclerotic changes in the aorta or in the coronaries. Patient had had one slight attack that might possibly be construed as an angina pectoris. The majority of cases of angina pectoris depended on sclerosis of the coronary arteries. In this patient the arteries were not sclerotic. At the time of amputation of the toe no hemostat was necessary, there being only a trifling oozing. As to the treatment, blood pressure was low; in one radial the pulse was less than 100; in the other it was 110. Strophanthus was used in large doses. Digitalis was used in combination with nitroglycerine, adrenalin and the nitrites. Warm foot-baths were used, but absolutely nothing had relieved the patient's pain except morphine, which had been absolutely necessary. Nothing in the way of treatment had seemed to give him any relief. Dr. **Hugh T. Patrick** also reported a case of intermittent claudication, and showed the patient, a man, 36 years of age, who gave no specific history, although he had received large doses of iodide of potassium. Dr. **Robert B. Preble** showed two patients with "Multiple Neurofibromata." These tumors were present in large numbers all over the body. One was a man 60 years old, the other 58 years old. In the case of 64, the tumors began to develop upon the body in places at the age of 20. There were now hundreds of them scattered over the body, many of them sessile, others pedunculated, and of varying size.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the weeks ending April 29, and May 6, 1905:

	April 29		May 6	
	Cases	Deaths	Cases	Deaths
Measles	601	13	621	13
Diphtheria and Croup	353	49	334	39
Scarlet Fever	254	13	256	14
Smallpox	1	......	......	......
Chickenpox	62	......	137	......
Tuberculosis	438	204	414	181
Typhoid Fever	39	10	31	10
Cerebrospinal Meningitis	195	87	178	111
Typhus Fever	......	......	......	......
Yellow Fever	......	......	......	......
Cholera	......	......	......	......
Totals	1,943	376	1,971	368

On Partial and Complete Excision of the Tongue.—Jordan Lloyd states that partial removal of the tongue may be called for in early epithelioma leucoplakia, fibroma, nevoid, papillomatous and other tumors; macroglossia, tuberculous and other ulcerations. The plan of removal may be by "wedge," "ellipse" or "lateral half," according to the physical nature of the lesion. All incisions from within the mouth are best made with scissors, and, as a rule, the long-handled, blunt-ended, straight-bladed pattern is the most convenient. It cuts to the end of its blades, and can be handled with more accuracy than either a curved or angular instrument. The mouth must be widely gagged, as a rule on the affected side, and one or more stout loops of silk ligature passed deeply through the tip of the tongue. If necessary, the cheek may be split from the labial angle backward. Before making any incision in the tongue, the surgeon should definitely decide just where and how much he is going to cut. There should be no hurry about the operation. The writer keeps the tongue extruded by means of knitting needles. When the mouth is gagged open, and ligatures passed through the tongue in the usual manner, the organ is pulled out between the teeth as far as possible, the frenum and anterior faucial pillars being divided if necessary. A stout knitting needle with blunt and smoothly rounded ends is entered close to the angle of the mouth; its point is dipped deeply downward and backward toward the root of the tongue, into which it is thrust midway between its upper and lower borders, and pushed transversely on through to the other side, where the emerging needle lies deeply in the mouth, and must be brought forward to engage on the opposite labial angle by lifting its point forward and drawing the angle of the mouth backward. The needle is then pushed on until the tongue occupies its central part. By this arrangement the tongue is kept fully extruded and exposed from tip to base. The angles of the mouth are forcibly retracted at the same time. Of the methods of complete excision, the writer speaks of Whitehead's, Syme's and Kocher's. The after-treatment of major tongue operations is as important as the operation itself. Septic broncho-pneumonia and its consequences should be guarded against. The wound should be kept as aseptic as possible by means of antiseptic applications. The patient must be sat upright in bed as soon as he recovers from the shock and the anesthetic, and must be taken regularly out of bed into an easy chair from the second or third day after operation.—*The Birmingham Medical Review.*

Pathogenesis of Lead Intoxication, Apropos of Pathological Findings in a Case.—A. Gordon discusses the pathogenesis of the affection based on the pathology of his case. Spiral cord and nerves of the upper and lower extremities were examined by him very carefully and in detail. All the phenomena observed during life of the patient can be easily explained by the pathologic findings. Gordon discusses the various theories which are now in vogue, namely: the vascular, central and peripheral. He concludes his case, shows the inadequacy of the views of those who adhere persistently to one certain theory and that lead carries its deleterious effect not to one special element of the nervous tissue, but to all its constituents simultaneously; the difference may lie in the degree, but not in the localization.—*American Medicine.*

Bossi's Method.—H. v. Bardeleben, whose dictum is to dilate the cervix if it is dilatable, and to incise it if it is resistant, expresses the view that the underlying principle of Bossi's method is untenable. Bossi in describing his instrument asserted that by its means it is possible to dilate the cervix under any condition of consistency, even in primiparæ, carrying out the procedure at such a rate of speed as the exigency of the case indicates. While v. Bardeleben admits that in selected cases it may be possible to accomplish satisfactory and safe dilatation with the instrument, he maintains that in many instances it is impossible to resort to mechanical dilatation without producing serious lacerations. In breech cases he prefers to do a combined version and to dilate by means of the breech, and in head presentations to apply axis traction forceps and dilate with the head. He cites three cases in which there is a possibility that the use of the instrument induced the fatal outcome.—*Zentralblatt für Gynäkologie.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended May 6, 1905:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
District of Columbia, Washington	Apr. 22–29	..	1
Florida, Jacksonville	Apr. 23–30	5	..
Illinois, Chicago	Apr. 22–29	21	..
Danville	Apr. 22–29	3	..
Louisiana, New Orleans	Apr. 22–29	16	1
		Five cases imported.	
Missouri, St. Joseph	Apr. 22–29	3	..
St. Louis	Apr. 22–29	21	1
Nebraska, South Omaha	Apr. 23–30	1	..
New York, New York	Apr. 22–29	1	..
Ohio, Cincinnati	Apr. 21–28	4	..
Toledo	Apr. 15–22	1	..
Pennsylvania, Altoona	Apr. 22–29	3	..
		Infection imported.	
Lebanon	Apr. 22–29	3	..
Steelton	Apr. 22–29	1	..
York	Apr. 22–29	13	..
South Carolina, Charleston	Apr. 22–29	4	..
Tennessee, Memphis	Apr. 22–29	9	..
Wisconsin, Lacrosse	Apr. 15–22	2	..
Milwaukee	Apr. 15–29	6	..

SMALLPOX—FOREIGN.

Canada, Hamilton	Apr. 20–27	2	..
Chile, Antofagasta	Jan. 24–31	..	1
France, Marseille	Mar. 1–31	..	1
Paris	Apr. 8–15	29	1
St. Etienhe	Mar. 17–31	1	..
Great Britain, Hull	Apr. 1–8	3	..
Southampton	Apr. 8–15	4	2
South Shields	Apr. 8–15	6	..
India, Bombay	Mar. 28–Apr. 4	..	118
Calcutta	Mar. 25–Apr. 1	..	11
Karachi	Mar. 26–Apr. 2	8	..
Madras	Mar. 25–31	..	7
Italy, Catania	Mar. 30–Apr. 6	..	3
Palermo	Mar. 25–Apr. 15	46	4
Russia, Moscow	Mar. 25–Apr. 8	9	3
Odessa	Apr. 8–15	8	1
Spain Cadiz	Mar. 1–31	..	2
Straits Settlements, Singapore	Mar. 11–18	..	2
Turkey, Constantinople	Apr. 8–16	..	6

YELLOW FEVER.

Mexico, Coatzacoalcos	Apr. 8–15	1	1

CHOLERA.

India, Calcutta	Mar. 25–Apr. 1	..	71

PLAGUE.

Africa, Cape Colony	Mar. 18–25	3	1
Arabia, Aden	Mar. 31–Apr. 7	11	10
Chile, Antofagasta	Mar. 1–28	1	..
Arica	Mar. 27	3	..
Pisagua	To Mar. 21	..	133
Valparaiso	Mar. 31	1	..
India, Bombay	Mar. 28–Apr. 4	..	681
Calcutta	Mar. 25–Apr. 1	..	719
Karachi	Mar. 26–Apr. 2	168	155
Peru, Chiclayo	Mar. 26–Apr. 2	7	4
Eten	Mar. 26–Apr. 2	1	..
Lambayeque	Mar. 26–Apr. 2	1	..
Chepin	Mar. 26–Apr. 2	3	3
San Pablo	Mar. 26–Apr. 2	..	1
Mollendo	Mar. 26–Apr. 2	16	3
Lima	Mar. 26–Apr. 2	1	2

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Original Articles.

CYSTOSCOPY AND RENAL LAVAGE.

BY FRANK M. JOHNSON, M.D.,

BOSTON, MASS.

THE object of this paper is to set forth: (1) The indications demanding cystoscopy and renal lavage. (2) Rules it is wise to observe in preparing for cystoscopy. (3) Description of the modus operandi. (4) Difficulties likely to be encountered in the procedure. (5) Descriptive cases illustrating the beneficial effects of this method of treatment.

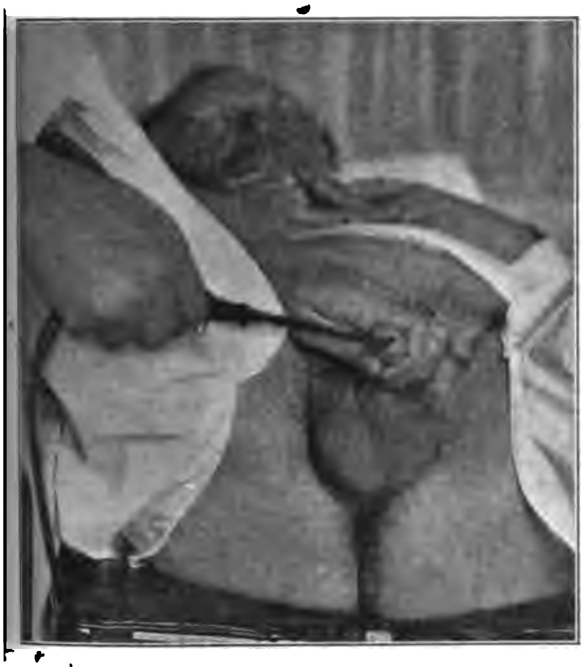

Fig. 1.—Filling the bladder.

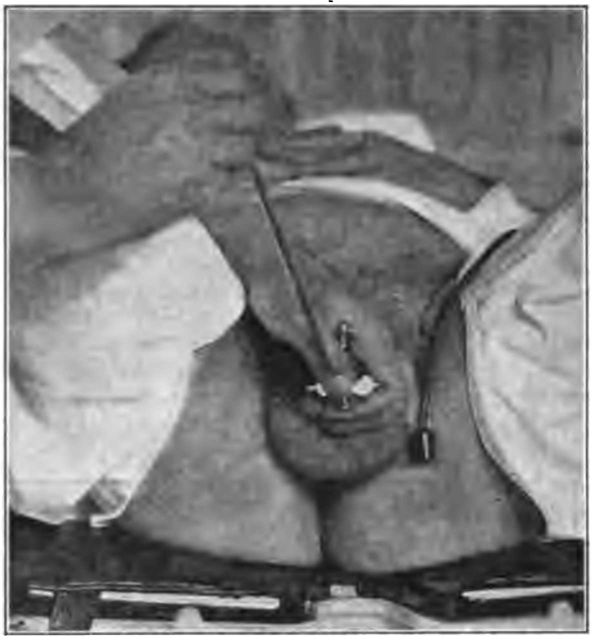

Fig. 2.—Just before the introduction of the telescope.

The use of the cystoscope, in its broadened field of utility, deserves to receive from members of the medical profession a thorough consideration. This is especially true at this particular time, when testimony in the shape of writings and teachings of many observers, derived from actual experience, present deductions worthy of the keenest interest and investigation.

Cystoscopy is a procedure that is practical and reliable. It is a diagnostic measure of marked value, for by its use can often be determined the location or the cause of obscure bladder and kidney affections. We gain knowledge of the exact condition of the mucosa and are thus enabled to determine the best remedial agents to be employed. The presence of tumors, anatomical deviations, the state of the ureters, the vascular supply or the activity of the kidneys, are but a few salient points readily attainable. Again, and perhaps more important, the cystoscope enables catheterization of the ureters and the collecting of the separate urines, the microscopical findings of which serve to establish a diagnosis and thus enable us to apply such topical medicaments as are indicated. Strictures of the ureter can be dilated. The presence of suspected calculi can be made certain, and their removal possibly accomplished. Drainage of a kidney can be facilitated. Ureteral and pelvic irrigation can with safety be performed.

As newer cystoscopes are perfected the operative field will become larger and larger; finer and neater but effective, instruments will enhance the performance of delicate operations as yet impossible or perhaps unknown. With care, gentleness, and proper equipment it can be truly stated that, although this special work is as yet rather a new departure, it promises to yield good harvests as one of the more modern fields of scientific research. This paper cannot more than touch upon the really operative work, as the intention is only to offer a few suggestions found valuable to the writer, with the hopes that to others they may prove of interest and value.

Indications for, and Conditions Governing Treatment.—(1) From microscopic examinations of the mixed urine and from the clinical history of the case we obtain information justifying the procedure. (2) A consideration of the nervous and physical condition of the patient will teach us whether interference must be immediate or whether measures to render the operation less painful may first be employed. (3) The eradication of all conditions tending to interfere with the use of the cystoscope, such as stricture, enlarged prostate, sensitive urethra, or an irritable bladder. (4) The condition of the heart must receive special attention, for often surgical shock plays an important post-operative part.

My experience in cases thus far treated leads me to believe it is always wiser, although not absolutely necessary, first to use bladder lavage a few times or, if the urethra is small or sensitive, at least to pass a sound. After such manipulation, in a little time it is surprising to find how well the cystoscope can be passed. Among women patients I have met with at least six cases of greatly inflamed and very tender urethra. This complication was eradicated by the use of a soothing, healing urethral bougie and by giving bladder lavage for a few days. In men, the use of a sound soon causes the urethra to become tolerant. Where time cannot be taken for this preparatory work, I have found that a weak solution of cocaine or eucaine, or some soothing oil, also a good lubricant, renders the operation almost painless.

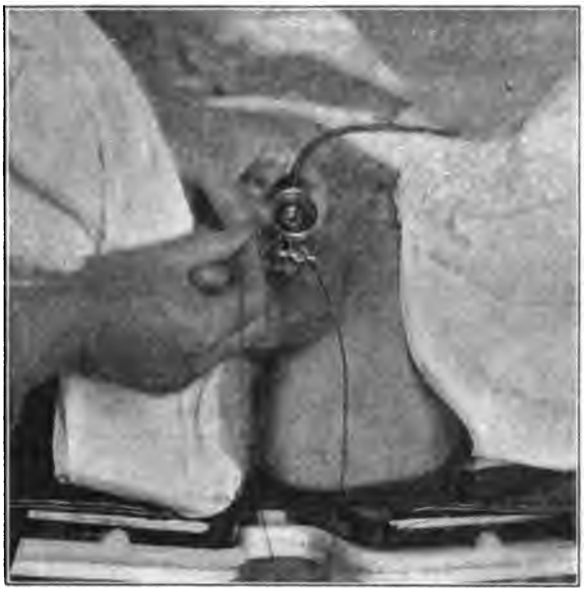

Fig. 3.—Telescope and catheter in place.

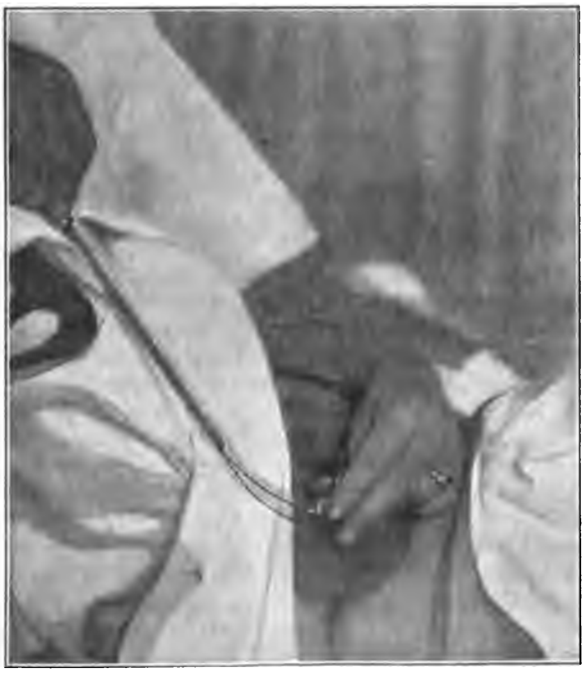

Fig. 4.—Withdrawal of the telescope, the catheter being held in position.

A Few Good Rules to Observe.—All catheters should be perfectly clean. Formalin tablets, in a piece of gauze, kept in the tube or jar that holds the catheters, renders them antiseptic. Before use the catheters are dipped in a mixture of alcohol water, and formalin, then rinsed with hot water. Th catheters to be used for the ureters are treated in th same manner, except that by means of a small, slin needle attached to a syringe they are washed out with a mild, hot solution of formalin.

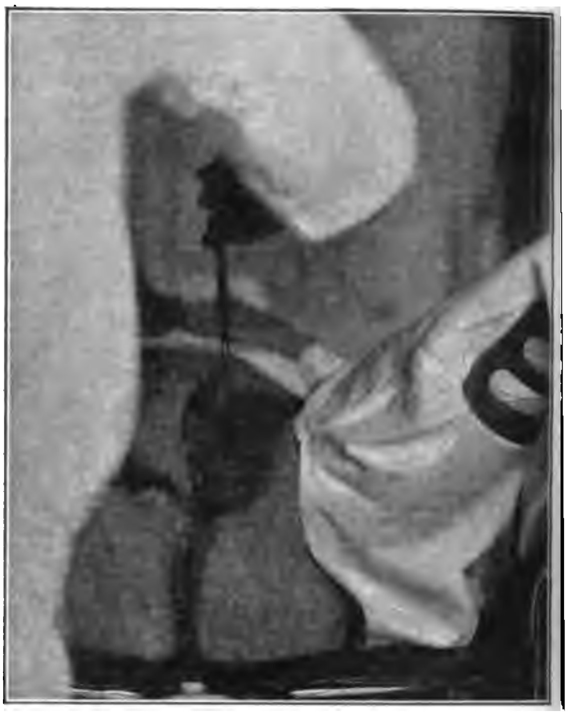

Fig. 5.—Withdrawal of the cystoscope leaving the catheter in place.

Cystoscopes are dipped in the formalin solution, then rinsed thoroughly in water. It will be found useful to pull over the outer ends of the catheters short pieces of small rubber tubing stopped with tiny wooden plugs; this expedient will prevent the catheters leaking while in the bladder. Always test the light, making sure the current is just the right strength. Always have the hands and arms perfectly

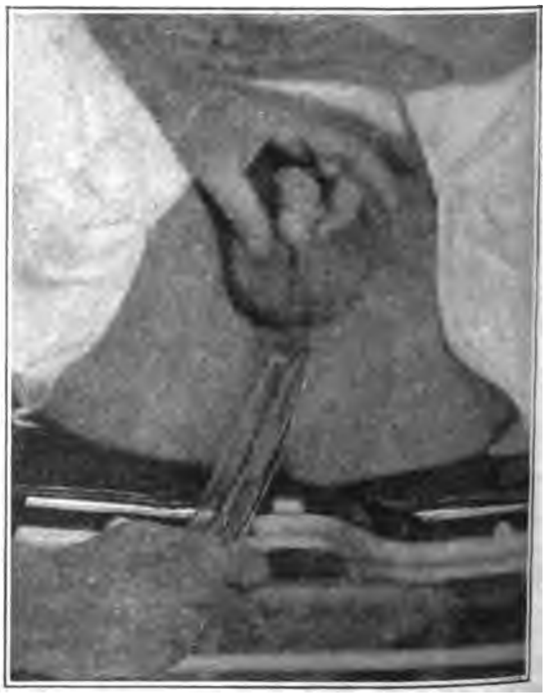

Fig. 6.—Collecting the separate urines.

clean, as the operator should use as much care as if he were to perform a major operation. If an irrigating cystoscope is used, have the small piece of tubing in place, as if needed later it cannot then be easily applied. Place all instruments upon a sterilized towel on a table near at hand. Also place where they can be readily reached when needed two test tubes and corks that have been thoroughly boiled. Wipe the tubes dry and mark respectively R. and L. and also with the patient's name, using a pencil specially prepared for writing upon glass. Distilled water is the best medium for the lamp; a few drops of formalin can be added. The irrigator or, if a hand syringe is used, a basin, is filled with this preparation.

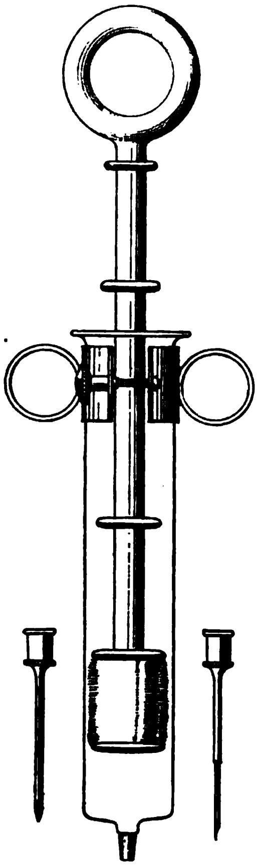

Fig. 7.—Syringe for renal lavage.

Method of Procedure.—In private practice I find it of decided advantage to have both men and women remove their clothing and put on white pajamas, the drawers having been cut out a little to furnish sufficient room for the operator to handle all instruments without any hindrance whatever. The patient now lies upon the table, his legs in stirrup rests, or if on an ordinary operating table, caught in slings at the posts. It is wise to raise the part of the table on which the patient rests to an angle, as a better view of the bladder can be obtained. The catheter is gently introduced and part of the fluid thrown into the bladder and allowed to run out. This is repeated until the fluid comes away clear. A little one per cent. cocaine solution injected into the bladder just before filling makes it more tolerant. Finally allow as much water to remain in the bladder as the patient can retain with comfort; certainly much less than three ounces renders much more difficult the work to be done. The catheter is then removd and the cystoscope is slowly and carefully inserted. The first motion is much like passing a sound, but the latter part of the introduction is essentially different and is difficult to explain in words. One must see this done, and also do it very often, before skill will be attained. The attempt is made in the following series of photographs, to show the method of introduction.

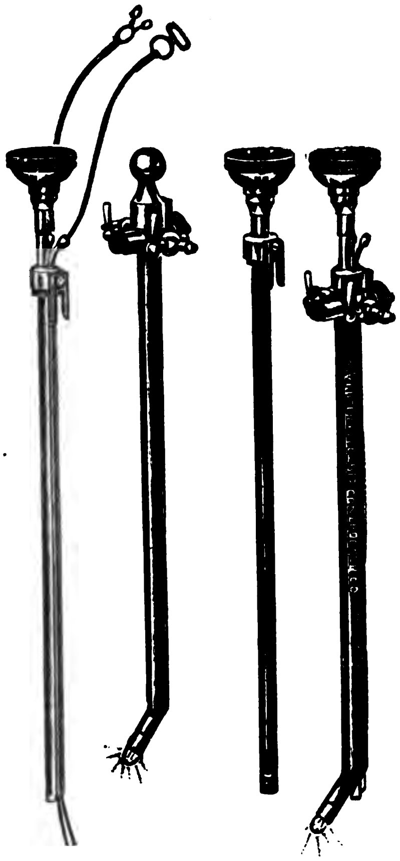

Fig. 8.—The Brown ureter-catheterizing cystoscope.

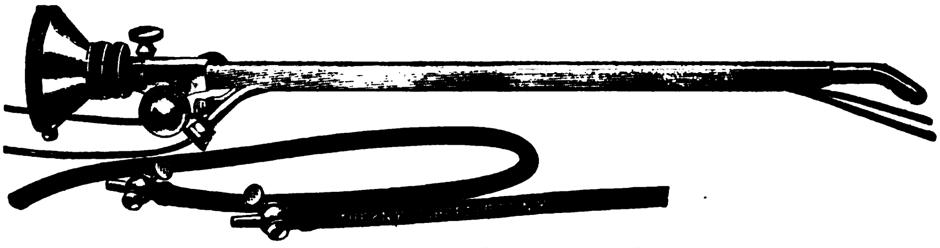

Fig. 9.—The Bierhoff double-channel ureter-catheterizing cystoscope.

Suppose the cystoscope is well in the bladder; the under screw is loosened and the solid rod removed, holding the fingers at point of egress to prevent too much water escaping. Telescope and catheters, or plain telescope, are quickly inserted. Attach wire to cystoscope and turn on the light. If the catheters have been introduced, the ureters are sought for; when found, a catheter is pushed gently into the orifice and the sense of touch depended upon to determine just how far it shall be inserted. The opposite ureter is located and entered. The light is now shut off and the telescope removed, the catheters being pushed back towards the bladder. The water is allowed to escape. Both catheters are now slowly directed towards the bladder as tube is removed. In the male a slight pressure over the perineum holds them while the tube is completely withdrawn. It is safer to use black and light colored or have one of the catheters striped or the end of one painted black, so that the right and left are clearly marked. The separate urines then are collected in the test tubes.

Lavage of the kidneys consists in the direct application to those organs of some preparation, boracic acid solution containing silver nitrate, strengths from 1-12,000 up to 1-7,000, or ½ of 1 per cent. of one of the organic silver salts, or a healing oil, an astringent, or a hemostatic. There are no standard solutions; experience is the teacher and conditions found, the guide. Only a small amount (15 to 30 minims) should be injected at any one time; a total of from 1 to 4 ounces can be used at each lavage of both kidneys. Each catheter is then removed in turn, a good plan being constantly to inject some of the fluid during withdrawal, as then the whole urinary tract is influenced and receives a thorough washing out. Lavage of the bladder is conducted by Janet's method with a warm solution of boracic acid, or 1-5,000 solution of silver nitrate, or a combination of boracic acid with some one of the silver preparations. A fair amount is left in when the catheter is withdrawn; this, when passed by the patient, thoroughly cleanses the urethra. The needle for instilling fluids into the kidneys is like that of an ordinary hypodermatic syringe, except that it is made blunt. It is attached to the syringe, the capacity of which should be an ounce or more. If an air cystoscope is employed, the first wash is of course not necessary. More cocaine will probably be needed. An operator should understand the use of all the well-known cystoscopes, for at times it is impossible to perform the operation with the one instrument with which he is familiar and resort to others becomes necessary.

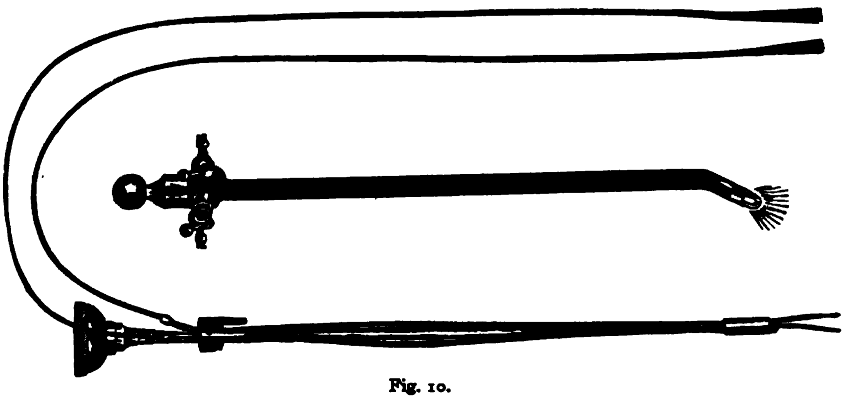

Fig. 10.

Difficulties that May Be Encountered.—Even when catheters are in place no urine may collect in the test tubes. This may be due to the small holes becoming plugged with mucus, thick pus, etc., or to very inactive kidneys. When this occurs, inject a small quantity of warm sterilized water, or a warm saline solution, and the difficulty is overcome. The fluid in the bladder may be so tinged with blood that nothing can be made out. If this happens, keep injecting fresh clean water through the tube attached to the side nozzle until a clear field is obtained. Abnormal deviations may be present in the shape of ureters that are widely separated; the orifice of one may be high, the other one low; one may be seen plainly on the white surface, the other in the red; one may take a catheter easily, the other may require a sharper and smaller catheter. When endeavoring to locate the ureters, watch for the swirl of the urines as a guiding factor. By tipping the patient up higher the ureters may appear that were lost to view. Stricture of the ureter renders the passage of a catheter impossible; dilatation is then demanded. Growths in the bladder often cover up the ureteral openings; interference of some sort is then required before catheterization is possible. Spasms of the bladder and the nervous straining and moving of patients frequently prevent any attempt meeting with success; these demand especial attention in order to avoid failure. Lamps grow hot, and burns are caused if too much time is consumed in the examinations. It need hardly be stated that these do not represent all the perplexing difficulties that may arise, but as fair examples they are sufficiently suggestive.

Descriptive Cases.—What are the cases, then, that may be cured or improved by lavage of the kidneys? The following illustrative cases from among the patients treated during the past year have been selected for two salient reasons: first, because all ordinary remedial measures had been tried and the conditions did not change for the better, and second, they serve as decisive examples of certain classes. The time has been sufficiently long to prove that results are permanent.

Case I.—Miss G. M., age 29. History obtained: For two years had suffered from headache, backache, loss of appetite, restless sleep, an utterly tired-out feeling at all times, but especially in the morning. Frequency of urination during both day and night. Attacks of melancholia at times. A growing nervous irritability. Fleeting pains in legs, knees, hands, and arms. No relief from either dieting or medicines. Change of scene and air improved the condition for a time only. Of late constipation has been present and there has been marked vomiting or nausea. Patient feels so utterly miserable that she says unless relief can be obtained she does not care to live. Physical condition: Poor circulation, nervous heart action, marked anemia. Tenderness over region of the kidney and lower part of spine. Flesh soft. Lungs and bronchial tubes most sensitive. No trouble with the uterus, vagina or ovaries. Urethra normal. From examination of the mixed urine was made the diagnosis of lithemia, causing a chronic catarrhal pyelonephritis and a mild chronic catarrhal cystitis. Catheterization of the kidneys was readily performed. Right and left urines each showed the existence of lithemia, with chronic catarrhal pyelonephritis. The left kidney gave evidence of more disturbance than the right. Treatment was instituted as follows: Kidney lavage with ½ of 1 per cent. protargol in a ½ saturated solution of boric acid. This was given warm, once a week. Bladder lavage consisted of 1-5,000 silver nitrate in a ½ of 1 per cent. saturated solution of boric acid given every two or three days. Internally, piperazine water—a quart during the day—and 20 drops of dilute nitromuriatic acid in orange-flower water after each meal. A tonic before meals. Hypodermic injections of ergot and then strychnine were also used, at first daily, then twice a week. Outdoor exercise and stimulating baths were advised. After a time piperazine was stopped, also the acid, and an effervescing lithia salt used before breakfast, the tonic being continued. Treatment has lasted about two and a half months. Patient's condition is again normal. Her appetite is good and digestion is perfect. Has neither headaches nor pains. Enjoys life. Has made a decided gain in flesh. The flesh itself is firm and hard. Examination of urine last made showed no albumin, normal specific gravity, no oxalate of lime crystals. But few uric acid crystals. Microscopic findings of the sediment from the right and left kidneys, show evidence of only a slight irritation of the kidneys. Virtually the patient may be regarded as well. As treatment has been given in detail, it can easily be seen that the beneficial effects of lavage must have been the factor causing recovery, for only very simple medicines were prescribed. Many cases of stubborn lithemia or oxaluria have responded even more quickly to such measures. Here a little longer time was necessary, as the affection of the kidneys was more pronounced.

Case II.—Mr. T. N., age 22. No history of disease, as there were no subjective symptoms. Patient had kept at his work and only consulted me because he had been rejected for life insurance; the cause stated was presence of albumin. I was unable to obtain from him any history of disagreeable symptoms. In appearance he seemed to show only slight anemia and was not heavy enough for his height. Diagnosis from the mixed urines was subacute parenchymatous nephritis and catarrhal pyelitis; also lithemia. Both the right and left specimens contained hyaline, epithelial and granular casts. In about twelve days there were fewer casts, the lithemic condition being one of very mild pyelonephritis. There is still a mild lithemia. The patient has gained some six pounds in weight. The case possesses interest as showing a rapid response to local application in the kidney.

Case III.—Mr. E. H., age 61. History of illness for more than two years. Principal symptoms had been headache, nausea, indigestion, weak heart, dropsy, partial lack of ability to walk, loss of flesh and strength. Had received treatment from many physicians and at a hospital was told he had but a short time to live. Disfiguring skin eruption on face. Had taken large quantities of digitalis and iron. On examination a stricture of the urethra was found. This was dilated. Prostate was also enlarged. Urine examination showed the case to be one of chronic parenchymatous nephritis and chronic catarrhal cystitis, there being a fairly large amount of albumin. Both kidneys were treated with ½ of 1 per cent. protargol in boric acid solution. In all there were some eighteen cystoscopies and in the interim bladder was washed out with 1-5,000 silver nitrate. Salol, alkalies, and piperazine were the internal remedies employed, no digitalis being used. To-day the patient shows marked improvement. He has resumed work, has a good appetite and has gained sixteen pounds in weight, his flesh being much firmer. Right and left urines show no appreciable albumin; microscopic features are scanty. No casts are found. The diagnosis now is chronic catarrhal pyelonephritis. While the patient cannot be called cured, the improvement is decided. Measures other than lavage had utterly failed to bring relief.

Case IV.—Mr. L. F., age 46. For four years had complained of pain in right side in region of kidney, loss of strength and flesh, frequent micturition, indigestion, etc. Pain so severe that morphine had to be used. Urine examination showed chronic catarrhal pyelonephritis with acute recurrence and also suggested a suppurative process. Constitutional condition poor. This was in July, 1904. Early in September patient was catheterized and urines collected. Right chronic nphritis, probably suppurative in character; catarrhal pyelitis. Left-chronic catarrhal pyelonephritis. A stricture was found in right ureter near opening, but fluid could be forced in fairly well. Pus could be seen flowing from the ureter. Patient lived quite a distance away, but as a rule managed to have the operation done once in ten days. He was taught how to wash out his bladder and learned to do this very well. Salol, urotropin, tonics, and cathartics were alone required, as pain disappeared after the first lavage. January, 1905: The specimens show no evidence of the previous suppurative inflammation, the right now showing a chronic pyelonephritis only, while the left is nearly normal. The stricture has not yet been overcome, as it has been impossible to pass the dilating bougie into the right ureter. Patient has not lost a day from his work since treatment was begun. No calculus has ever been found and no reason for the condition first found in the right kidney has been ascertained.

These cases illustrate how different conditions are influenced by appropriate local measures. Many others could be cited, but none would show any more clearly what this procedure can accomplish.

43 Tremont Street.

THE DISORDERS OF THE NERVOUS SYSTEM ARISING IN THE COURSE OF CHRONIC NEPHRITIS.*

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Chronic nephritis is often so insidious in its development that its accidental discovery in a large proportion of cases is due to some obtrusive symptom which leads the unsuspecting patient to seek medical advice, while slight functional disturbances in the various viscera or nervous system may have been ignored or misinterpreted for a long time. Unfortunately, in many instances of this disease, especially of the interstitial form, in which the condition may exist without any actual discomfort to its victim, the true nature of the slighter nervous manifestations is not recognized until some serious or fatal complication takes place.

When we consider that the involvement of the nervous system is, on the one hand, due to toxemia, while on the other it is directly attributable to arterial degeneration interfering with the nutrition of the cerebral structures, and that the coexistence of both factors is of common occurrence, it is not at all surprising when we have occasion to note in an individual case many of the following symptoms: Cephalic paresthesiæ; headache in various degrees to true attacks of migraine; insomnia; numbness in the extremities; neuralgic pains in different parts of the body; vomiting; muscular twitching; monospasm or hemispasm to general epileptic convulsions; amaurosis; deafness; transitory attacks of aphasia; facial paralysis; paresis or paralysis of one extremity; hemiparesis, hemiplegia or paraplegia; gradual or sudden coma; delirium; stupor; insanity; and permanent hemiplegia with or without aphasia.

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The above mentioned disturbances are almost exclusively of cerebral origin, being indicative of irritation or destruction of various nerve centers or tracts. The symptoms due to uremia *per se* originate mainly in the cortex, thus interfering with the function of the nerve cells directly, or secondarily through involvement of the vascular supply. The occurrence of uremic focal symptoms renders this supposition the more likely.

Various cephalic paresthesia may be complained of, such as a sensation of pressure, fullness, throbbing, etc., analogous to that experienced by neurasthenic subjects. Headache in diversified forms may be one of the earliest and most persistent of the series of symptoms occurring in the course of chronic renal disease. Several writers on general medicine have endeavored to describe a special type of headache due to uremia. Ordinarily the pain is situated in the occipital region, and is often bilateral, extending to the back of the neck. It may or may not be associated with somnolence, nausea, or vomiting, etc., according to the degree of damage to the kidneys or arterial system. But the headache itself possesses no distinctive characteristics which will permit of its classification in any pathognomonic type. There may be periods of headache accompanied by vertigo, and mental confusion, which are often erroneously ascribed to cerebral hyperemia. Headache may also be of a congestive type in patients with high blood-pressure, arteriosclerosis and pronounced ventricular hypertrophy. I have often observed the coexistence of severe and persistent general headache with vomiting, vertigo and optic neuritis (or the erroneously so-called albuminuric retinitis) simulating the general cerebral symptoms of brain tumor or basal meningitis.

In some instances there may occur periodical attacks of severe unilateral headache followed by vomiting, thus resembling an attack of migraine, and nephritic patients have been treated for this neurosis for a long time before the discovery of the underlying pathological process.

In some of these cases true migraine may have existed for several years before the development of the renal disorder. Rosenstein states (Die Pathologie und Therapie der Nierenkrankheiten, p. 257) that "Migraine is often the only symptom that patients with smooth or granular contracted kidneys complain of, and that he has often observed that such patients, in spite of the chronic course of the nephritis, present more or less constant edema and great pallor of the face." Insomnia is also a frequent symptom, and is usually due to the accompanying cerebral endarteritis.

Uremic vomiting, which is often an extremely obstinate symptom, is in many instances of cerebral origin, being analogous to the type of vomiting which so frequently accompanies intracranial disease. As previously mentioned, when optic neuritis and headache are also present, the condition has been mistaken for cerebral tumor.

Neuralgic pains in different parts of the body often arise in the course of chronic nephritis. Cutaneous hyperesthesia, such as a sensation of severe burning and itching, may occur, which at times terminates in intense neuralgic pains. Such pains, if they involve the muscles, may be incorrectly interpreted as being of rheumatic origin. Supraorbital neuralgia also occurs occasionally. Of course, it is probable that all of these subjective sensory disturbances are purely of toxic origin, being either uremic or due to defective metabolic processes.

The special senses may also be affected. Bilateral amblyopia or complete blindness may develop suddenly or very rapidly, and may occur independently or follow a convulsive attack, or it may be preceded by headache, nausea, and vomiting. In uncomplicated cases, as a rule, the pupillary light reflex remains intact, indicating the cortical site of the lesion, and the ophthalmoscopic examination proves negative in its result. Restoration of vision is sometimes sudden and complete. But in some cases the pupils fail to react to light and there is ophthalmoscopic evidence of stasis in the optic papillæ. Hence the optic nerve or the primary optic ganglia must be implicated. Uremic blindness is more frequent in those forms of nephritis in which uremic attacks are common, as it occurs in scarlatina and pregnancy. It also arises during acute exacerbations in patients with chronic nephritis. Blindness may also form part of a general uremic attack, and persist after all other symptoms have subsided. It is at times associated with other cerebral symptoms, such as aphasia, hemiplegia, etc. Difficulty in hearing or complete deafness occasionally arises as a symptom of uremia. Involvement of other special senses is very rare.

Muscular twitching is of common occurrence in uremic subjects, and together with headache, somnolence, vertigo, obscuration of the visual fields, and dyspnea, constitute the usual premonitory symptoms of a uremic convulsion. Such patients may be suddenly seized by a general convulsion, which is in all respects an exact counterpart of the true grand mal attack of epilepsy. Under these circumstances, the differentiation of the convulsion from genuine epilepsy can only be made from the presence of additional phenomena peculiar to uremia and chronic nephritis. The clinical history, the presence of edema, cardiac hypertrophy, and, possibly, gallop rhythm, and the condition of the urine will reveal the true nature of the trouble. According to Blondeau (Recherches sur l'urémie fébrile, *Thèse de Paris,* 1892), "when the fits assume the form of status epilepticus in the course of uremia, the temperature may even be subnormal, but in the present state of our knowledge, rise in temperature cannot be considered as excluding uremia." We should therefore always be on our guard before making a diagnosis of epilepsy, when the first known convulsion occurs in a patient over forty years of age. In rare instances, however, uremic convulsions may occur without disturbance of consciousness, and they may be entirely unilateral, and thus simulate Jacksonian epilepsy, as in the following case: A man fifty-two years of age had complained of occasional headache for several weeks. On awaking one morning he noticed twitching of the left hand. In a short time the arm, leg, and face on the same side became similarly affected. These spasms had continued for several hours. When I saw him at 1 P. M. of the same day, with his physician, the late Dr. F. W. Merriam, of this city, he was lying abed, perfectly conscious and without any disturbance of speech. He merely complained of slight general headache and of the annoyance and alarm occasioned by the muscular spasm. The pulse beat was 76 to the minute and of high tension. Respiration and temperature normal. There were indications of slight hypertrophy of the left ventricle and distinct accentuation of the aortic second sound. The pupils, ocular fundi, and all reflexes showed nothing abnormal. Every two or three minutes there occurred a violent unilateral clonic convulsion, involving the left face, arm, and leg, lasting a minute and a half, and followed by muscular relaxation, slight twitching continuing until the next attack would occur. There was no paralysis.

He complained only of aching and fatigue in the arm and leg, and said that the movements were beyond his control. I watched him for nearly an hour. The urine was diminished in quantity and contained much albumin and an abundance of hyaline and granular casts, etc. Similar cases have been observed by Rosenstein, Senator, and others, but are very rare.

At times acute uremia may manifest itself by slight stupor, delirium, or coma, without any signs of twitching or convulsion, the coma becoming profound and terminating in death within 24 or 36 hours. These cases are often mistaken for cerebral hemorrhage, although a careful study of the patient will generally make the diagnosis clear.

Several years ago I was called by a physician to see a lady on Long Island. The patient, who was about fifty years of age, had been comatose for several days. Before lapsing into coma she had suddenly become deaf and totally blind, and had for several weeks complained of severe headache and occasional vomiting. During the condition of coma she had been examined by several physicians and various diagnoses made—cerebral hemorrhage, brain tumor, septic peritonitis, etc. No urine had been voided in 48 hours, yet examination showed that the bladder was not distended. Pulse very rapid and feeble, temperature 105°, Cheyne-Stokes respiration, cardiac hypertrophy, and a distinct urinous odor to the profuse perspiration and edema over both ankles. In other words, a classical case of uremic coma. The urine had not been examined. She died a few hours later. The autopsy, made by Dr. Frank Ferguson, of this city, revealed advanced disease of the kidneys. Such a case is a commentary in itself, and requires no further elaboration or criticism.

It is well known that patients with chronic nephritis are likely at any time in the course of the disease to develop some form of paralysis, which may be either transitory or permanent. Attacks occur which may last from several minutes to a few days, such as aphasia, facial paresis or paralysis, monoplegia, hemiplegia, or paraplegia, in varying degree from slight loss of muscular power to complete paralysis. These evanescent or ephemeral attacks, even of a very mild type, may precede or follow a uremic convulsion or coma, or may occur independently, as in the following case:

A lady fifty-four years of age complained of weakness and numbness of the right half of the body and extremities, lasting ten or fifteen minutes, preceded by slight headache and muscular twitching. She feared impending paralysis, and became anxious and apprehensive. The attending physician attributed the symptoms to "only nervousness and hysteria," as he told me. The patient was found lying abed, more from fear than actual discomfort. There were no indications of involvement of the nervous system, but there was high arterial tension and slight ventricular hypertrophy. Examination of the urine on the following day revealed unmistakable evidence of chronic nephritis. Death occurred in uremic coma about ten days later.

These attacks are due to arterial thrombosis, vascular spasm, or localized cerebral edema. Many instances have been reported in which nephritic subjects have become completely hemiplegic several days before death, and at the autopsy nothing has been found to account for the paralysis but apparent cerebral edema or dilatation of the lateral ventricles. Hence in medical textbooks we read of "uremic hemiplegia" designated as due to localized cerebral edema. It has seemed to me that vascular spasm, *i.e.* spasmodic contraction of the muscular coat of the middle cerebral artery, might explain many of these cases, the edema being the result of the arterial obstruction. It has been assumed by Peabody (MEDICAL RECORD, 1886, V. 30, p. 65) that the vascular spasm may be prolonged to such an extent that life terminates before the spasm ceases, though the duration may not be long enough to cause softening of the brain area affected. It is a significant fact, however, that in none of the patients in whom such attacks have occurred have normal cerebral arteries been found at the autopsy. In other words, the condition is always an accompaniment of arterial degeneration.

Recently Weisenberg (*Journal of Mental and Nervous Diseases,* July, 1904) published the histories of two patients, aged 71 and 77 years, respectively, in whom permanent hemiplegia developed within two weeks before death. As no gross lesion was discovered at the autopsy, he has combated the theory of localized cerebral edema by endeavoring to explain the hemiplegia as due to primary degeneration in the nerve cells of the brain and spinal cord, and involvement of the motor fibers, as this was found in both cases upon microscopical examination. These pathological findings, however, were no doubt primarily due to the arteriosclerosis which was admittedly present.

As we are still uncertain as to the exact pathology of so-called "uremic hemiplegia," we must conclude from the present state of our knowledge that these symptoms are the result of arterial degeneration. The correctness of this view receives substantial confirmation in the common occurrence of similar cerebral symptoms in patients with endarteritis from other causes, in the absence of chronic renal disease. If these facts are borne in mind, the prognosis as to the duration of the paralytic symptoms would generally be more guarded.

Many cases of chronic nephritis run a prolonged course without any serious signs of uremia, and yet the accompanying degeneration of the cerebral vessels is sufficient under suitable circumstances to induce thrombosis and acute cerebral softening, or the rupture of a vessel followed by unconsciousness and death or a permanent hemiplegia. Cases galore of this kind could be cited from the clinical experience of every practitioner. Such conditions are to be expected, and are of rather common occurrence. In the former the blood-pressure in the radials is not perceptibly increased, while in the latter high vascular tension is usually present.

As a rule, the more severe complications, which often terminate in rapid death or permanent hemiplegia, are due to the arterial disease *per se,* and usually have no immediate connection with uremic intoxication. At times, however, a uremic convulsion may be followed by cerebral hemorrhage and hemiplegia.

In some cases of chronic uremia the motor symptoms are not so pronounced, while the mental symptoms become more obtrusive. They are usually delirium and hallucinations. Disorientation may be a prominent manifestation, the patient not recognizing his surroundings, wishing to go out undressed, and imagining himself in a strange place while at home. Several cases have been observed in which a direct relation existed between the psychical disturbance and diminished secretion of urine. But the abovementioned phenomena are more or less similar in character to those arising in other forms of toxemia. Consequently they present nothing distinctive which would enable us to place them in a special category as indicative of renal disease. Occasionally these symptoms may develop into a maniacal attack or be followed by mental depression.

I have repeatedly seen patients over fifty years of age with only very slight evidence of chronic nephritis, who suffer from insomnia, occasional apathy, mental confusion, forgetfulness, and visual hallucinations, evidently due to uremic poisoning, but also attributable to the concomitant cerebral endarteritis. Chronic nephritis is, however, commonly observed from its early development to its termination without any mental impairment whatever, and it is a well-established fact that renal disease is an unimportant element in the causation of insanity.

We should always reserve our diagnosis as to the origin of such nervous manifestations as those herein enumerated, in the absence of evidence of kidney disease, until a careful study of the urine has been accomplished. It is hardly necessary to say that this is practically axiomatic, and should be a predominant feature in the clinical observation of all patients in the fifth decennium. Too many physicians limit such analysis to a test for albumin, and formulate their conclusions accordingly, although it is just in these cases of cirrhotic kidney that albumin is often absent. Sometimes it is quite difficult—nay, well nigh impossible—to reach a definite diagnosis as to the presence or absence of renal disease from the examination of a single specimen of urine. In making the diagnosis of chronic nephritis in a doubtful case it is more essential to consider the amount of urine secreted every twenty-four hours, its specific gravity, and the amount of urea or solids therein contained, than to lay stress on the presence of a trace or more of albumin and a few hyaline casts, especially when the patient under consideration is about fifty years of age or more. The estimation of the percentage of urea or solids in the urine, however, is of comparatively little value unless considered in connection with the amount of food consumed by the patient and the condition of his metabolic processes. Nevertheless, frequent and complete chemical and microscopical examination of the urine should be a routine practice.

In the correct interpretation of many of the symptoms described in this paper, one must always bear in mind the possibility of the presence of hysteria, as well as cerebral endarteritis from other causes. Although hysteria may be associated with almost any form of structural disease, the principles of modern neurological diagnosis require the exclusion of organic disease of the nervous system and the internal organs before considering hysteria as the predominant factor.

It will thus be seen that, aside from the various neurasthenic manifestations occurring in patients with chronic nephritis, many of the transitory *subjective* nervous phenomena arising during the course of the disease are the result of uremic (or possibly other) intoxication in varying degree, while nearly all of the transitory *objective* nervous phenomena, and the more permanent and incapacitating or fatal complications, are primarily due to the concomitant arterial disease. Hence palpable evidence of arteriosclerosis and high blood-pressure are usually of the greatest significance. While some believe that chronic nephritis may cause arterial degeneration by preventing suitable elimination of toxic products which enter the circulation, increasing the vascular tension and injuring the walls of the vessels, others are of the opinion that in many cases the arterial changes cause the renal disease. Both views are doubtless correct, for there is often considerable variation in the type of the disease. But such an etiological differentiation in an individual case is generally impossible. It is not at all surprising, therefore, that involvement of the nervous system is so frequent during the course of chronic nephritis, for arterial degeneration has for a long time been recognized as an important (and often the chief) factor in the causation of many organic nervous disorders.

The brief histories relating to incorrect diagnosis outlined in this paper have been selected from a large number of similar observations, and are merely mentioned to emphasize the well-known but deplorable fact that many of the seemingly insignificant or apparently trivial symptoms which arise in the course of unrecognized chronic nephritis as a rule do not receive the attention that their gravity merits.

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THE TREATMENT OF ECZEMA AND IMPETIGO IN CHILDREN.

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Unfortunately for us, eczema still remains a subdivision of the list of cutaneous affections into which are placed a variety of inflammatory diseases of different nature.

Fortunately, however, the type of infantile eczema of the face, which is the most frequently encountered, is a clearly defined condition in its several forms. These include E. seborrhoïcum, E. impeliginodes, E. madidans, E. papulosum, E. pustulosum, E. vesiculosum, E. rubrum, E. squamosum, etc. These terms all relate to the appearance, and do not aid us in forming an idea of the etiology, though the name often suggests the line of treatment most likely to benefit and thus far is of advantage. The type is seldom clear—eczema must be regarded as polymorphous. A case which begins as erythematous may soon change to a scaly, pustular, crusty or oozing surface.

The most we can do in nomenclature is to so name the outbreak that it indicates which type predominates at the time, since several may coexist or follow each other. Scratching and infection are the causes of much of the change occurring in individual plaques. A form of infantile eczema often encountered may be termed eczema intertrigo—implicating the region of the buttocks and genitals. It begins usually as an erythematous intertrigo and becomes exudative, with great redness and irritation, intensified by secretions, maceration of the parts, contact with urine, feces, heat of diapers and clothing. It may, too, begin in the folds of the groins as a seborrhoic dermatitis and undergo subsequent changes.

There is another form, showing vessiculation, and at times edema, which has been described in nursing infants as tuberculous. The term is faulty, as the condition has no proven connection with tuberculosis.

It attacks the natural orifices adjacent to and often implicating the mucous membranes.

There is usually to be found some antecedent affection of the mucous membranes of the eyes, nose, ears, or mouth, and otorrhea, nasal discharges, or some eye or mouth affection may coexist. The course is chronic and there is marked tendency to recurrence. The adjacent lying lymph nodes enlarge and there is general debility present in some form, calling for internal medication. The type of child is often what may be termed "scrofulous."

It is evident, therefore, that having these possibilities in mind, the treatment of any given case must depend largely upon the view we take of the origin and nature of the affection. It is not scientific to say, "Zinc oxide ointment is good for eczema," no matter how near to the truth this statement may come. We must distinguish, too, between the acute and highly inflamed and irritable forms and the chronic varieties and stages in which occur thickening, fissures, excoriated wounds from scratching, and obstinate superadded infectious processes.

While in a general way it may be admitted that improper feeding, faulty digestion, and assimilation are at the bottom of persistent and obstinate infantile eczemas, the clinical fact remains that the vast majority are susceptible of cure by local measures alone. Most of the infants in my public services have given no indication of disordered digestion, and the greater part of them have recovered without making any decided change in their feeding. In the very young the mother's breast has furnished the sole nourishment, and, so far as appearances of both child and mother indicated, there was no change called for further than perhaps to regulate the hours of nursing. The health of the mother and quality of milk are important. Manufactured foods and sweet condensed milk are to be avoided as a general proposition. The indications are usually to soothe and protect a highly inflamed, pruriginous area, and secondarily to destroy germs and act upon deeper infiltrations and dilated vessels. Naturally underlying constitutional defects must be remedied and all faults of diet corrected. In general it may be said that symmetry of lesion speaks for constitutional origin, asymmetry for local cause.

In the choice of local remedies we must, as I have said, be governed by causative conditions, stage and state of the affection as it presents itself.

Among general local measures, to fulfill the objects of disinfection, protection, soothing and favoring the growth of new epidermis, I wish especially to advocate the use of methylene blue solution as originally, I believe, suggested by me, and employed almost as a routine practice where the disagreeable features of staining of clothing does not contraindicate its use. I employ a three to five per cent. watery solution as preferable to a stronger solution with alcohol, whose initial effect would be painful. In intertrigo and intertriginous eczema, I believe the remedy has no equal. Next to it probably comes a weak resorcin ointment followed by free dusting with bland non-caking powder.

My practice is to allow the solution to dry in well, and then apply quickly a thin layer of collodion. This is to be repeated, before the peeling collodion becomes of itself a source of irritation.

Nitrate of silver is a remedy too often neglected, perhaps, in chronic infiltrated and especially obstinate forms of eczema. It is especially useful in crusted eczema about the mouth and lips, where moisture favors constantly renewed infection. It can be used in from five 5 to 20 per cent. strength, to be followed by bland ointments, lanolin, etc. The crusts can be removed beforehand with oil dressings, or 5 per cent. salicylic ointment. Salicylic acid has great worth, especially in eczema of the scalp, crusted and desquamating forms. It can be used in the form of Lassar paste or in ointment. When decidedly stimulating effects are sought, a lotion of oil of cade, green soap, and alcohol in equal parts may be applied at long intervals. In pediculous dermatitis of the scalp, faultily termed eczema, one of the mercurials, either white precipitate or red sulphuret ointment in half strength may be used.

Resorcin is especially valuable in the seborrhoic forms. The milder 1 per cent. ointment alone, or with zinc oxide 10 per cent., usually suffices. Here, too, sulphur in mild form usually acts well. One important thing in nearly all eczema is the avoidance of much water. Nothing perpetuates a moist eczema more than frequent washing. Soap is often too largely at fault, latherings being applied with the erroneous idea that the badness can be washed away.

There is one pronounced exception to this rule about water, and that is in the seborrheal forms with greasy crusts and adherent masses of extraneous filth upon the scalp. These are as a rule washed often enough, but not intelligently vigorous enough. Water alone does not suffice. Warm oil should be rubbed in well beforehand and then the lather. Unless the scalp is maintained in a condition of healthy secretion and free from accumulations, it is not to be expected that the rest of the body will remain free. The areas of greatest sebaceous gland development are those characteristically implicated as a rule. In crusted impetiginous forms water is not to be withheld, but immediately after the bath antiseptic grease of some kind should be promptly applied. In the chronic infiltrated patches ichthyol has a useful field, just as in eczemas in adult life. A 50 per cent. watery solution makes a good varnish, as pointed out by Klotz, and this I make still more permanently adherent by painting over with collodion.

I know of no specific internal remedy. Arsenic has been much abused. I never employ it in the eczemas of young children. To avoid eczema in infants it has seemed to me that keeping the scalp in a perfectly healthy condition contributes more largely to success than any other single factor. It does not suffice to wash the scalp in the ordinary way. The greasy adherent scales "turn" the water and remain to give a resting place for dirt and germs. Green soap, salicylic acid, resorcin, sulphur, are all useful. A favorite prescription is: Resorcin, ½ to 1 per cent.; washed sulphur, 2 to 4 per cent.; lanolin, 5 to 10 per cent; and lard up to 100.

In more chronic forms of pityriasic eczema with much itching and falling of hair in older children, associated with scaly plaques upon the neck and involving especially the margins of the hairy scalp, I employ a stronger ointment, such as: Resorcin, 1 to 2 per cent,; liquid tar, 2 per cent.; calamine, zinc oxide, āā. 10 per cent. In treating the very frequently observed eczema of the cheeks, the chief problem is to keep our applications in contact with the skin. If the scalp is involved, the best way is to apply a bandage which covers in the whole area. This in private practice necessitates a nurse or daily personal attention of the physician, as the parent is rarely able to apply the bandage. To obviate this, I have devised a combination cap and mask. It is made from a single piece of stout muslin, thin canton flannel, or other material, not too thick. Sewed on or fastened with safety pins, this answers the purpose fairly well.

Among the poor, older children will often be found eating an excess of bakers' supplies, condensed milk, cereals, and canned food. Here changes in diet are naturally called for.

A judicious combination of restricted or regulated diet, internal measures when indicated and external applications, will usually result in rather prompt cure for the majority of cases.

Impetigo Contagiosa.—Much injustice has been done the impetigo group by including it in the past with eczema. Impetiginous eczema must be distinguished from impetigo proper. An observation of my own, which is not acknowledged by most dermatologists and denied by many, is the frequent relationship of this disease to pediculosis capitis. In my experience it is rare to find this contagious auto- and hetero-inoculable crusted pustular and flat vesicular affection, occurring about the mouth, hands, and more or less generally distributed over the upper portions of the body in children, unless associated with pediculosis or traceable to lice in the head of playmates and associates, unless it has resulted from vaccination.

The term impetigo should suffice without the suffix contagiosa. Simple impetigo (Duhring) is extremely rare. It may be well, however, to retain the name as a constant reminder of etiology and prophylaxis. In diagnosis we must remember that there are serpiginous, circinate, and gyrate forms strongly suggested at times in ring-worm, clearing up in the center, much in the same way in both processes.

Now as to treatment. First of all, search for pediculi as possible disseminators or distributors and perpetuators of the affection. Remove crusts if necessary with potato flour poultice and apply a 10 per cent. ammoniated mercury ointment, or wash with green soap solution and then with 1-1,000 bichloride of mercury. For small areas, paint with 50 per cent. ichthyol in water, or 5 to 10 per cent. ichthyol in collodion. Salol diluted will answer as a dusting powder, or apply 1 per cent. Beta Napthol with 5 per cent. boric acid in vaseline. As a rule, however, ointments are not so good as washes.

For the scalp: 10 per cent. sulphur sublimate, ½ to 1 per cent. red sulphide of mercury in vaseline. In infants at the breast, milder ointments, such as salicylic acid and bismuth or Lassar paste, spread on cheesecloth and applied, will serve. It is only in the rarest instances that any internal measures will be called for.

30 East Thirty-third Street.

THE RELATION OF THE MEDICAL PROFESSION TO THE RESTRICTION OF TUBERCULOSIS.*

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The tuberculosis question has assumed such a degree of prominence in medical and sanitary literature, that the medical profession can no longer afford to ignore it. The importance of the restriction and prevention of this great white plague appeals to all who have the welfare of humanity at heart, and should forcibly remind the family physician of a duty which plainly devolves upon him. It must probably be admitted that so far health boards and sanitary organizations have taken the lead in disseminating knowledge relative to this much-dreaded disease, and are, therefore, responsible for the agitation and awakening of public sentiment that now exists. This has been accomplished through the medium of sanitary literature and by the distribution of circulars, calling attention to the fact that the disease is contagious and to a large extent preventable.

The public press has rendered some service in promoting the antituberculosis movement, but only to a limited extent. It has not been called into requisition as extensively in this country as it has in European countries. We should not fail to recognize that the newspapers are the great public educators of our country, and consequently are the most efficient weapons at our command. Therefore, one of the most important steps to be taken by the medical profession is to enlist in the cause every paper that is published throughout the country; from the great city papers down to the smallest publications that are issued in the villages and hamlets of the rural districts. None can effect this part of the movement so successfully as the family physician, of the editors and proprietors of these papers. Professional ethics should under no circumstances interfere with that which is for the public good. Printers' ink is the life-blood of quackery, and if properly utilized it is also the most powerful instrument for its destruction. For instance, if the profession of medicine were to put forth the same effort to teach the public all about tuberculosis as the impostors do in vending their nostrums, consumption cures would soon grow less conspicuous in public print, and quackery in this direction would eventually cease.

In the course of our educational and reform movement we must not overlook the periodicals which are devoted to the interests of religion, temperance, etc. It is a fact that papers of this class often contain alluring advertisements of alleged oxygen or ozone consumption cures, which are endorsed by flagrant representations for which there can be no possible foundation and no other motive than the almighty dollar. When we take a serious view of the matter and consider that a religious paper is supposed to be a messenger of truth, honesty and purity; and to contain nothing but that which is intended to promote the temporal as well as the spiritual welfare of humanity; and that, instead of this, it lends its influence to delude the unwary consumptive invalid, who by the very nature of his malady is the most gullible of all others; when we take all this in contemplation, we cannot else but denounce such action as an unpardonable outrage.

The clergy ought to render efficient service in educating the laity on the prevention of tuberculosis. Their influence and opportunities are in many instances greater than those of the family physician. They will no doubt enter into the work with zeal and enthusiasm if the matter is brought to their attention with due regard to its importance and seriousness. By an effort on their part, the participation in quackery indulged in by the organs of their respective churches can be suppressed, and their efforts directed toward the prevention of disease and the promulgation of the doctrine of rational hygiene. They must learn that there is no such thing as a "consumptive cure," that the scientific treatment of the disease consists solely in hygienic and dietetic measures, and that thousands of lives can be saved by observing very simple precautions. Laboratory experiments show that strong solutions of the best germicides known do not destroy the bacillus tuberculosis, even if brought into direct contact with the germ in its culture medium; so that when the claim is made that a chemical has been discovered that will destroy it in the human body, it is absolutely false. Sunshine and atmosphere, nature's great remedies, are the only reliable antagonists of the tubercle bacillus, and they extend to the consumptive individual the only hope of recovery. The poet aptly indicates the great panacea for tuberculosis in the following lines:

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*Read before the Fifteenth Annual Conference of State and Local Boards of Health of Ohio, January 27 and 28, 1905.

"Health dwells among the sun-kissed hills
  And by the smiling sea;
Her maidens are the laughing rills,
  Her pages wild and free.
The shifting winds that bear her train
  Of fragrant wildwood flowers,
When skies are blue or mild with rain
  Health rules the morning hours."

It is nearly a quarter of a century ago since Koch discovered the tubercle bacillus and identified it as the true medium of infection by which the disease is communicated. The results of his researches were soon corroborated by many other leading scientists. Since that time every phase of the subject has undergone the most exhaustive and painstaking scientific investigation that has ever been accorded any of the contagious or infectious diseases. As a result our knowledge of the disease is based upon an accurate understanding of its biology, as well as a clear conception of the chemical and vital phenomena involved in its diseased processes. Our conclusions in regard to the nature of the disease and its mode of transmission, are, therefore, positive and are far removed from all doubt and speculation. It is only in the last few years, however, that a spirit of agitation has arisen and is taking on the form of an organized effort toward the restriction of the disease. As before stated, this activity does apparently not arise from the medical profession at large, but seems to have been promoted by a limited few of its most prominent members, supported by health boards and sanitary organizations. The question is, therefore. pertinent at this time whether the rank and file of the medical profession are fully alive to the situation and whether they realize the enormous responsibility that rests upon them in the eyes of the scientific world, as well as in the estimation of the intelligent portion of the laity. History furnishes abundant evidence that medical men at all times and in all ages have been noted for their disinterested, self-sacrificing devotion to the cause of humanity, and thereby have often "killed the goose that laid the golden egg." They doubtless can be depended on again in this instance, although it would seem that they must be laboring under a certain degree of apathy since a discovery of such tremendous importance as the tubercle bacillus has been so slow in its practical results.

It is quite obvious that the family physician will constitute the man behind the gun in the tuberculosis crusade. The man who is personally intimate with the afflicted and his household, and holds their confidence, can accomplish more in educating the laity than can be inculcated in any other manner. It must be remembered, however, that to bring about a complete reform in the management of tubercular patients will be by no means an easy task, and in many instances will require tact and a liberal amount of patience. The educated and intelligent people who are even now well informed on the subject will practically take care of themselves. But the ignorant constitute the largest and most dangerous class, and it will be often difficult to overcome the prejudices and erroneous ideas which have held the sway for centuries past. Some consumptive persons seem to be possessed with a sort of stoical indifference, or even a feeling of actual resentment toward humanity in general. Regarding their condition as absolutely hopeless, they don't seem to care how many others they infect and consequently will disregard all precautions they are requested to observe.

Cornet relates an instance of a consumptive who lay sick at home and passed the time by seeing how high on the wall he could spit. In a few weeks after his death his wife and child both died of tuberculosis. The time is not far distant when a community can and will protect itself by legal measures against those who recklessly or obstinately persist in exposing the public to the infection of tuberculosis.

The time has arrived when it behooves the medical practitioner to awaken from his state of lethargy. No matter where he is located, in the city, village or hamlet, the antituberculosis movement will reach him, and if he is not competent to participate, he will be relegated to the rear rank. There is one great reason why the general practitioner should attain the highest degree of scientific acumen and skill in the diagnosis of the disease, and that is the supreme importance of its early recognition. The necessity for taking timely precautions to prevent infection can hardly be overestimated, nor can the omission to urge such precautions, on the part of the physician, by reason of ignorance or otherwise, be too severely condemned. When we take into consideration that where no precautions are observed, one-seventh of all deaths are due to tuberculosis, and that the infectious character of the disease is clearly established, we cannot else but recognize the responsibility resting upon those who are the guardians of health, both public and private. In short, the practitioner who does not instruct his patients how to care for themselves for their own protection as well as for the safety of those about them, and impress upon them the immense importance of observing those preventive measures, is to say the least culpable in the highest degree if not positively guilty of criminal negligence.

To inaugurate a substantial reform in the sanitary management of tuberculosis will require a radical change in the ethical relations that now exist between the patient and the physician in whose care he has placed himself for advice and treatment. The cruel deception which is usually practiced upon the poor unfortunates must cease and give way to candor, truth and honesty. As soon as pulmonary tuberculosis is found to exist, the fact should be communicated to the patient, and he should not be compelled to remain in ignorance of the true character of his malady. It is a frequent occurrence that the patient's friends will interview the physician before he examines the patient, and charge him particularly not to inform the patient that he has tuberculosis if he finds such to be the case. The request is usually heeded, and his disease is named chronic pneumonia or some other euphemism, and the deception is continued until death claims its victim. It would seem justifiable to mislead these individuals when we consider that in the estimation of the public a positive diagnosis of consumption is equivalent to a death sentence. This being the case the knowledge of the fact is liable to plunge the sufferer into utter despair or else—as it frequently happens—he "turns down" his medical attendant and seeks relief at the hands of the charlatan or wherever hope is extended to him. In view of these facts, it is important that the laity should be taught that tuberculosis is *not* incurable: That under the new régime of hygenic and out-door treatment, about 58 per cent. recover of those who take advantage of the treatment in the early stages of the disease; and in many of the advanced cases the disease is arrested and life is considerably prolonged. Moreover, in large hospitals one-third of the autopsies held on persons who die of other diseases, show evidence of having had tuberculosis at some time from which they had recovered; showing that persons are frequently infected and recover therefrom, without their physician or themselves being aware of it.

When a physician has a patient whom he recognizes to be afflicted with pulmonary tuberculosis, his first duty is to inform him that his sputum contains the germs of the disease, and that it is dangerous to himself, as well as to all others who come within his immediate environment; that he lives in the center of an infectious circle created by himself, but that by scrupulous care it lies in his power to dispose of his infectious secretions so as to render himself practically harmless; also that the efficiency of these preventive measures depends upon the promptness and thoroughness with which they are executed. Furthermore, that by observing strict precautions, he is not only doing his duty toward others, but he is also placing himself under the most favorable conditions for recovery. We have gained a very important point in the private prophylaxis of the consumptives when they realize the fact that their sputum is more dangerous to themselves than to others; that if they do not dispose of it in a proper manner they are liable to infect and reinfect themselves, thus virtually committing a slow suicide. It might seem of slight consequence whether a person whose lung already contains millions of tubercle bacilli inhales a few more or not. If we consider the nature of the local infective process in the lung tissue we are brought to the conclusion that self-infection plays an important rôle in the history of the disease, and doubtless often determines the fatal result. The pathological anatomy of a tuberculous lung shows that wherever there is a focus of infection, it is surrounded by quite an area of consolidation, the result of inflammatory exudation filling up the air cells and terminal bronchi. As a result of this diseased process, the power of inspiration is very much diminished in the portion of lung thus affected. In consequence of this impaired function, when germs are inhaled they will not find their way into the diseased area, but they will invariably be carried by the stronger air-currents into healthy portions of lung, and there form fresh foci of infection. We also know that when one lung is extensively involved, the capacity of the healthy lung is largely increased, thus compensating to a considerable degree for the disabled condition of the affected organ. In consequence of this enlarged capacity and function, the aspirating power of the lung is correspondingly increased, so that when air is breathed which contains bacilli, the chances are greatly in favor of their entrance into the healthy lung. I think in the majority of instances when only one lung is primarily involved the disease is transmitted to the other lung by the process of self-infection.

In commenting upon the personal prophylaxis of persons afflicted with pulmonary tuberculosis I cannot refrain from calling attention to the male invalid who is thus afflicted and permits the growth of a full beard. Some years ago I occupied a seat in a Pullman sleeper returning from a journey in the West. Directly opposite sat an individual whose appearance at first glance revealed the sad story that he was a victim of tuberculosis in its advanced stages, and probably was going home from some Western health resort. The appearance of his hands and the irregular outlines of his body indicated that he was nothing but skin and bones. His haggard countenance was hidden underneath a heavy growth of hair, which extended down to his waist. He coughed frequently, and his expectoration was free and quite copious. It is true he carried a spittoon, into which he attempted to deposit his sputum, but at every expectoration a portion of the secretion lodged in his beard and slowly trickled down its meshes. Every now and then he would wipe his beard with his handkerchief, thereby spreading the sputum more thoroughly, and placing it in a more favorable condition to dry. It was in the month of June, and the window near by him was raised, admitting the balmy morning breeze. The conditions were most favorable for the rapid drying of the sputum with which his beard was literally saturated. Had one had microscopic vision, I have no doubt but that thousands of tubercle bacilli could have been seen floating about in the atmosphere of that car. As I sat and contemplated this ambulatory magazine of putridity and pestilence, all manner of thoughts crowded themselves upon my mind, and various emotions took possession of me, some of which, I must confess, were by no means inspired by a spirit of Christian philanthropy. Here was a fellow who, according to the most conservative estimate, was producing seventy-two hundred millions of tubercle bacilli daily. Now if only one-twentieth of his sputum lodged in his beard he was endangering his surroundings with infection to the extent of twelve million germs. Had he been minus his hirsute appendage and had taken proper care of his sputum, his presence would have injured no one. The question was how many persons had this individual infected in his journey across the continent? And was there no authority by which his carnival of wholesale infection could be arrested. In those days I was an honored member of the Ohio State Board of Health and prided myself in being able to suggest a remedy for most any sort of a nuisance. The thought occurred to me, why not apply a lighted match to the reeking hot-bed of contagion, or in view of the fact that he had only a few days to dwell on earth, why not put an eternal quietus to that cough by severing his jugular? Had some person committed the latter act he would have doubtless been arrested and prosecuted for murder, but he would have been entitled to the gratitude of humanity for a life-saving service, and, well, it seemed to me that a very simple apology would have righted matters with the Almighty.

In our efforts to promote the prevention of tuberculosis we must always guard against the over-anxiety and terror which usually take possession of the laity in the presence of any form of contagion. Unreasonable fear is always due to ignorance or uncertainty. When the physician undertakes to enlighten his patrons on the subject he should not fail also to present the favorable and encouraging features which attach to it. The fact is that the precautions to prevent infection are more easily observed than those of any other of the infectious diseases. The entire prophylaxis is embraced in the simple postulate, *destroy all sputum before it dries*. The late researches into the natural history and biological peculiarities of the tubercle bacillus, have refuted many of the absurd ideas of malignant and direful attributes that were formally ascribed to it. The fact is, that it is a very feeble parasite as it succumbs very readily to natural influences outside of the animal body. If deposited on the earth the bacteria of decomposition destroy it with "neatness and dispatch." Kitosato has demonstrated that the majority of bacilli are found dead in the sputum at the time when it is expectorated, and that the most virulent forms no longer exist in dried sputum at the expiration of six months under the most favorable circumstances. Direct sunlight kills the bacillus almost instantly, and it perishes in a few hours if exposed to diffused light. Cornet found virulent forms in dust taken from a dark room near a bed in which a consumptive had died six weeks before. He seems to regard this as a rare example, so that the statement that a dwelling is saturated with the accumulated growth of years of the tubercle bacillus must be exceedingly overdrawn. So far bacteriologists have failed to find them in the dust on the streets. That they are rapidly destroyed by antagonistic influences is evidenced by the fact that street sweepers, who breathe this dust continually, very rarely are afflicted with tuberculosis even though they follow their occupation for thirty years. An investigation of the history of coachmen has given the same result. If we remember that dust and soil contain millions of bacteria which speedily destroy tubercle bacilli and that they are also exposed to the destructive influence of sunlight and the atmosphere, it is not at all surprising that none have survived a sufficient length of time to be picked up by the most eager bacteriologist. It would seem, then, that we have the bacillus tuberculosis pretty well hemmed in, and that we are safe in concluding that it is not such an invincible ubiquitous monster as it has been represented. The fact is that is is found nowhere outside of the animal body in its virulent form, except in the immediate surroundings of persons afflicted with pulmonary tuberculosis who are careless with their sputum.

A few more rambling thoughts to serve as food for reflection and I have done. In a paper on microorganisms, read at Springfield, Ohio, in 1889, I advanced the theory of spontaneous pathogenesis, *i. e.* that the simple bacteria of decomposition under certain conditions and favorable environment, may become transformed into pathogenic or disease-producing organisms. For instance, in the case of typhoid fever—which is essentially a filth disease—the disease may arise from drinking water which is polluted by decomposing organic matter without the presence of the specific germ of typhoid fever, which are referable to an antecedent case; that the bacteria contained in the decomposing substance have acquired such pathogenic properties by reason of having met with the favorable conditions to effect this transmutation. Now it seems that the pedigree of the tubercle bacillus is not fully established either. Bacteriologists tell us of false tubercle bacilli which are found widely diffused in nature and resemble the true bacillus in so many respects that they cannot be distinguished therefrom without resorting to inoculation experiments. So far about thirty varieties of these bacilli have been discovered. Experimentally these false bacilli have been demonstrated to be pathogenic, but have not been found to be the causative agents of any special form of the disease. It affords me great pleasure to note that Klemperer, one of Europe's greatest pathologists, suggests the same theory as applied to the evolution of the tubercle bacillus that was advocated by myself with reference to the bacillus typhosus sixteen years ago. In speaking of the true and false tubercle bacilli he says: "Their difference in virulence and morphology are not fundamental, but have resulted through adaptation to various environments;" and he believes that the bacillus tuberculosis may be considered an acid-proof saprophyte that has subsequently become a parasite.

A deliberate consideration of the foregoing conclusion leads us to the inquiry whether future scientific research will not reveal other sources of infection than the sputum of the consumptive individual. The developments of late years have placed infection preëminently in front as the cause of tuberculosis and left heredity resting upon a very flimsy foundation. Hereditary predisposition is admitted as a secondary factor and yet the term is sort of a mysticism, which does not fully conform with the apparent facts as they appear to us from our professional observation and experience.

A comprehensive view of the tuberculosis question discloses a haziness upon the horizon of the scientific field, which suggests that there may be an unexplored region beyond, which the most profound scientists have not yet approached.

A CASE OF HODGKIN'S DISEASE WITH BUT SLIGHT ENLARGEMENT OF THE SUPERFICIAL LYMPH GLANDS.

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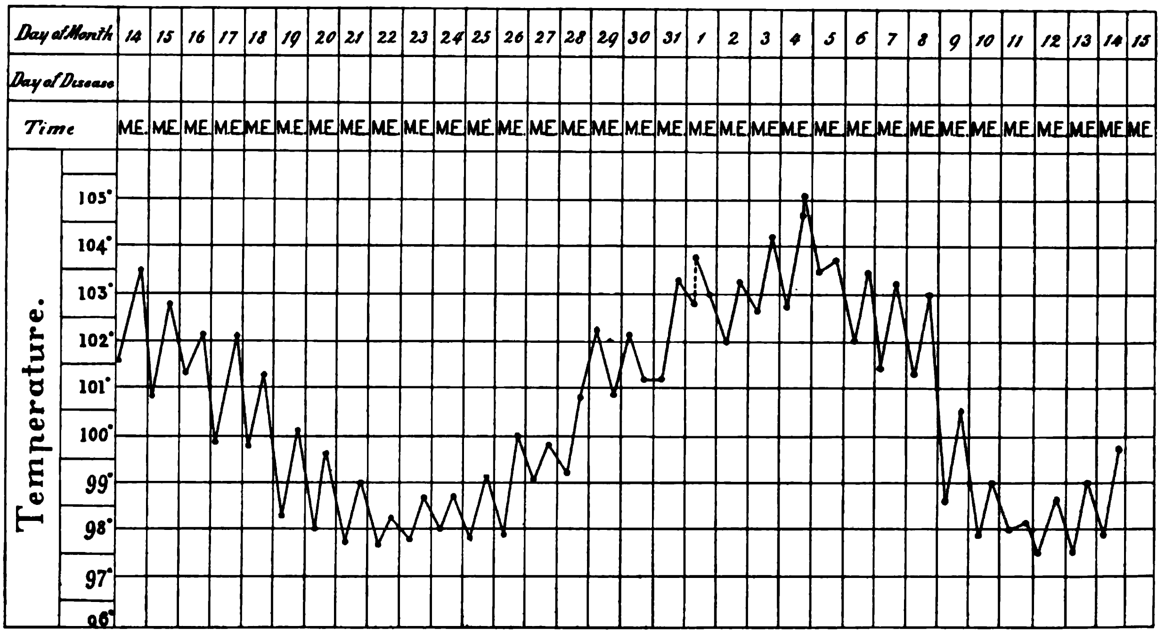
Nellie B., aged 35, unmarried and a domestic, was admitted to the medical service of Dr. W. W. Knight at the Hartford Hospital, August 19, 1904, the writer being house physician at the time. The case is reported through the courtesy of Dr. Knight. Family history, negative. Personal history: Had measles and typhoid when a child. Has always been well until present illness, which began five years ago. At that time she observed that the glands along the right sternomastoid muscle were enlarged. Shortly after a "bunch" apepared above the right clavicle and about one year ago the left supraclavicular glands became enlarged. Their increase has been gradual and marked by periods of diminution in size. Synchronously with the glandular enlargement the patient began to tire more easily. The asthenia steadily increased and was associated with a great deal of gastric disturbance. Two years ago an attack of gastritis was accompanied by a severe diarrhea which lasted eight weeks and at this time some swelling of the feet was observed. Fourteen months ago she became acutely ill, being delirious and having a high fever, and a cutaneous eruption, which consisted of "red blotches," that appeared first on the neck and extended over the body. It was neither scaly nor puritic, and lasted about nine days. The duration of the attack was two weeks. She has had amenorrhea for two years. As she was complaining of a cough and night sweats the diagnosis of tuberculosis was made and the patient entered the Tuberculosis Annex of the Hartford Hospital, where she remained less than one week. Examination of the lungs showed slight dullness and a few crepitant râles below the right clavicle following coughing. No tubercle bacilli were found in the sputum. For the next three months the patient had a fever of about 102°, and the abdomen was distended and tender. In May, 1904, she went to Saranac and remained there three months. During that time she was under the care of Dr. E. R. Baldwin, to whom I am greatly indebted for very complete data concerning her case while there. There were no signs of tuberculous lung involvement, and tubercle bacilli were not found. A marked diazo reaction was present twice, but three Widals were negative, as were a blood culture and a tuberculosis agglutination test. During July the spleen was observed to be enlarged and the abdomen was slightly distended and tender. For a number of days the patient seemed very ill. Her gums were swollen and bled easily (a similar condition was noted in Pilcher's case). No diagnosis was made at Saranac. She came directly to the Hartford Hospital from there, and her condition was as follows: Patient walked in hospital; well developed but considerably emaciated. Skin and mucous membranes are pale and there is a sallow tinge to the former. The tongue is moist and clear; teeth in poor condition. The tonsils are normal. The supraclavicular glands of both sides are enlarged, those of the right side being larger. The chain posterior to the right sternomastoid muscle is enlarged slightly. The skin is not discolored over the glands which are freely movable, not tender and not matted together. The largest, which is above the right clavicle, is about the size of an English walnut. Neither the axillary, epitrochlear nor inguinal glands are enlarged, but on deep palpation an enlarged chain can be felt just above the left Poupart's ligament.

Lungs.—Slightly impaired, resonance below right clavicle and a few subcrepitant râles over left lower lobe posteriorly. Otherwise negative.

Heart.—Action regular, not enlarged. A systolic murmur follows the first sound at the pulmonic area and also internal to the apex; it is not transmitted. The second sounds are not accentuated. Arteries are not thickened. There is a slight brownish discoloration of the skin over the right upper quadrant of the abdomen. There is no tenderness and the abdomen is flaccid.

Liver.—Relative dullness in fourth space, lower border, two inches below costal margin. It is not tender.

Spleen.—Increased area of dullness and lower border is two inches below the costal margin and slightly tender. Rectal examination, negative. The urine was normal except for a slight increase of indican. Clinical diagnosis. Hodgkin's disease. Fowler's Solution was begun at once, but was changed to sodium cocodylate gr. ¾ daily, given hypodermically for one week, during which time the hemoglobin dropped from 43 per cent. to 37 per cent. and the red cells from 2,200,000 to 1,700,000. The latter part of August *x*-ray treatment was begun; the glands above the clavicles and above Poupart's ligament were exposed for ten minutes at a distance of three inches at first daily, later on alternate days and when the treatment was discontinued, at the end of six weeks, the glands were scarcely perceptible. In addition to the regular diet she had extra eggs and milk and was in bed on the veranda constantly for five weeks.



Coughing spells were severe at times, the expectoration being mucoid and not containing tubercle bacilli. Profuse night sweats were relieved by atropine and camphoric acid. She was discharged October 10, slightly improved. I saw the patient with Dr. O. C. Smith the last week in October at her home. Emaciation was extreme, the respirations were hurried and shallow and the end seemed not far off. Subcrepitant râles were heard over the lungs posteriorly, and at the apex of the right lower lobe, the respiratory murmur was very harsh and the voice conduction increased. The abdomen was moderately distended, appeared to contain a small amount of fluid, and was uniformly tender. The abdominal picture was suggestive of a peritonitis. The supraclavicular glands were not visible. She failed steadily, dying October 31. A similar termination was present in one of Einhorn's cases who "suddenly took ill with symptoms of a peritonitis and died in four days."

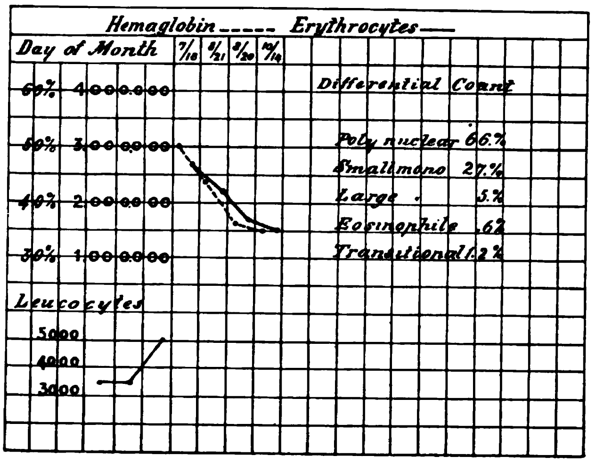
It was impossible to obtain a complete autopsy, but permission was procured to remove the glands above the right clavicle. Dr. Walter R. Steiner, the attending pathologist to the Hartford Hospital, very kindly examined them, and his report is as follows: "The section shows a marked thickening of the gland reticulum as well as an extensive formation of coarse bands of connective tissue which anastomose with one other. There is also to be seen some proliferation of the endothelial cells, and giant cells of the uninuclear and multinuclear type. There is a considerable number of eosinophiles present. Diagnosis. Hodgkin's disease. In considering this case the following points seem of especial interest: (1) The development of acute symptoms associated with an eruption nearly four years after the beginning of the disease. (2) The slight involvement of the superficial glands. (3) The occurrence of periodical abdominal distension and tenderness. (4) The alternating periods of pyrexia and apyrexia. (5) The unusually severe anemia. (6) The disappearance of the glands before death.

"It seems almost conclusively shown that lymphadenoma is an infectious disease, occurring in both an acute and chronic form, but that the organism or organisms which are the true cause of the disease have still to be discovered" (Clark). We are as much in the dark to-day concerning the etiology of this fatal malady, as was Hodgkin when he described the disease in 1832. By observing the occasional evidences of tuberculosis in patients presenting the clinical picture of Hodgkin's disease, Sternberg was led to the conclusion that lymphadenoma was a lymphatic tuberculosis, and his views were rather generally accepted as the true explanation of a vexing question. But it remained for Reed of Baltimore to prove conclusively that, though the two conditions might be present in the same gland, yet they were distinct and absolute entities. Her observations were confirmed by Longcope, Simmons and others.

From time to time cases have been reported where the infection appeared to have taken place through the mouth; for example two of Wood's cases. One had an alveolar abscess near the right lower molar tooth and the lymph glands at the angle of the jaw on that side became enlarged. This proving to be the beginning of a general lymphadenoma. The other case was identical save that the condition started in a severely inflamed tonsil. The mode of infection by way of the mouth is also suggested by the fact that the lymph glands which receive the lymphatics from the mouth and pharynx are usually the first to be involved.

At other times scarlatina, measles, pertussis, variola or some other acute disease directly antedates lymphadenoma, and one wonders if they are etiologically related. Even more difficult of explanation are those infrequent cases which appear to be caused by trauma. Thus, a patient of Jones' was kicked in the perineum and very shortly a gland posterior to the anus became enlarged. This was followed by the enlargement of all the glands about the rectum, and subsequently the superficial lymph glands were involved. The course was an acute one, the patient dying in five weeks.

Though the etiology of the disease remains obscure, its pathology has been very carefully studied. In the early stages there is considerable increase in the endothelial cells, eosinophiles are abundant, and numerous uninuclear and multinuclear giant cells are observed. Later, fibrous tissue, which is not extensive in the early specimens, is very abundant, replacing, as it does, all the glandular element. Nodules may be present in the viscera which have the same microscopical appearance as the lymphatic glands.



The blood shows a secondary anemia not usually as severe as in the case here considered. The leucocytes are inconstant. They may be increased, diminished or normal, nor is the differential count distinctive.

Symptoms.—The onset in the great majority of the cases is insidious. The glands enlarge slowly and painlessly and show considerable variability in size at different periods. Some time may intervene between the glandular enlargement and the occurrence of subjective symptoms, though usually they occur synchronously. A loss of flesh and strength are commonly the first things complained of. Frequently an annoying cough is present during the early days and is caused by pressure on the recurrent laryngeal nerve. As the anemia becomes more marked the patient suffers from dyspnea on exertion and possibly edema of the legs. Some gastric disturbance is usually present: often a diarrhea occurs. Some fever is noted in nearly all cases; it may be continuous, intermittent or remittent. In 1887 Ebstein described a "Chronic Recurrent Fever, a New Infectious Disease." Similar cases subsequently proved that these were examples of Hodgkin's disease, in which the febrile and afebrile periods alternate with surprising regularity. Ebstein was not the first, however, to observe this phenomena, for in 1875 Southey mentioned it as occurring in some of his cases. The pulse follows the temperature and the respirations are slightly accelerated. In women we often get some changes in the menstrual history, amenorrhea being the most common. Hemic murmurs are usually heard over the heart. Pressure symptoms are diverse. They commonly occur late in the disease, though they may be present early. Edema of the face and of the legs are the result of obstructed venous return, while dyspnea or dysphagia occur as the trachea or esophagus is pressed upon. Where the mediastinal glands are large and press on the bronchi, manubrial dullness may be elicited and some modification of the respiratory murmur, and râles will be heard over the corresponding part of the lung. A cough may be the result of pressure on the recurrent laryngeal nerves. Abdominal tenderness and ascities are due to the involvement of the mesenteric and retroperitoneal glands and especially to those at the lilus of the liver.

Cases of this class run a slow course with periods of seeming improvement and terminate fatally in from two to five years as a rule. At any time they may suddenly develop acute symptoms, as did the writer's case. Very different are those cases, fewer in number, which begin acutely with diarrhea, vomiting, abdominal pain, fever and occasionally with delirium. In a number of cases an eruption of protean type has been associated with the period of invasion. Again, other cases begin with pains in the legs and arms.

With limited facilities for reference I was unable to refer to more than one hundred cases, and in only about eighty were the clinical histories complete. A large majority of the cases beginning with a definite invasion had gastrointestinal symptoms.

Thus, in twelve cases mention was made of some or all of the following, viz., headache, malaise, nausea and vomiting, diarrhea and abdominal pain, usually of a colicky type. Pruritus of the skin, most commonly over the tumors, may be present, with or without an eruption. The rash is inconstant in type and was mentioned as occurring in eight cases, being erythematous in four cases; eczematous in one; psoriatic in one; "a macular eruption" (?) in one; and papular and erythematous in one.

Broadbent attributed the skin lesion and pruritus in his case to the arsenic the patient had been taking. While that may have been true, one can hardly assume that all the cases which began acutely and were associated with a rash had been taking arsenic prior to their illness. Dr. Shoemaker kindly wrote me that his case had no arsenic either before or during the time he was under his care. His belief that the eruption was really a part of the disease seems a correct one. In some cases a purpuric condition of the skin is present. Bronzing of the skin, which was present in our case, to a slight extent, is observed at times. A number of cases had convulsions toward the end of the disease.

Diagnosis.—No difficulty is experienced in making a diagnosis of lymphadenoma when the patient presents himself with huge bunches in his neck, axilla, and groin. But in those cases where the involvement of the superficial glands is slight, the condition is often thought to be a tubercular adenitis, Yet, the tendency of the glands in the latter disease to become matted together, thus loosening their individuality, and their proneness to caseation and suppuration, will, as a rule, serve to distinguish them. Both conditions may occur in children, but a tubercular adenitis is by far the more common at that time, while the reverse is true in adults.

The first glands to be involved in a tuberculous process are those at the angle of the jaw as a rule, while in Hodgkin's disease the glandular enlargement is commonly first observed in the chain lying along the sternomastoid muscle.

When the mediastinal glands press on the bronchi to a considerable degree, the diagnosis of pulmonary tuberculosis is not infrequently made. This is especially true if the superficial glands are only slightly or not at all enlarged, and it may be that the diagnosis can be arrived at only after the case has been observed for a considerable time, for the clinical history of the case may be very suggestive of tuberculosis, as also the signs in the lungs. If the involvement be chiefly of the abdominal glands, the condition may simulate tuberculous peritonitis, tabes mesenterica, or typhoid fever.

As it is of prognostic as well as therapeutic importance that the condition be diagnosed, a gland should be removed and examined microscopically, and when possible an inoculation test made. When still in doubt, tuberculin or the tuberculous agglutination test may serve to exclude tuberculosis. Yet the interpretation of the result may be erroneous unless one understands that both conditions may be present.

An absence of the rose spots, a continuously negative Widal, and the repeated failure to isolate typhoid bacilli from the blood, would differentiate the condition from enteric fever. The alternating periods of pyrexia and apyrexia are quite distinctive of Hodgkin's disease.

Prognosis.—Most cases are fatal in from four months to as many years. Just now great hopes are entertained by a number of well-known men that the *x*-ray will prove of real value, and the cases reported by Parsey, Williams, Childs, Cooler, and others are certainly encouraging. Yet no more so than some of the results obtained with arsenic; for instance, the case reported by Blakewell of a man with extensive glandular enlargement and very urgent dyspnea was apparently cured by the use of Fowler's solution. On the other hand, the cases of F. H. Williams and Shoemaker were not improved permanently by the *x*-ray. Cases are not wanting that have been cured by poultices, and even mud, locally.

It should not be lost sight of that the glands fluctuate considerably in size, and even may disappear before death. It is but natural that these periods of improvement should be attributed to the particular medication that the patient is receiving at the time. Thus Ely found that an ointment containing menthol and salicylic acid, and an alterative mixture of the chlorides caused the glands to disappear and the skin lesion to clear up. A study of the accompanying blood chart is of interest when one considers that the reduction in size of the glands went hand in hand with a steadily increasing anemia! And after all, the glandular enlargement is not Hodgkin's disease *per se*, but only one manifestation of a grave constitutional condition.

The disappearance of the glands before death, suggests those cases of diabetes in which sugar is absent in the urine before an attack of coma, and the rarer cases of gout where the joint pains subside before the onset of the so-called suppressed or retrocedent gout.

Treatment.—One must endeavor to improve the state of the general nutrition in every possible way, and the rest cure, with an abundance of fresh air and food, is the best means of achieving this end. Arsenic, either Fowler's solution, or the sodium salt of cacodylic acid should be given in relatively large doses. The glands should be exposed to the *x*-rays for a long period, and the earlier such treatment is begun the better will be the results. Removal of the glands is to be resorted to only when pressure symptoms are marked, as they recur. When one sees a case steadily advance to a fatal termination, in spite of the employment of what is considered to be the best therapeutic agents, he feels as Trousseau did, when he said concerning the treatment of this malady, that it was "beyond his practice."

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VENTRAL DECUBITUS AS AN AID TO DRAINAGE FOR DIFFUSE PURULENT PERITONITIS.

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There are as yet no ideal methods for draining the peritoneal cavity because of obvious mechanical difficulties, and as the value of utilizing postural gravity methods as an aid has not been realized as fully as the merits of the procedure would warrant, a case in point will be briefly narrated.

J. B., a wholesale merchant, 44 years old, had his first attack of appendicitis December 29, 1903, which was attended with violent pains, vomiting, chills, and high temperature lasting three days, all of which rapidly subsided in a few more days. He had been more or less dyspeptic and constipated for a number of years. His second attack occurred just one year later, with the same symptoms, and after twenty-four hours he experienced very acute pain in the right iliac region with a progressive rise of temperature and pulse rate, marked rigidity of the abdominal muscles and vomiting. His pulse rate was now 110 and temperature 102° F. At the end of forty-eight hours from the beginning of the attack, the abdomen was opened by a four-inch incision about three inches above and parallel to Poupart's ligament. About an ounce of seropurulent fluid appeared at the opening, and was carefully mopped away, and then the deeper parts were similarly dealt with. Three drains of washed iodoform gauze, four layers thick and four inches wide, were inserted, one deeply into the iliac fossa well under the caput coli, one down to the pelvis, and one to the left. No search was made for the appendix, as there were signs of shock, and after the patient recovered from the ether, morphine and strychnine were administered. In three hours he had reacted well and was quite comfortable. He was now brought near the edge of the bed on the right side with the left arm hanging out and the right one drawn from under the chest. He could remain in this position comfortably for half an hour, and then was allowed to resume a latero-prone position, and occasionally rested by being shifted back to the dorsal position. During the first six hours the drainage was very large in amount, saturating the dressings and sheets with a pinkish serous discharge. Towards the end of the first twenty-four hours the outer dressing of the wound was changed. The pulse now was 90, temperature 100° F., and the bowels moved spontaneously. For the next twenty-four hours the amount of discharge was probably 50 per cent. less and then the drains were removed and a deep one replaced in the right iliac fossa, the others being superficial. The discharge grew gradually less, and in a week had practically ceased. It required four weeks for the superficial wound to heal. The left lateral position was not allowed for three weeks. Retention of urine required the use of a catheter, which finally produced a cystitis which made a troublesome but not a serious complication.

The amount of discharge in this case by far exceeded what I have ever seen from any other abdominal wound, and the amount of toxic material in the peritoneal cavity thus eliminated readily explained the rapid improvement of his symptoms and final recovery. The peritoneum furnishes a broader area for absorption than other serous surface in the human organism, and for this reason generalized infections are attended by high mortalities. Of course much depends on the type of infection, some bacteria being more virulent than others. In a normal condition of the peritoneum the adjustment of inflow and outflow is such as to keep the serous membrane constantly moist. Experiments have proved that the peritoneum is capable of great powers of absorption, and in a dog or rabbit a collection of fluid equal to 10 per cent. of the body weight can be absorbed in thirty minutes (Kelly). In peritoneal infections bacteria and their toxins are thus taken up and distributed through the thoracic duct to the general circulation. So the great desideratum in drainage of peritoneal infections is not merely to give exit to the exudative products but also to establish a reverse irrigation current of serum from the blood, thus washing away the toxins, and this is facilitated by the mechanical presence of gauze, together with the effects of gravity.

Irrigating the peritoneum with normal saline solutions only dilutes the toxic products, and it is left for the various emunctories to eliminate or destroy such poisons.

The tendency of nature is to circumscribe various foci of infection which might be drained rapidly by gravity methods. In the ventral position it is easy to understand that the intestines with their gaseous contents would occupy the highest position in the abdominal cavity, and the fluid exudates make their way to the abdominal parietes. Of course it is not expected that a patient could maintain this position constantly, but an occasional resort to it is sufficient to keep open the channels towards the abdominal wound before pocketing of the discharge takes place.

SANITATION OF THE SUMMER CAMP.

By HARVEY B. BASHORE, M.D.,
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CAMP-LIFE is beginning to be so great a factor in American life that it deserves a little attention from sanitarians, inasmuch as one frequently hears of sickness being attributed to this source. Just as I am writing this I notice a report of an increased amount of typhoid fever in all sections of New York State, and the health authorities investigating it have found that the sufferers in a great part are those who have passed their summer holiday in the country. With reports like this frequently appearing, there can be no question but that camp-life, in many cases, has been and is a source of danger, if one neglects or is careless in regard to the usual sanitary rules. We are apt to think that everything in the woods is so fresh from the hand of the Maker that sanitary care is unnecessary; every spring and every brook seems to be pure and undefiled. If we could only drop into the "forest primeval" such indeed would be the case, but the fact is that, wherever you go, someone else has been there before. I recall an illustration of this somewhat to the point which occurred to a friend of mine who was tramping through the wilds of Canada north of Lake Ontario. One day, coming across a grave, he remarked to the guide that he didn't suppose people died here. "Yes, they do, and of typhoid fever and diphtheria," was the answer.

Let us investigate, first, the permanent camp, which is occupied summer after summer. This, like any other habitation, evidently needs some care to keep clean. It will not be sufficient to throw waste materials just outside the door, for this is not only unsightly, but tends gradually to cause pollution of the soil, air, and water, just the very things one expects to avoid in taking to the country. Tin cans, waste paper and offal littering the virgin soil around a beautiful camp are even more jarring to one's sensibilities than when scattered about the village alley. There is, fortunately, no complicated system of waste disposal in the camp, as in the city. All combustible rubbish should be burned, and the non-combustible, of which there will not likely be much, should be buried. All putrescible waste—that is, garbage—should be put into a regular garbage hole and covered every evening at least with earth. This hole can be in some unfrequented place or behind some cluster of bushes or trees, so as not to detract from the beauty of the place nor offend one's senses.

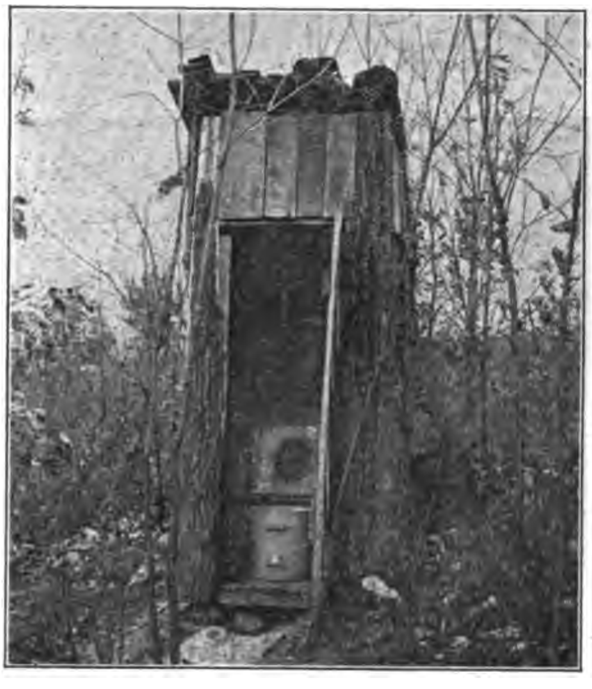

Fig. 1.—The sanitary arrangements for a permanent camp.

The only other waste to dispose of is human excreta, and this is by far the important one, for man's waste products are poisons when again taken into the system. The best way and the only proper way to dispose of this is by some form of dry closet; it need not, however, be elaborate in order to be effective. The one shown in the cut is made of rough slabs and in the crudest manner, yet it is perfect in its sanitary appointments, vastly better than many a city water closet. I have frequently had friends inspect this, and they invariably remarked that the distinguishing odor was that of the cedar shingles used in constructing it. The earth used in the pail is taken directly from the field a few yards away, and the contents of the pail are emptied on the same field only a short distance from the camp, yet after this is covered with a little earth one can pass the spot without knowing it.

In regard to the water supply of a camp, it is hardly necessary to call attention to the fact that it is not safe to drink from every brook or spring one comes to. A good rule is always to see the other end first, or at least have knowledge of its entire drainage basin, whether spring or brook. Everything else being equal, springs and brooks having no human dwellings on their drainage areas are practically safe. When I say dwellings, I mean also temporary camps, for they are at times even worse than permanent dwellings as a focus of infection.

The temporary camp of a week or so, it is needless to state, hardly requires the same sanitary precautions as a permanent camp, yet a hole for garbage is a very desirable thing, and may save trouble for those who come after. A dry closet such as described for a permanent camp is not to be thought of, but a very good substitute is a sink similar to that used by soldiers in the field; simply a short trench in the ground and a support as shown in the photograph. Such an arrangement hidden by a clump of bushes, covered frequently with earth, and not placed near a water course is perfectly satisfactory from a sanitary point of view. If even this is too much trouble, there yet remains the "method of Moses," which has stood the test of some 3,000 years, and can still be recommended. "And thou shalt have a paddle upon thy weapon; and it shall be, when thou wilt ease thyself abroad, thou shalt dig therewith, and shalt turn back and cover that which cometh from thee" (Deut. xxiii. 13).

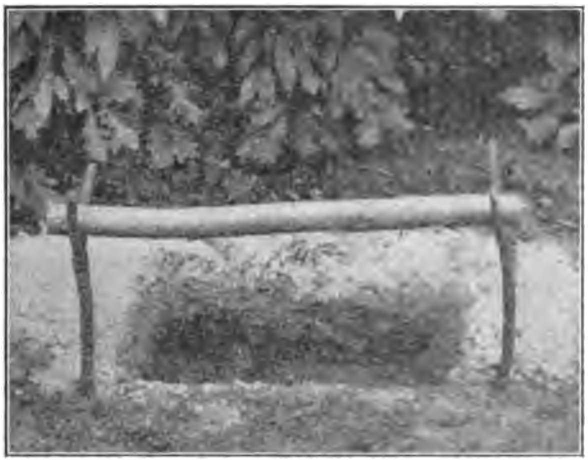
Fig. 2.—The sanitary arrangements for a temporary camp.

For the water supply of a temporary camp all the rules hold good that were mentioned in regard to the water supply of a permanent camp. There is one additional point, however, that is worth mentioning: if the circumstance should arise when one must use the water from some suspicious stream, it is well to practice the plan used by the natives of India, who dig little holes in the sand of the shore until they get below the water level; these holes soon fill with clear water, which, having filtered through the surrounding sand, is vastly safer than the raw water of the stream.

Filariasis in Man Cured by Removal of the Adult Worms in an Operation for Lymph Scrotum.—A. Primrose states that filariasis is very rarely met with in Canada. The patient whose history he here reports had lived in Barbados all his life, with the exception of a few short trips which he had made to Canada and Europe. When he was twenty-eight years of age he suffered from what was thought to be hydrocele. Both sides of the scrotum were tapped and fluid drawn off, after which iodine was injected. This seemed to effect a cure. Three years later on one occasion he had a sudden attack of illness. There was an initial chill, followed by high fever and drowsiness. A painful swelling of the right leg below the knee developed. From this attack, too, he fully recovered. Two years later a similar attack occurred, while in addition the glands in the right groin became swollen and tender. These attacks occurred from time to time for the next few years. During one of them an abscess developed in the calf of the right leg. After being opened it healed without much trouble. At this time the scrotum first began to be affected. The swelling of this organ became a feature of all subsequent seizures. Soon permanent thickening resulted. The patient never suffered an attack while in a cold climate. Although filariasis had never been suspected in this case until he came under the author's care, his history would indicate that he had been a victim of the infection for possibly twenty years. When examined by the author, the scrotum was seen to be a somewhat flabby mass, about three times its normal size. Its tissues had a thick, indurated, leathery feel on manipulation, and there was some additional enlargement in the region of each testicle. On the right side there was a nodule about the size of an almond, apparently in the epididymis. On the writer's first examination of the patient he suspected that he had to deal with a case of lymph scrotum, probably of filarial origin. Later examination of the blood taken from the finger tip showed the embryo filaria in large numbers. The parent worm was isolated from the tissues which were excised at the operation. Forty-six days after the operation the patient suffered from an attack of lymphadenitis in the neck, with the characteristic symptoms of the elephantoid fever. This was the only attack of this fever which the patient had in a cold climate. It might be accounted for by supposing that immature ova had been discharged into the circulation by the parent worms during manipulations at the time of the operation. In less than a month after this attack of fever no embryos could be found in the blood, and none was discovered on later occasions, although many attempts were made to secure a specimen. It is therefore seen that the patient was not only freed of his lymph scrotum, but that the operation had resulted in freeing him of his filaria. This is probably due to the fact that the filaria found in the excised tissue were the parent worms, which were responsible for the production of the embryos in the blood, and that on their removal the embryos were no longer produced, while those already in existence gradually disappeared, since they never come to maturity in the human blood, and must perish unless they are carried to an intermediate host.—*The Canadian Practitioner and Review.*

A Simplification of the Thiersch Method of Skin Grafting.—Isnardi says that for the past eight years he has been making his Thiersch grafts without disturbing the granulations on the surface to be covered. Asepsis of the regions to be operated on is imperative and the granulations must be small, firm, pink, and healthy. When the grafts are in place they are covered with loose meshed gauze and a wet dressing of 3.5 per cent. boracic acid. The dressing is changed every twenty-four hours, or if there is suppuration, every twelve hours. On the eighth day the gauze in contact with the wound is changed for the first time, a dusting powder and lanoline are applied, and the whole is covered with dry cotton and gauze. The author has obtained constantly satisfactory results by this method, and commends it as simpler and more certain than the plan of curetting the granulation before transplanting the grafts.—*Zentralblatt f. Chirurgie.*

MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery.

THOMAS L. STEDMAN, A. M., M D., EDITOR.

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A NEW TEST OF GASTRIC EFFICIENCY.

THE theoretical and practical objections to the ordinary method of testing the efficiency of the gastric functions by means of the analysis of the products of digestion obtained through the stomach tube a certain length of time after the ingestion of a test meal, have led to much dissatisfaction with the procedure. In timid patients the secretion of gastric juice is always modified more or less profoundly by inhibitory reflexes dependent on dread of the approaching ordeal of lavage, the test meal is not of a nature to stimulate the gastric activities to the greatest degree, the time of extraction is a purely arbitrary one, and the passage of esophageal instruments is extremely undesirable in some cases, and out of the question in others. Among others, Sahli of Bern, has devoted much attention to the subject of gastric analysis, and the butyrometric method devised by him and applied to a test soup composed of butter, flour, and water, was a distinct advance in the direction of accuracy.

In a recent contribution (*Correspondenz-Blatt für Schweizer Aerzte,* April 15 and May 1, 1905) this observer describes the steps by which he was led to develop a procedure which he considers renders it possible to study the actual efficiency of the stomach's digestive powers, uninfluenced by disturbing outside influences, with a greater degree of accuracy than has heretofore been possible. The principle involved is somewhat similar to that made use of in the same author's method of estimating intestinal digestion by administering an agent like iodoform which is readily recognizable in the urine, in capsules composed of material readily soluble in the pancreatic ferments, but impermeable to the gastric juice. Such capsules may be prepared of glutoid, a resistant material obtained by treating gelatin with formaldehyde, but the problem of securing a material which should be easily digestible in the stomach but able to withstand the intestinal juices and also putrefaction, was very difficult. Connective tissue which has not been subjected to the action of heat is, however, such a substance, and Sahli's first experiments were made with goldbeater's skin. This is prepared without the intervention of heat from the cecum of the ox, and theoretically should serve well for the desired purpose; but owing to the lack of uniformity in the commercial product, comparative tests would not be feasible, and further search was necessary. The method finally adopted consists in the use of a pill containing a small amount of either iodoform or methylene blue, which is enveloped in a small bit of the rubber dam used by dentists, the neck of the little bag formed being tied off with the finest obtainable raw catgut. Such a pill is given at the end of the ordinary noon meal and the urine passed at stated intervals during the afternoon and evening is either examined in regard to the first appearance of a greenish color if methylene blue was used, or is tested for the presence of iodoform in case this indicator was chosen. The latter substance has the practical advantage that it may be detected with equal certainty in the saliva. The appearance of either substance in the urine, or of iodoform in the saliva, indicates satisfactory gastric digestion and a negative result the reverse, the information obtained being, according to the author, a sufficient index as to the combined activity of the hydrochloric acid and the pepsin.

This test does not merely indicate the length of time required by the stomach for the digestion of raw catgut, but it affords a reliable criterion of the degree of digestion undergone, under absolutely undisturbed conditions, by the meal of which the pill formed the conclusion. Extensive observations have led the distinguished Bernese clinician to ascribe the greatest value to this "desmoid reaction," as he terms it, and he believes that it will serve in many respects to clarify our conceptions of the physiology and pathology of the gastric functions.

UNCINARIASIS IN PORTO RICO.

SINCE our occupation of Porto Rico and the Philippines, tropical diseases have assumed an importance to American medical men, always well deserved, but hitherto unrecognized. For our information on tropical diseases we have been dependent upon two or three most admirable text-books (such as Manson's and Scheube's), which cover the whole subject; while for special districts or diseases we have, in the past, often had thrust upon us the observations of travelers and visitors, more or less qualified, and the parboiled effusions of self-constituted or irresponsible "investigators" only too eager to drop their "new discoveries" into the voracious maw of the lay press. Such writers generally know nothing of the habits and condition of the people they visit, and upon whom they inflict their observations, and are equally ignorant of what scientific investigators have already accomplished in the field which they assume to have been virgin. In refreshing contrast to one of these reports of a "special commissioner" of a New York newspaper, is the previously published governmental "Report of the Commission for the Study and Treatment of Anemia in Porto Rico."

The disease is caused by the presence in the intestine of a parasitic worm, *Uncinaria americana.* The symptoms are similar to those caused by *Uncinaria duodenalis,* but the two parasites are in some respects quite dissimilar, the chief differences between them being (1) in the nature of the buccal armature, and (2) in the size of the ova. The parasites are seen in the feces as little threads of a white, gray, yellow, or blood-red color, and are about 1 cm. in length. The ways in which infection may take place are through the ingestion of the larvæ and through penetration of the skin by the larvæ and their subsequent migration to the small intestine. The report discusses these points in considerable detail, as also the diagnosis, symptomatology, pathology, course, and prognosis of the resultant disease. Prophylaxis and treatment are, naturally, among the most important and practical points on which information is required; and here the authors of the report (Drs. Bailey K. Ashford, W. W. King, and Pedro Gutierrez Igaravidez) are most satisfactory and precise in their statements. Pollution of the soil having an important significance in the transmission of the disease, prevention of this is naturally a main factor in the prophylaxis. But this is a difficult task. It takes a long time to teach people, living as the poorer and laboring classes in the tropics do, to change the habits not only of a life-time, but also of a traditional and practically limitless past. The use of properly constructed latrines and the wearing of shoes will doubtless do very much towards eliminating this disease; but whether these two luxuries will ever be regarded as necessities by the Porto Rican peasant, we may consider an open question. However, an attempt is being made to inculcate these civilized ideas, and it is only along such lines that success will be obtained in the effort to eradicate uncinariasis. The only drugs found to be of real value, are thymol, male fern, and beta-naphthol.

As an indication of the amount of work accomplished by the commission, it is stated that as many as 500 or 600 patients a day were examined and treated. "Of 5,500 cases of anemia, 5,490 of which were due to uncinariasis, we lost 27 patients. Thirteen of these died of uncinariasis pure and simple, and of them five never received an anthelmintic. Nine died of other diseases or of complications, with uncinariasis as a more or less potent contributing factor. Two of these died of direct sequelæ of uncinariasis. Five died of diseases in which uncinariasis was not, even remotely, a contributing cause. Thus our total mortality from all diseases was .49 per cent. Our mortality for uncinariasis alone was .23 per cent., and including all those who died from uncinariasis alone or as a concurrent cause .41 per cent."

The report is published both in English and Spanish, and is a document of great value, as the disease in question is prevalent in other of the West Indian Islands, and when epidemic, as was recently the case in Porto Rico, is accompanied by a high rate of mortality. The authors say with truth that "Porto Rico has taken the initiative in the tropics in inquiring into the cause of the profound anemia of her laboring classes, and in testing feasible means of treatment and prophylaxis"; and, we may add, with equal truth, that the isolation and possible eradication of the so-called Porto Rican anemia will prove to be among the best results of the American occupation of that island; and the credit for such will be due, in very large measure, to the labors of the authors of this interesting report.

INJURIOUS EFFECTS OF ATHLETIC GAMES UPON THE BODY.

IN view of the fact that athletics play so prominent a part in the curriculum of all our large universities and colleges, it would be both useful and instructive to ascertain the effect upon the body of such exertions. It cannot be denied that in American universities athletics of all kinds, and especially football, are carried to excess. Much valuable time is wasted and decided harm in many instances is done to mind and body by a too strenuous participation in games. The practice of athletics in discretion is beneficial, but when regarded as the chief end and aim of college existence it is harmful in the extreme.

Colonel Valery Havard discusses the matter at length in the March issue of the *Journal of the Association of Military Surgeons* and amongst other conclusions says that not only is the circulatory system damaged in excessive and long-continued athletic training, but other organs may likewise suffer. He considers the question as to whether the active athlete may render himself susceptible to phthisis by undue exertions and concludes that the point is undecided. The liver of the athlete who does not adjust his diet to his quieter after-life is likely to become congested, torpid, and sluggish; and such a condition is generally accompanied by digestive disturbances. One of the most frequent evil effects of violent athletics is renal congestion and overstrain, and severe and protracted muscular effort may lead to interstitial nephritis.

SANITARY CONDITIONS IN CANADIAN FACTORIES, WORKSHOPS, AND BARBER-SHOPS.

IN the Sanitary Journal of the Provincial Board of Health of Ontario, Vol. 22, Parts 3 and 4, Dr. Thomas Keilty, Provincial Factory Inspector writes on the above subject. The manner in which factories and workshops are kept is a most important factor in the preservation of the health of the general public. In no one way, with the possible exception of schools, can disease be more easily spread than by means of unsanitary factories and workshops. It is, therefore, an essential object in the interests of public health to insist that all precautions should be taken to prevent the spread of disease among communities of workmen. Dr. Keilty states that at the last session of the Ontario Legislature amendments to the Factories Act were passed providing for more sanitary conditions in supplying drinking water, the heating of workshops, providing closet seats for a given number of employees, the standard being at least one seat for each twenty-five employees, and providing for spittoons on the recommendation of the Factories Inspectors. Referring to barber-shops which are in an unsatisfactory state from a hygienic point of view, the writer thinks that a movement to better the existing state of affairs should be initiated and recommends the following conditions adopted by a barber in Woodstock, as worthy of example. All towels before being used are laundried. All tools used are disinfected by formaldehyde gas. All razors immediately after being stropped are dipped into a solution of bichloride of mercury. Each customer is supplied with a brush thoroughly cleansed in a solution of bichloride of mercury. No shaving cups are used, the cream is made from shaving soap, which is pressed from a tube.

A PANAMA CANAL SUGGESTION.

LINDON W. BATES has just issued a publication with this title, in which he adversely criticises the plans formulated for the construction of the Isthmian Canal, and in which he suggests alternative methods. Mr. Bates' new project has been submitted recently to the President and Secretary Taft. It would not be within the province of a medical journal to discuss the technical features of an engineering problem of this magnitude, but in so far as the methods concern the sanitary aspects of the situation, they are eminently fitted for medical comment. Two of the essential features of the plan are that Lakes Chagres and Panama should be enlarged so as to submerge the swamps around the terminal cities. "This," says Mr. Bates, "must have most beneficial effects upon the health of the engineering and construction forces, and upon the residents of the cities for all time." "There will," he goes on to say, "be no more wading in saturated stifling jungles, there will be much less vegetation, and the mosquitos as a pest could be more easily controlled." As to whether the scheme set forth by Mr. Bates is feasible, economical, or practicable, no opinion can be expressed here, but if it be so and will improve the sanitary conditions, it should be worthy of consideration.

News of the Week.

Yellow Fever at Panama.—The recent outbreak of yellow fever at Panama appears to have been largely due to the incompetence and obstructive policy of the members of the late commission of unhallowed memory. It is asserted by Government officials in Washington that the fever never would have gained such headway had energy been shown in constructing proper quarters for the unacclimated Americans. The employees have been using the unsanitary old buildings. The center of the epidemic was in the main Government building, occupied by Gov. Davis, where it started. The victims were clerks in the offices. The building has been fumigated and the new commissioners have sent the lumber so that construction on the new buildings has been begun, and the epidemic, it is believed, is under control. Col. Gorgas, acting Governor and Chief Health Officer, reported, on May 12, that it had been nine days since a new case appeared, but since then there have been six. With Col. Gorgas now acting Governor and unhampered by the interference of Grunsky, there is reason to hope for improvement in the health conditions on the Isthmus.

The Efficiency of Quarantine at the Port of New York.—The Consulting Board of the Health Officer of the Port of New York, consisting of Drs. J. D. Bryant, E. G. Janeway, H. M. Biggs, G. L. Peabody, F. P. Kinnicutt, J. H. Girdner, J. W. McLane, R. H. Derby, Wm. M. Polk, J. W. Brannan, and T. M. Prudden, visited the Quarantine on Saturday, May 13, making a careful inspection of the station, hospitals, and laboratory. The Board passed a formal resolution of approval of the high standard of efficiency which is maintained by Dr. Doty in the administration of this important agency in the protection of the public health. The features which the Consulting Board regarded as especially noteworthy were the practical recognition of the fact that it is in the infected man and his immediate surroundings that danger lies, and not in the ship or its cargo or its healthy passengers; the systematic use of the clinical thermometer for the detection of early and obscure phases of infection; the application of scientific sanitary measures adapted to each special form of infectious disease; the liberal and humane efforts to ameliorate the hardships of necessary quarantine detention; and, finally, the unwearied efforts, through laboratory research and experiment, to add to the knowledge of useful, practical sanitation. Each year, the Board stated, the country is more effectively protected against the entrance of communicable and other infectious diseases, while at the same time there is a steady reduction of the annoyances to individuals and damage to commerce in which earlier quarantine systems were constantly involved.

The American Therapeutic Society.—At the sixth annual meeting of this society held in Philadelphia, May 5 and 6, the following officers were elected: *President,* Dr. Carl Beck of New York; *Vice-Presidents,* Drs. J. N. Hall of Denver and John V. Shoemaker of Philadelphia; *Secretary,* Dr. Noble P. Barnes of Washington; *Treasurer,* Dr. John S. McLain of Washington; *Recorder,* Dr. William M. Sprigg of Washington; *Curator,* Dr. George C. Ober of Washington.

Tuberculosis Among Negroes.—The high death rate from tuberculosis among negroes, the causes and effects of this disease, and the best means of combating and preventing it were discussed at a conference called by the committee for the prevention of tuberculosis of the Charity Organization Society, held in the assembly hall of the United Charities Building last week, under the presidency of Dr. Andrew H. Smith. Addresses were made by Miss Lilian Brandt, Dr. S. A. Knopf, and Dr. W. A. Brooks. The latter, a member of that race, said that the deplorable condition of the tenements occupied by the negroes in New York was largely responsible for the prevalence of consumption among them. Resolutions were passed recommending that active steps be taken to educate the negroes of New York City in regard to tuberculosis, and that a committee be appointed to cooperate with the committee on the prevention of tuberculosis of the Charity Organization Society to bring about the desired ends.

The Memorial Institute for Infectious Diseases of Chicago has established a Serum Division as a branch of its scientific and experimental work. This division will undertake the preparation of various sera and will also prosecute investigation into some of the problems of immunity and serumtherapy. Professor Edwin O. Jordan of the University of Chicago has been placed in charge of the Serum Division, and preparations for the new work are now well under way.

Cincinnati Academy of Medicine.—Dr. G. A. Fackler read a paper on May 8 on Cerebrospinal Meningitis. He reported eight cases treated at the Cincinnati Hospital in which the death rate was 50 per cent. The cases were remarkable in the absence of fetechiæ and any pronounced opisthotomes; Kernig's sign was present in all cases.

American Laryngological Association.—The twenty-seventh annual meeting of this association will be held at the Hotel Chelsea, Atlantic, City, N. J., on June 1, 2, and 3, under the presidency of Dr. Clarence C. Rice. The secretary is Dr. James E. Newcomb, 118 West 69th street, New York City.

Medical Legislation in Illinois.—The following bills of interest to the members of the medical profession, were passed by the House and Senate of the Forty-fourth General Assembly of Illinois. A bill prohibiting the embalming or preparing for transportation of dead bodies except by persons licensed by the State Board of Health, and providing for examination and license; a bill placing the employees of State charitable institutions under civil service rules; a bill empowering overseers of poor to provide treatment for patients afflicted with rabies, under the direction of the State Board of Health, appropriating $2,000; a bill providing for the location, erection, and maintenance of a State sanatorium for consumptives, appropriating $25,000 for this purpose; a bill providing for the sale and free distribution of diphtheria antitoxin under the direction of the State Board of Health; a bill placing physicians and nurses of the Cook County Hospital under civil service rules; a bill establishing a State Board of Examiners for Nurses, and providing for examination and license; a bill creating a State Board of Dental Examiners, and providing for the regulation of the practice of dentistry. The Legislature adjourned on May 6, *sine die,* without passing the six osteopathic and two optometry bills, and one antivivisection bill, introduced since February 1. The Expert Witness Bill, providing that physicians attending court as expert witnesses shall be entitled to receive the sum of $10 only for each day's attendance, did not pass. The bill was vigorously denounced by the medical profession.

Defective Eyesight of New York School Children.—At a meeting of the Society of Medical Inspectors of the Health Department on Tuesday evening of last week, Dr. John J. Cronin, Chief of the Division of School Inspection of the Department of Health, read a paper in which he reported on the results of the new system of physical examination of school children. The new system went into effect in March; before that the work of the Health Department Inspectors dealt merely with the spread of contagious diseases. From March 27 to April 28, under the new system of thorough individual examination, 7,166 school children were examined. Of this number no less than 1,273 were unable to read the large letters at a distance of twenty feet, and about 33 1/3 per cent. of all those examined had defects of vision, interfering with the proper pursuit of their studies. Of these, a large number have procured glasses. This has already resulted in an improvement of the schoolwork, as borne out by the teachers' reports.

The New York Red Cross Branch.—The organizers of the New York State branch of the American National Red Cross held their first meeting at the home of Whitelaw Reid, one afternoon last week, and elected the following officers: *President*, Col. William Cary Sanger, ex-Assistant Secretary of War; *Vice-President*, Elihu Root, ex-Secretary of War; *Secretary*, Mrs. William K. Draper; *Treasurer*, Jacob H. Schiff. In the absence of Surgeon-General Van Reypen (retired), chairman of the central committee of the organization, Miss Mabel T. Boardman, a member of the committee, gave the address of the meeting and told the purpose of organizing the State branches. She explained that in the new articles of incorporation, State and Territorial branches must be organized as soon as possible, and that these branches must in their turn organize sub-branches, so that it will be like a great army with divisions into State militias, composed of companies organized throughout the State.

Death of the Last Survivor of the War of 1812.—Hiram Cronk, the sole survivor of those who fought in the American army in the war of 1812, died at Avon, N. Y., on May 13, at the age of 105 years He was born in 1800 and served as a volunteer in the defense of Sackett's Harbor from August 4 to November 16, 1814. For the last thirty or forty years he is reported to have been an inveterate tobacco chewer and an habitual, though temperate, wine drinker.

A Reunion of the Class of '95 of the Medical Department of the New York University was held at the Hotel St. Regis on May 9, the tenth anniversary of graduation. Dr. Eben Foskett presided and speeches were made by a number of the class members. It was decided to hold another reunion at the end of five years, in the spring of 1910.

For a New Hospital on the East Side.—Persons interested in founding a new hospital in the most densely crowded district of the East Side—the district between Houston and Fourteenth streets, the Bowery and the East River—had a hearing last week before Dr. Stephen Smith, Vice-President of the State Board of Charities, sitting as a Commissioner for the Supreme Court to determine the legality and propriety of the application. The hospital will be under Hebrew control and will be called the Beth Jacob Joseph Hospital.

Aldermanic Solicitude for the Little Ones.—At a recent meeting of the Board of Aldermen of New York, Vice-President Sullivan offered a resolution, which was adopted, calling on the Department of Health, the Charities Department, and the Tenement House Department to examine and report on the growing custom of landlords to refuse to rent houses and apartments to people who have children. The departments also were requested to get an opinion from the Corporation Counsel to see if the landlords could not be curbed in their race suicide proclivities, by the Aldermanic power. After considerable debate the board adopted the adverse report of the Finance Committee on the appropriation of $1,000,000 for playgrounds for the public schools.

A Nurse's Suit Against a Physician.—A trained nurse who sued a physician for defamation of character recently got a verdict for $250 in a Cambridge, Mass., court. The plaintiff alleged that the physician had publicly and maliciously stated that she was responsible for the death of several patients, through neglect. The defendant asserted that he was privileged as a physician to make statements about a nurse. He had been asked about the plaintiff and had honestly replied that he did not care to recommend her.

New Trustees for Roosevelt Hospital.—Gov. Higgins has signed Assemblyman Agnew's bill providing for the election of two additional trustees of Roosevelt Hospital from native born citizens resident of New York City.

A New Military Medical Attaché with the Russian Army.—Russia has granted the request of the United States that Brigadier-General Thomas H. Barry, Captain Sydney A. Cloman and Colonel John Van R. Hoff be allowed to go to the front as military attachés with the Russian army in Manchuria. Colonel Hoff relieves Colonel Howard of the Army Medical Corps who was captured by the Japanese on the retreat of the Russians from Mukden.

The Army Hospital Drill in the State Militia.—Adjt. Gen. Henry issued an order on May 13, adopting for the State National Guard the revised system of drill regulations for the regular army Hospital Corps, approved by the Secretary of War last October.

Meningitis in Germany.—The *Deutsche medicinische Wochenschrift* of May 11 states that the number of cerebrospinal meningitis cases in Upper Silesia in April was about 1,200. The deaths are roughly given as half that number.

Meningitis in Ireland.—Sixty cases of what is supposed to be meningitis have been reported from one district in County Down.

Synthesis of Adrenalin.—Reports from London state that much attention is being attracted by an article in the *Journal of Physiology* in which H. D. Dakin of the Lister Institute asserts that he has discovered a method of producing adrenalin from coal tar products.

Nebraska State Medical Association.—At the session of this society held in Beatrice, Lincoln was selected as the next place of meeting, and the following officers were elected: *President*, Dr. A. F. Jonas, Omaha; *Vice-Presidents*, Dr. Farley of York, and Dr. Spalding of Omaha; *Recording Secretary*, Dr. A. D. Wilkinson of Lincoln; *Corresponding Secretary* and *Librarian*, Dr. H. W. Orr of Lincoln; *Treasurer*, Dr. A. S. von Mansfelde, Ashland; *Delegate to American Medical Association* at Portland, Ore., Dr. I. N. Pickett of Odell. Dr. A. S. von Mansfelde of Ashland was reelected *Chairman of the Committee on Public Policy and Legislation* and he appointed as members of the committee Dr. G. H. Brash of Beatrice and Dr. W. D. Shields of Holdredge.

Windham County (Ct.) Medical Society.—The 112th annual meeting of this society was held at Willimantic, and the following officers were elected: *President,* Dr. C. C. Gildersleeve, East Woodstock; *Vice-President,* Dr. R. C. White, Willimantic; *Clerk,* Dr. James L. Gardner, Central Village; *Censors,* Dr. J. B. Kent, Putnam; Dr. George W. May, Willimantic; Dr. A. E. Darling, Killingly; *County Reporter,* Dr. Charles M. Knight, Chaplin.

Gallia County (O.) Medical Society.—The annual election of officers for this society held at Gallipolis, resulted as follows: *President,* Dr. J. B. Alcorn, Gallipolis; *Vice-President,* Dr. William Miller, Vinton; *Secretary,* Dr. William H. Pritchard, Gallipolis; *Treasurer,* Dr. Ella G. Lupton, Gallipolis; *Board of Censors,* Dr. C. G. Parker, Gallipolis; Dr. S. W. Williams, Mercerville, and Dr. W. E. Howell, Rio Grande; *Delegate to the Meeting of the Ohio State Medical Association,* Dr. C. G. Parker; *Alternate,* Dr. W. H. Pritchard.

International Congress of Radiology.—The Belgian minister has submitted to Mr. Loomis, the Acting Secretary of State, a notification of the first international congress for the study of radiology and ionization to be held at Liège from September 12 to 14, of this year, under the auspices of the Belgian Government. Certificates of appointment as delegates from this country are to be issued by the State Department to any persons nominated by Secretary of the Department of Commerce and Labor. The delegates do not receive compensation and must pay their own expenses. The committee in charge, which is recruited from the faculties of the four universities of Belgium and the Military Academy, has framed the following program: (1) Physicochemical section: (a) properties of the electrons and accompanying radiations, *x*-rays, cathodic rays, ionization; (b) radioactivity and corresponding transformations; (c) meteorological and terrestrial phenomena connected with ionization and radioactivity; (d) *n*-rays. (2) Biological section: physiological properties and medical applications of the various radiations and of radioactivity.

Post-Graduate Hospital Subscription.—At the annual meeting of the faculty of the Post-Graduate Medical School and Hospital it was announced that the members of the faculty had pledged themselves to raise, before next Thanksgiving, $40,000, to go toward completing the sum of $100,000, which must be secured by popular subscription in order to obtain an anonymous gift of the same amount recently promised to the institution. Dr. D. G. St. John Roosa was reelected president; Dr. James N. West was elected secretary to succeed Dr. Forbes Hawkes, resigned.

Obituary Notes.— Dr. ALEXANDER W. ROGERS, the oldest physician in Paterson, N. J., and the oldest graduate of the New York College of Physicians and Surgeons, died on May 14. Dr. Rogers was born in Armagh, Ireland, in 1814. He was graduated from the College of Physicians and Surgeons in 1836, and from the following year practised medicine in Paterson. He was one of the founders of the Passaic County, N. J., Medical Society, and was for many years chief of staff of the Paterson General Hospital.

Dr. OLIVER WOODSON NIXON, for many years associated with the Chicago *Inter-Ocean* as literary editor, is dead at Biloxi, Miss. Dr. Nixon was a member of General Pope's staff, having been medical director of the army of Missouri.

Dr. HEBER N. HOOPLE of Brooklyn died May 8, at the age of 49 years. He was a graduate of the Bellevue Hospital Medical College in the class of 1885.

Dr. HENRY P. MERRILL of Portland, Maine, died May 11, aged 62 years. He was born in Oxford county and came to Portland when a young man. He was a graduate of the Harvard Medical School in the class of 1867. For several years he was a member of the pension examining board. A wife and several children, including Dr. H. P. Merrill, Jr., of Portland, survive.

Dr. FRANCIS WAYLAND CAMPBELL of Montreal died May 4, after a long illness. He was born in Montreal on November 5, 1837. He received his early education at the city public schools, and in 1860 he graduated from McGill University with the degree of M.D. Shortly afterwards he made a tour of the large hospitals, successfully passing the examination of the Royal College of Physicians, London, and later he was elected a member of the Royal Medical Society of Edinburgh. He returned to Canada in the fall of 1861, and at once began the practice of his profession. He was one of the organizers of the medical faculty of Bishop's College, founded in March, 1871, of which he was appointed first registrar, and professor of the institutes of medicine. He filled the chair of psychology for ten years, and was elected professor of medicine, and dean of the faculty. He was one of the editors of the *Canada Medical Journal* from 1864 to 1872, when he established the *Canada Medical Record,* and remained its editor for many years. He was secretary of the College of Physicians and Surgeons of the Province of Quebec for ten years. For over forty years he served on the medical corps of the Canadian Militia, and was retired in 1898 with the rank of surgeon lieutenant-colonel.

Dr. GIDEON A. WEED, a pioneer physician of the Pacific Coast, and a man who, as twice Mayor of Seattle, and a prominent citizen of Washington State, did much toward the upbuilding of the Northwest, died at his home in Berkeley, Cal., on April 21. He was born in New Providence, N. J., in 1833 and was graduated from the Rush Medical College, Chicago, in 1856. He went to the Pacific Coast in 1858, and practised in various places in California, Nevada, Oregon, and Washington. For ten years during his stay in Washington he was a Regent of the university, first the Territorial, and later, the State University. He helped to organize the Medical Society of Washington and the State Medical Board, besides carrying through much pioneer medical legislation needed in the new State.

Dr. CONSTANT HENOTTE of Lowell, Mass., died May 6. He was born in St. Cesaire, Canada, in 1844, and was graduated from the Medical Department of Laval University, Quebec, in 1867.

Dr. ROBERT M. KING of St. Louis died May 2, at the age of 62 years. He was born in Madisonville, Ky., and was graduated from the Jefferson Medical College, Philadelphia, in the class of 1867. He went to St. Louis in 1876. He was one of the founders of the Beaumont Medical School, now the Marion Sims College of Medicine. He was treasurer of the St. Louis Medical Society.

Dr. GEORGE N. WATIER of Stillwater, Minn., died May 1, at the age of 48 years. He was born in Canada and was graduated from the Trinity Medical College, Toronto, in 1883. He had practised in Stillwater for about eight years.

Correspondence.

SPINAL IRRIGATION IN CEREBROSPINAL MENINGITIS.

To the Editor of the Medical Record:

Sir—I would suggest to those having laboratory facilities to test the practicability of irrigating the craniospinal cavity by a combination of dural with lumbar puncture. If found practicable it might prove useful in the treatment of cerebrospinal meningitis. Andrew H. Smith, M. D.

New York, May 15, 1905.

BLOODLETTING IN CEREBROSPINAL MENINGITIS.

To the Editor of the Medical Record:

Sir—Having had experience with two epidemics of cerebrospinal meningitis, one in the southern part of this State in the early sixties, the other in this city a few years later, I am prompted to refer to the benefits of general bloodletting. At first I adopted mild antiphlogistic treatment, general and local. Results were not entirely satisfactory. It then occurred to me that thickening of the membrane within the unyielding bony canal and consequent pressure must of necessity cause some, at least, of the symptoms presented, and that the most rational treatment would be to relieve the pressure by venesection. I accordingly bled my next patient, resulting in marked improvement. But the symptoms soon recurred. I then bled to the extent of producing syncope. The patient made a rapid and uneventful recovery. Afterward I bled to syncope at first, and repeated as often as the symptoms, especially the opisthotonos, returned. I have thus repeated the venesections three or four times, by reopening the same orifice, in much less than so many days.

I am aware that in the light of prevailing atmospherical conditions this letter may have a sanguinary tinge, but patients so treated almost invariably recovered, and without sequences. A. G. Field, M. D.

Des Moines, Iowa.

OUR LONDON LETTER.

(From Our Special Correspondent.)

DIABETES MELLITUS—DISSEMINATION OF MAMMARY CANCER—PERIODICITY IN JOINT AFFECTIONS—PREHISTORIC VESICAL CALCULI—TO PARIS—HOSPITAL APPEALS—OBITUARY.

London, April 28, 1905.

The Goulstonian lectures at the College of Physicians were this year delivered by Dr. Cecil Bosanquet, who devoted these to some considerations on Diabetes Mellitus. The nature of the disease as opposed to mere glycosuria he attributed to internal formation of sugar from the tissues of the body, the liver having nothing to do with this condition, though possibly aggravating symptoms by temporary increase of sugar existing in the blood and passing thence into the urine. The reasons for attributing diabetes to defect of the pancreas and its possible interaction with other organs, were then considered at length. As to the source of the sugar, Dr. Bosanquet suggests that a number of indications point to the disintegration of fat, from which the two substances most characteristic of the disease might be derived—the acetone bodies from the fatty acid, the sugar from the glycerin radicle. The hypothesis is certainly speculative, but seems deserving of consideration. No one doubts that the pancreas has something to do with diabetes; indeed, it is probable that in all cases there is disease of that organ—the islands of Langerhans being the exact seat of the lesion. We may suppose that the pancreas can supply a substance necessary for the assimilation of sugar by the cells of the body, but there is no evidence in support of such a supposition. It seems more likely that it could counteract some poison which causes accumulation of sugar in the blood. The results of experiments with suprarenal extract and phloridzin and compatible with this conjecture. If Dr. Bosanquet's views prove correct, the earliest stage of diabetes would be a predisposing cause of glycosuria, rather than its actual cause; for at first the breaking up of tissue cells might not more than meet the sugar-assimilating power of the system. But then a slight increase of saccharine food might produce glycosuria. So a slight nervous shock might liberate enough glycogen from the liver to augment the sugar in the blood to the same degree. So we may possibly come to define diabetes as an increased internal dissociation of tissue (possibly fat) into sugar, caused by a toxin produced in normal metabolism and normally neutralized by the pancreas.

Professor Sampson Handley, in his Hunterian lectures on the "Dissemination of Mammary Cancer," brought out a point of great importance from a surgical aspect. He points out that the lower and inner margin of the breast overlies the sixth costal cartilage and is only about an inch from the interspace between the ensiform and the seventh cartilage. Thus as soon as parietal permeation has extended an inch beyond the edge of the breast the cancerous lymphatics of the deep fascia are separated from the subserous (subperitoneal or sub-pleural) fat by no more than a single layer of fibrous tissue traversed by lymphatic channels. At the tip of the ensiform cartilage the transversalis fascia is hardly recognizable as a distinct layer, and the parietal lymphatic plexus is separated from the subperitoneal fat simply by the linea alba. Through this weak spot cancer may reach the peritoneum before it can the well protected pleura. The natural conclusion from this is to extend operations beyond removal of the breast and axillary glands by removing also as wide an area as possible of the deep fascia. To prevent "epigastric invasion," the usual incision should be prolonged downward over the linea alba for about two inches, the flaps undermined, and the fascia excised as far down as a horizontal line running two inches below the ensiform cartilage, or even lower if the growth is in the inferior part of the breast. Prof. Handley has not found this step increases shock. Excision of overlying skin and underlying muscle must be free, but need not extend over so wide an area as excision of fascia, as extension to skin and muscle is a secondary process. The professor thinks the extension of the operation he now advocates will bring about a further reduction in mortality. In this he is supported by the fact that local and intrathoracic recurrences are more rare since the modern adoption of wider operations. These seem to afford the chest a maximum of protection, but abdominal recurrence is not so well prevented, and Prof. Handley is convinced that a recognition of the danger of epigastric invasion and the adoption of the operation he suggests to prevent it will bring about an appreciable reduction in the mortality of mammary cancer.

Periodicity is rather an attractive phenomenon for study, as the cases in which it is most marked are various and its appearance in some of them contradictory of the explanations that have been offered. Malaria, of course, suggests itself when any case assumes a distinctly periodical character, but is to be regarded as an unsatisfactory explanation unless the parasite is detected. Mr. Howard Marsh related a case of joint disease to the Clinical Society which in default of other explanation he termed malarial. A man of 38, with a history of both syphilitic and malarial infection, was attacked with severe pain in the knee without swelling or loss of movement except in the attacks, which came on every evening, subsiding gradually. During the swelling the knee measured 1½ inches more than its fellow, the shape being globular. No fluid seemed present in the joint, and the swelling was attributed to vascular turgescence of the synovial membrane. The blood was examined by Major Ronald Ross, but no parasites were found. The patient recovered under quinine. Six months later he had a patch of swelling over the internal malleolus, with hyperesthesia of the skin over it. This also was relieved by quinine.

Sir P. Manson could see no reason for ascribing the disease to malaria. The periodicity was quotidian, which is common to various conditions as to all septic fevers. Evening exacerbations are common in syphilis, but rare in malaria, in which the typical feature is the occurrence before mid-day. There was no affection of the spleen or fever. The blood examination was after the quinine, so of less value than if previously.

Lieutenant-Colonel Mulroney had seen many cases of malaria complicated with syphilis temporarily relieved by quinine, but to cure, iodide must be given as well.

Mr. Marsh then gave an account of three cases of intermittent hydrops of joints. In all three, effusion returned periodically; in two every fourteen days, in the other every twelve. The local condition was merely increase of synovial fluid. In the intervals the joints were normal. The cases resembled those described by Drs. Brackett and Cotton in 1901 in the *Boston Medical and Surgical Journal.* The intervals in those cases varied from three or four to thirty days, the most common being fourteen. In several instances attacks continued three, four, or more years. The pathology was unknown. Possibly a vasomotor disturbance was concerned. Arsenic was the only drug that had been thought of use, as some cases improved under it, but then spontaneous recovery was common enough, leaving the treatment doubtful. These cases might lead to error by suggesting a loose cartilage or synovial fringe, for which a useless operation might be undertaken.

Mr. Wallace thought such cases microbic, and suggested cultures from the fluid; but as to this Dr. Poynton pointed out that in joint affections microorganisms were commonly confined to the subendothelial layer and seldom found in the fluid. He suggested that the cases were rather of the nature of edema or urticaria. Subcutaneous injections of sera had been known to produce synovial effusion.

Dr. Forbes-Ross looked upon serous effusion as due to want of coagulability of blood, as in malaria or after taking mercury. Mr. Marsh replied that the cases did not seem infective, as there was no structural change. Dr. A. E. Garrod had told him he had seen such cases follow gonorrheal rheumatism.

Professor Elliot Smith presented to the Hunterian Museum a calculus which he found in the prehistoric cemetery at El Amrah, in Upper Egypt, and this interesting object was shown at the Pathological Society on the 4th inst. It was found between the innominate bones considered as those of a boy of about 16. It consists of uric acid encrusted with phosphates. The usual yellow crystals in columns are seen on section, and the usual matrix is also present, but there is no oxalate of lime. Neither is there any indication of bilharziosis, which, so far as this shows, may not have been prevalent at that early period. Prof. Elliot Smith estimates the age of this calculus as at least 7,000 years. Mr. Shattock, who showed the calculus, said he had had the opportunity of examining another from a tomb of the second dynasty in a cavity in which were the coccidia of a mould, so natural in appearance that attempts were made to cultivate them, but without result. It was found by Dr. Reisner for the California University's expedition.

The approaching visit of medical men to Paris promises to be a success, and is looked forward to with anticipations of pleasure and instruction. Arrangements are completed for visits to some of the French spas, where entertainments are promised to those who make the excursions.

The treasurer of Guy's Hospital acknowledges a donation of £5,000 from a friend as a thankoffering and an encouragement to others. The committee of the Ophthalmic Hospital has received £5,324 in response to its appeal for £50,000 as its centenary fund. It is promised that this fund shall be invested to meet the demand of £1,200 a year for ground rate, and, secondly, towards the heavy rates. The committee, perhaps, by this time may be realizing the folly of having sacrificed its property in Moorfield for the costly building incumbered with such a ground rent. The appeal for St. Bartholomew's Hospital is being advertised in a way which elicits protests in various directions. Old Bart's men are indignant to see their hospital issuing advertisements which in the case of small institutions would be pronounced disgraceful.

Dr. Thomas Trollope died on Good Friday, aged 75. He was senior physician to the St. Leonard and Sussex Hospital, which he had served for about forty years. He was a Cambridge graduate, B.A. ,and M.D.

Sir John Sibbad, M.D., F.R.S.E., late commissioner in lunacy for Scotland, died on the 20th inst., aged 72. He was formerly joint editor of *The Journal of Mental Science*, to which he contributed various papers.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

AN ALLEGED PROTOZOAN PARASITE IN SYPHILIS—CEREBROSPINAL MENINGITIS—POISONING BY A SULPHURETTED HYDROGEN PREPARATION—HOSPITAL FOR THE TREATMENT OF VENEREAL DISEASES.

Berlin, April 5, 1905.

John Siegel recently read a paper before the Reichsgesundheitsampt. in which he discussed his researches in regard to syphilis. The work of Ross on the plasmodium of malaria suggested to Siegel the idea of studying the acute exanthemata by zoological methods. After spending several years at this work under the direction of our well-known zoologist, F. E. Schultze, he found in smallpox, scarlet fever, and syphilis, parasites which probably all belonged to the same class of protozoa. In the early stage the microorganism is motile. It is 1 μ long, and has a movable flagellum and two nuclei, surrounded by very bright protoplasm. It takes the blue stain readily. At a later stage the nuclei subdivide, while the protoplasm grows. The two neighboring nuclei unite to form a new protozoan. The mother cell produces a great many of these. In smallpox, the parasite always lies in the protoplasm of the epithelial cells. In syphilis, the protozoa are found in the connective tissue of the vessels. Siegel claims to have infected small animals, such as rabbits, with this disease, by injecting the iris with the liquid taken from condylomata of syphilitic men and with the blood of rabbits which have previously been infected. Siegel believes these microorganisms to be protozoa because the two nuclei and the movable flagellum occur also in other flagellates; the very bright protoplasm resembles that of the trypanosomata; they are not bacteria on account of the nuclei which color so readily; examination by ultra-violet light indicates that the nuclei are composed of chromatin. The objection may be raised that these bodies cannot be protozoa because they do not die in glycerin and water. But the resistance of protozoa to different chemicals is proved by the fact that the plasmodium malariæ is not destroyed in the stomach and intestines of the anopheles and by the fact that *Hæmogregarina stepanovii* lives for a long time in the intensely acid gastric liquid of the leech, without restriction of later growth.

Recently, the ophthalmologist Schultz has published his researches, which were undertaken in accordance with Siegel's method. After opening the anterior chamber of the eye, the iris is scratched and rubbed with an emulsion consisting of bits of the primary sore in equal parts of water and glycerin. In this way Schultz has operated upon fourteen rabbits. Four others were infected with the kidney tissue of rabbits whose iris had been previously infected in the manner just described. And one rabbit was infected with the blood of a man recently infected with syphilis. In most of the cases, the blood, kidneys, and spleen of the rabbits, after they were killed, were examined, and in every case was found the *Cytorrhyctes luis*. The eyes were hardened in absolute alcohol and the anterior part of the bulb was imbedded in paraffin. Sections 5 μ in thickness were made because the organism cannot be seen in thicker sections. The organism appears in greater numbers when the emulsion is a very fresh one. When the emulsion is older, only a few organisms are found, and then after long searching. The best method of staining is the following: First, hematoxylin is used for a few minutes, according to the thickness of the specimen; this is followed by acid alcohol, which decolorizes, after which the specimen is washed in distilled water and is then colored with azure II, 1: 1,000, for from two to five hours. The specimen is then quickly dipped into alcohol, 93 per cent., and xylol, and mounted in Canada balsam. The azure solution should be boiled every time it is used, and then filtered through two layers of filter paper.

All Germany is alarmed on account of the presence of epidemic meningitis. This disease, which for nine years was nearly extinct, has now spread over all Germany. It has found the greatest number of victims, however, in Silesia. There are now in Berlin three cases. The government has sent a health officer to Silesia to study the disease.

Stadelmann read a very interesting paper before the Berlin Medical Society recently. He showed a preparation which he had made by introducing sulphuretted hydrogen into caustic lime, which is used as a depilatory. A girl eighteen years old swallowed this powder. She was admitted to the hospital. There were cyanosis, small pulse, clonic spasms, vomiting, and unconsciousness. The tongue and pharynx were covered with ulcerations; the urine contained casts, albumin, and blood. After her recovery, which took place gradually, the patient said that she had taken only one spoonful of the powder. Sulphuretted hydrogen developed in the stomach. The substance affects chiefly the nervous system. Treatment consisted in washing out the stomach, and in the administration of laxatives and restoratives.

The hospital for the treatment of venereal diseases, so long needed in Berlin, is now about to be built. Up to this time there has been no special hospital for these diseases. The Urban Hospital was the first which had a department for such troubles. The new institution is to be built in a very short time in Rummelsburg, a suburb of Berlin.

Landerer, who died about six months ago, has been succeeded by Kausch, formerly assistant to Miculicz in Breslau.

The Treatment of Intestinal Paresis.—Dahlgren says that in cases of general peritonitis in which eventration is necessary he has found the following procedure very useful. The middle portion of the intestine is brought over to the left side and an incision from 1 to 1 1-2 cm. long is made into it, the edges of the cut being kept open by artery clamps. Beginning on either side of this the intestinal contents are "milked" out either with the finger or by means of a special double roller of the author's invention. The process is continued until the volume of the intestines has been reduced sufficiently to permit of their easy return to the abdominal cavity. By this manipulation the danger of postoperative atony is much reduced and the patient's condition is also greatly improved by having a large quantity of noxious material removed from the system. Dahlgren also commends milligram doses of atropine given hypodermically for postoperative atony. Several cases are described in which the paretic condition of the gut was relieved by this treatment and even though from five to seven milligrams of the drug were administered in the course of from twelve to fifteen hours no symptoms of poisoning were produced.—*Zentralblatt für Chirurgie*.

Progress of Medical Science.

Boston Medical and Surgical Journal, May 11, 1905.

Some Suggestions in Regard to the Diagnosis of Seminal Vesiculitis.—Hugh Cabot tabulates the urinalysis findings in nineteen cases. The common signs of seminal vesiculitis are distention of the vesicle, its thickening or stiffening, and tenderness of the structure and of surrounding tissues. The most reliable evidence is based on the results of examination of the vesicle contents. In order to show that a purulent exudate exists within it, we must eliminate as far as possible the admixture of pus and bacteria from the urethra and prostate. The technique adopted to secure the uncontaminated vesicle product is thus described: Patients are instructed to come with a full bladder, and this is first emptied, in order to obtain a general idea of the amount of pus in the urethra. The urethra is then irrigated with boric acid solution and 4 or 5 oz. allowed to run back into the bladder, which is then emptied. In this way the urethra is rendered as clean as possible. The bladder is then again distended with boric acid or salt solution and the prostate massaged, leaving the region of the vesicle undisturbed. A varying amount of prostatic fluid can be expressed so as to flow from the meatus, but this is not to be regarded as the whole expressed contents, as a certain amount will flow back into the bladder, depending, probably, upon the condition of the posterior urethra. If now the patient empties his bladder, as much has been done as possible to eliminate contamination from neighboring organs. The bladder is then a third time distended and the vesicles massaged, expressing the contents as thoroughly as possible. By this massage a variable amount of vesicular contents is expressed so as to come out at the meatus, but in many cases the major portion of it runs back into the bladder and is passed when that viscus is emptied.

New York Medical Journal, May 13, 1905.

A Case of Digitalis Poisoning With Very Low Temperature Without Collapse: Recovery.—W. N. Johnson reports the case of a woman of sixty-five years with myocardial degeneration who took an undetermined amount of digitalis tincture, repeating the amount two hours later. A few minutes after the second dose she had a rather violent attack of vomiting and diarrhea, with severe pain in the epigastrium, radiating to the back. The vomiting and diarrhea did not occur. Pulse was 54 and respiration 94 degrees F. The latter continued for some hours, but there were no other symptoms of collapse—no air hunger, sweating or weak, thready pulse. The face was pallid, but the pulse was slow and regular. Under ammonia and whiskey stimulants, with extreme heat, recovery was prompt.

The Skiagraph of the Future.—According to J. Rudis-Jicinsky, the desideratum in skiagraphic work is the operation of the diffused rays throughout the mass of tissue interposed between the tube and the sensitive plate. The usual forms of apparatus, as the lead box, calcium lungstate, screens, etc., are clumsy or imperfect in intensification. The author has devised a "protector" which is a combination of a protective screen and shield, mask, and a lead box, with diaphrams and a metal cylinder and specula for precluding the diffused *x*-rays. The device may be used with great advantage in therapeutic work, in diagnosis, in fluroscopic examination, and skiagraphy, giving most excellent results not obtainable without it. During the whole exposure of a patient one may observe the tube in action anteriorly and posteriorly, without disturbing the patient. In this way not only is the patient protected in prolonged exposures, but the operator also is protected during such operations and for the future from medicolegal complications, because there is no burn possible.

Some of the Principles of Manual Therapy; Its Application by the Physicians.—J. P. Arnold calls attention to the neglect of manual therapy in medical practice. As an illustration of its value and ease of application he notes the fact that light continued pressure over the occipital nerves produces a peculiar quieting effect on patients, and they are inclined to sleep. Similarly it is found that pressure along the spinal column and in certain regions of the neck produces distinct changes in the circulation of the central nervous system. In the same way it may be shown, according to the author, that for many of the common affections there is a substratum of disordered circulation, and that the condition may be greatly ameliorated by pressure on the proper spinal segment. The author declares that brief pressure along the spine arouses the reflex constructor nerves and brings about a certain amount of contraction in the blood vessels of the skin and muscles of the back in the region treated. It also undoubtedly produces at the same time a certain amount of dilatation of the vessels in the cord. On the other hand, continuous pressure along the spine arouses the reflex dilators and brings about a certain amount of dilatation of the blood vessels of the skin and muscles of the back and a corresponding contraction of the blood vessels in the cord. Arnold makes a plea for the examination of the backs of patients. Many of the latter come complaining of some minor trouble, such as indigestion, constipation, etc., and if we examine the back in such cases we shall find some fundamental disturbance of the nervous mechanism controlling the part of the organism affected.

Medical News, May 13, 1905.

Treatment of Fulminating Appendicitis.—The paper of J. M. Inge is in general a plea for the more general adoption of the Ochsner treatment with the added recommendation of drainage by a small stab wound through abdominal muscles, transversalis fascia, and peritoneum to the mass of adhesions. If pus escapes we should use only a narrow strip of rubber tissue; if no pus, only serum, a small, loosely rolled gauze-wick surrounded by rubber tissue and not larger than a pencil. Whether pus or only serum escapes in small quantity at first, the capillarity is such that the flow of the infected material will certainly and promptly start in the direction of the drain and escape externally Tissue pressure will force it along the line of least resistance, more especially so in cases of appendicitis where the muscles contract and are constantly rigid, much more so than in cases of salpingitis and ovaritis and other intra-abdominal inflammations; such drains will draw quarts of fluids from the abdominal cavity by capillarity.

American Medicine, May 13, 1905.

Surgical Intervention in Cases of General Peritonitis from Typhoid Fever and Acute Gonococcus Infection.—Joseph Price states that typhoid and other perforations are always followed by peritonitis, local or general. The possibility of its remaining local or circumscribed by adhesions should not be considered if the diagnosis of perforation has been made. The characteristic symptoms of typhoid perforation are sharp, sudden abdominal pains, collapse, nausea and vomiting in a good percentage of the cases, falling temperature early, followed by a rise in the temperature. Perforation and hemorrhage are the two accidents in such a case that are commonly anticipated. In more than 75 per cent. of the cases recorded, general septic peritonitis has been found with escaping bowel contents, gas and feces, foul pus, and free exudate in considerable quantity. The perforations are quickly and easily found near the ileocecal valve; rarely multiple or ragged. Whether of large or small caliber, fine pure silk is the safest material; the lumen of the bowel can be safely reduced one-half. The interrupted suture gives the best result and less risk of strangulation. If the margins of the ulcer are ragged they should be trimmed. A resection is an unjustifiable and dangerous procedure; simply anchor the ragged ulcer and disorganized bowel with catgut sutures on the opening between drains, forming an artificial anus or fecal fistula, which is a much safer procedure and is commonly followed by spontaneous closure. If this result does not follow, the fistula can be easily remedied after convalescence. The irrigation or wash toilet, so long practiced, has unquestionably given the best results. It should be a thorough cleansing with sterilized water—the entire surface, both the visceral and parietal peritoneum. Dr. Price believes irrigation with hot normal salt solution is harmful by irritation. Curetting or wiping dirty points with gauze is followed by good results. The gauze pack, so commonly and recklessly used, is a dangerous procedure favoring too many acute and chronic obstructions by pressure. Unless the operator understands how to place gauze drains or cofferdams in and about filthy surfaces, he would better fill the peritoneal cavity with hot salt solution and close.

Gallstone Obstruction of the Bowels.—Alfred C. Wood reports the case of a woman aged 58, operated upon for intestinal obstruction. The obstruction was found to be due to a gallstone in the ileum, six inches above the valve. The stone was removed through an incision. It weighed 11.6 gms., and measured 9.3 cm. by 8 cm. in circumference. A second stone, weighing 9 gms., was removed from the gallbladder through an incision over the latter. The patient recovered. Brief notes of 21 additional cases, collected from the literature of the past five years, are appended. Of these 22 cases, 12 patients recovered, and 10 died, mortality 47 per cent. But two of the number were men. The ages ranged from 31 to 73. The average of the women was 59.85 years. One-half of all the cases occurred in the sixth decade. The site of the obstruction was: Duodenum, 1; duodenojejunal junction, 1; jejunum, 2; "small intestine" (probably ileum), 1; ileum, 11 (probably 15); ileocecal valve, 1 colon, 1; not stated (probably ileum), 3. In one case the stone was in a mass of adhesions in the gallbladder region and caused obstruction by setting up a local peritonitis.

The Alleged Destruction of Red Blood Corpuscles in the Spleen.—Edward T. Williams gives a translation of Kölliker's utterances on this subject, taken from his work on

"Microscopical Anatomy." Kölliker thinks that red blood corpuscles are not a natural element of the spleen, but result from hemorrhagic effusion. They then pass into dissolution. This occurs through the formation of large blood-corpuscle-holding cells, by the spontaneous development of an investing membrane round a clump of corpuscles and of a nucleus in the interior. The corpuscles immediately break up into pigment granules and soon disappear altogether. This is seen in almost all animals. The arguments pro and con are stated at length, and the author confesses that he was often tempted to abandon the theory and go over to the opposite view of Hewson, but always came back to his original opinion. In commenting on this theory, Williams declares that the idea of a perpetual splenic apoplexy affecting all animals throughout life without the slightest effect on their health is inconceivable. Moreover, the alleged effusion never clots, never distends the organ, never displaces the tissue fibers, and never excites inflammation. Kölliker failed to state his method of examination. He used no fixatives, and tacitly admitted that he examined some specimens in water. He used pathological and probably partly decomposed spleens. Scherer, as quoted by Kölliker, found putrefactive products in spleens, which could not have occurred had he used fresh specimens. Williams found dissolving blood corpuscles in specimens treated with water, salt solution, artificial serum, and to some extent in preparations fixed by heat and stained with watery solutions of the aniline dyes. Since he had used only fresh spleens fixed with sublimate-salt and stained with hematoxylin-casein he found none at all. Hence he was forced to conclude that Kölliker's theory was a chimera. Kölliker was a great anatomist, but not a great thinker. He is believed to have been mistaken in the present case.

Journal of the American Medical Association, May 13, 1905.

The Therapeutic Use of the X-Ray.—W. A. Pusey gives the results of his later experience with the *x*-ray. In some disorders, such as hypertrichosis and lupus erythematosus, the results have not equaled expectations; in some others, such as tubercular glands and joints and deep sinuses, the results have been variable, though with some marked successes. The value of the *x*-rays has been most markedly demonstrated in sycosis, tinea, acne, rosacea, lupus vulgaris, blastomycosis, cutaneous carcinomata and senile keratosis. The value of the *x*-ray has also been shown in hyperidrosis, inflammatory dermatoses, pruritus, nevi, keloid, sarcoma and as a prophylactic after operation for malignant disease. In some other conditions, abdominal tuberculosis, actinomycosis, mixed tumors of the parotid, there has been apparent benefit from the *x*-rays, but Pusey does not feel inclined, from his experience, to make and very positive generalizations. In the deeper situated cancers, as might be expected, the treatment is less hopeful, though palliation may be hoped for and some surprisingly good results are reported. In conclusion, Dr. Pusey gives his latest experience with pseudoleukemia, leukemia and goiter. In the former he has repeatedly seen clearing up of the glands, but in the only case he has been able to follow up there have been repeated recurrences. In true leukemia he has seen like good effects as regards disappearance of the enlarged glands, but generally without any corresponding improvement in the condition of the blood. One remarkably successful apparent cure is reported, the blood examination revealing normal conditions and the patient apparently well. In some small parenchymatous goiters he has seen reduction in size of the tumor, but in most of his cases no benefit was observed.

A Curative Serum for Typhoid.—W. R. Stokes and J. S. Fulton report the result of their experiments in the production of a curative serum for typhoid. Their experiments were made on guinea pigs and on rabbits with polyvalent serums derived from hogs. These serums were tested for agglutinative power, minimum fatal dose, protective influence and power of destroying the typhoid bacillus, either alone or mixed with other serums. Hemolytic experiments were also performed. The serum was tested clinically in twenty-three cases, two of which resulted fatally; it seemed to contribute to the favorable result in fifteen of the cases in which recovery took place. The clinical observations and the laboratory experiments alike indicated that the immune hog serum is not hemolytic for human blood. Stokes and Fulton conclude that by the use of this serum the febrile period may be shortened and the daily variation may be favorably modified.

Diagnosis and Treatment of Abdominal Pain.—J. B. Deaver insists on the importance of most careful study of every detail in cases with abdominal pain. The abdominal surgeon must, of all things, shun superficial methods in diagnosis, while at the same time delay in diagnosis must also be studiously avoided. Too early resort to exploratory operation after insufficient examination is also condemned, as is also too frequent palliative use of opium. The character of the pain, the patient's history, especially as to prior attacks, etc., the age and sex and occupation must all be considered. The location of the pain, especially in relation to nervous distribution, must be studied and the possibilities of referred pain from disorder in distant organs be kept in mind. Another matter of importance in abdominal pain is its diffuse or localized character, whether it is at first diffuse and later becomes local, or vice versa. Illustrations of all these points are given by Deaver. The differential diagnosis is of special importance in abdominal pain, and he here gives the list of the conditions that are most necessary to be distinguished from each other, among them the abdominal referred pain from thoracic disease, perforation, uremia, hernia, colic, calculi, movable kidney, the visceral crises of nervous disorders and of arteriosclerosis, ectopic pregnancy, etc., as well as appendicitis. One who closely studies his cases, even if an error is made, will be less to blame than one who jumps to a conclusion or who confessedly makes habitual resort to an operation to discover his patient's ailment. In considering treatment the cause of the pain must first of all be kept in mind. To remove the cause surgery is not always the only recourse. Dr. Deaver is strongly opposed to the use of opium in abdominal pain, only in exceptional cases just before operating for appendicitis and in far advanced cases of malignant disease does he consider it advisable. While other means than surgery, such as rest, position, attention to the condition of the digestive tract, regulation of diet, etc., will suffice in many cases, there are still the severer conditions requiring operation, and here the diagnostic ability of the surgeon comes into play. The reason why the surgeon is called on oftener to operate than to assist in the diagnosis is, Deaver says, his own fault and the result of the fallacious teaching of exploratory incision. Diagnosis should be the forerunner of operation; without a diagnosis operation should only very exceptionally be done. The importance of prompt diagnosis and operation is insisted on, and in some cases, such as probable perforation or abdominal hemorrhage, it may even be advisable before a certain diagnosis is made. Dr. Deaver is not a believer in last-resort operations, and even in chronic cases operation should not be left too long untried.

The Lancet, May 6, 1905.

General Septic Peritonitis in Typhoid Fever Without Evidence of Perforation of the Bowel.—C. G. Watson reports the case of a boy of nine years who on the tenth day of typhoid developed the general features characteristic of septic peritonitis. Abdominal incision was made and the abdomen cleaned out, the operation lasting only twenty minutes. Death came seven hours later. Autopsy revealed no perforation of the bowel and that none had taken place in the case seems probable on account of (1) the absence of free gas or intestinal extravasation; (2) the nature of the pus (and the probable absence of bacillus coli); and (3) the condition of the ulcers and the peritoneal coat. It seems not unlikely that this was a case of pure typhoid peritonitis, and had it been seen earlier might have been treated successfully.

Tetanus and Chloral Hydrate.—J. Maberly reports one case which is of interest in that chloral hydrate was the only drug used. His patient, who was a young man of twenty-one years, recovered after an illness of ten days. The case records show that sixty grains of chloral were given every four hours until two hundred and forty grains had been absorbed within eleven hours and that without any depressing effect on either pulse or temperature. The author regards this remedy and the poison of tetanus as directly antidotal. He suggests the advisability of commencing the treatment of an adult case of tetanus by doses of about thirty or forty grains of chloral hydrate and steadily increasing this to a drachm or more until the desired effect was produced, repeating the dose when the spasms recurred, and gradually reducing the quantity as the spasms became less violent in character. In this particular instance twenty grain doses had not the least effect, but sixty grains completely controlled the symptoms. It was possibly a favorable case for treatment, but it at any rate demonstrated the fact that chloral hydrate is a very antitetanic remedy and one well worth further investigation on the lines suggested.

Observations Upon the Blood.—Attention is called by C. W. Cunnington to the significance in blood examinations of granularity of the eosinophile cell. These granules are probably antitoxic or bactericidal in nature and are discharged into the blood at the onset of an infection and after the toxins have been neutralized the blood becomes richer in antibodies. The manner in which the granules steadily increase in number during convalescence strongly suggests the mode of action of a gland cell and its method of secretion. The author enters a protest against the present reliance on the leucocyte counts as an evidence of pus and says that a constipation lasting three or four days will send the count up to the pus level. "Woe betide you," says he, "if you enter an up-to-date surgical ward with a loaded cecum." Of course, a distinct value attaches to a series of counts, but a single count is extremely fallacious. He summarizes by saying that when this cell is present to the extent of 1 per cent. or more it is almost certain that there is no active suppuration taking place. This cell may be quite absent although there is no abscess. In some cases of abscess there is no leucocytosis, but in these cases the eosinophile cell is always greatly diminished in percentage and is generally absent. Cases of chronic pyosalpinx frequently show no leucocytosis, yet the eosinophile percentage is very small, thus differing from cases of ovarian tumors. It is often asked, Why do some cases of suppuration give a leucocytosis and others not? Briefly the answer is that when toxins are being absorbed under pressure there is a high leucocytosis; when the fibrous wall of the abscess is so dense that very little absorption of toxins is taking place there is little or no leucocytosis; when pus is draining freely away the same absence of leucocytosis is found. But in both of these two conditions (conditions of suppuration without leucocytosis) the eosinophile cell is greatly diminished or absent. Hence the importance of paying attention to the *differential* as well as the *simple* blood count.

British Medical Journal, April 29 and May 6, 1905.

Remarks on the Etiology of Carcinoma.—George T. Beatson again advocates the "germinal theory" of cancer. He calls attention to the fact that under oöphorectomy, mammary carcinomatous tissue is very much influenced and may even disappear. The change consists in the great increase in the stroma of the growth, and a marked disappearance and fatty degeneration of the epithelial cells. If this theory is correct, he believes that there ought to be found nuclear protrusions (polar bodies) and fewer chromasomes in the so-called germinal cells. These phenomena have been proved by Farmer, Moore and Walker. The characteristic feature of cancerous tissue is the disorderly distribution of its large, irregular and polymorphic cells. The carcinomatous cell is unirritating in character. Constitutionally, the cancer cell gives no sign, and this is the cause why so many malignant growths run a long course before they are observed. As has been mentioned, there exist in malignant growths special cells characterized by a reduced number of chromasomes which have their type in the reproductive cells of the body. The writer thinks that from this it would almost seem that through some functional inactivity or disease in the testes or ovaries, the part affected by the carcinoma is doing their work vicariously, or helping them in an excess of work thrown upon them. He further suggests that it is possible that the body tissues elaborate the procreative fluid. In this case, the possibility of this interchange, and the necessity for assistance in their work, is not unlikely. The writer believes that the "germinal theory" harmonizes best with the facts and course of the disease as observed clinically, and explains many obscure points. It assumes the existence of a general tissue secretion. With such a procreative fluid in the body, if the testes or ovaries through functional decay or disease are unable to deal with it, it is possible that tissues or organs that have retrograded physiologically may take upon themselves the function of secreting it. The writer holds that the masses of the tumor cells do not constitute a tissue at all, but are thrown off by altered somatic cells in the elaboration of the special secretion. If this is true, then in carcinoma, we have a tissue secretion to deal with, in relation to which the fat probably acts like a middleman. If this theory is true, the therapeutic outlook should not be too pessimistic.

Cinnamic Salts in the Treatment of Cancer.—Lovell Drage in his discussion of this drug states that he gives it by the subcutaneous injection of a 10 per cent. solution of sodium cinnamate in a dose of 30 mimims, administered once or twice a week. According to his observation, a leucocytosis is caused, and the writer declares that if it is possible to make artificially a large increase in the most organized cells, it is probable that such an alteration will be made in the environments of cells which have reverted to the genetic type that an arrest in the reversion is possible and probable. Among the cases treated by this method have been two of cancer in the region of the pharynx and larynx. There was relief from pain and distressing symptoms in both. The discharges, also, were free from fetor which is so common in these cases. In a case of lymphatic recurrence, the gland rapidly disappeared after treatment, and the patient remains well two years at least after operation. In a case of breast tumor, the tumor disappeared altogether. Several cases of cancer of the bowel which have been treated, have improved strikingly. The writer believes that this drug inhibits the activity of the organisms which are connected with putrefactive changes. He has seen no patient die from sepsis when this method has been used. As far as he has observed, patients die from simple exhaustion. Early diagnosis is of the greatest importance.

An Investigation on the Regeneration of Nerves, with a View to the Surgical Treatment of Certain Paralyses.—Basil Kilvington gives the following summary of his paper: It is possible to functionate two opposing groups of muscles by a single nerve, which previously supplied one group only, or in other words, it is possible to innervate fairly completely muscles with a much smaller number of motor horn cells than usually bring about this effect. When the central end of one nerve is joined to the peripheral ends of two nerves there are many more fibers in the peripheral nerves than in the central nerves, so that the nerve fibers in the proximal trunk divide on going to the distal trunks. In some cases at least some of the branches one nerve fiber go to supply one set, and others the opposing set of muscles. This may prevent very delicate movement being restored. After this form of suturing the arrangement of the nerve fasciculi in the peripheral nerves is considerably altered. The experiments on this work are incomplete, as they have not been performed on the human subject, but the writer thinks that enough has been done to justify the clinical trial of the method. It would seem that some of the distressing cases of infantile paralysis for which so little can at present be done would be likely to be improved by such treatment. It may also be applicable to certain cases of injuries with loss of some of the length of nerves, tumors of nerves, and so on.

A Note on Mouth-Breathing as a Common Antecedent to Phthisis.—W. C. Rivers has examined a number of cases of tuberculosis and has found the percentage of mouth-breathers to be 19.4. Mouth-breathing was found to be due to various causes,—nasopharyngeal conditions, deflected septum, habit and uncertain causes, and projecting teeth. As a measure of general hygiene among the healthy, frequent change and speedy disinfection of handkerchiefs is advisable. Robust people who succumbed to tuberculosis did so more often at a later age, and under the influence of continued dust inhalation, than did the obviously weakly. This series was unselected, and it is worthy of notice that one-fifth were mouth-breathers.

Influenza.—T. Clifford Allbutt in speaking of the age of influenza, states that we know of it pretty definitely from the twelfth century onwards. And in perhaps every century since that time there has been a somewhat virulent outbreak. The epidemic of 1540 was very fatal. Since the epidemics in the thirties and forties of the last century, there have been epidemics mild in degree, excepting the one dating from 1889-90, which was much severer than the one in the forties. The disease seems to be endemic in Northern Central Asia, and from there it starts on occasional raids. The writer believes that the contagion, whatever it is, may be carried in clothes,—upon things as well as in human beings. This is probably true for a few days only. The writer has never seen a case without respiratory affection prove infectious. He believes that the disease is propagated in the sputum and spray from the respiratory tract. As to the bacteriology, there is no doubt as to the specific character of the Pfeiffer bacillus, and about the means of isolating, identifying, and cultivating it. But we are absolutely ignorant of its habits, whence it comes, where it is generated, and how it usually survives. The writer does not think that young children are very susceptible. Five or six months' immunization is usually conferred even on very susceptible people by an attack. As to the morbid anatomy, the writer believes that it is an inflammation of an erysipelatous type. In influenzal pneumonia the sputum is not rusty. Like phthisis, influenza may excavate the lungs. The heart is in more peril that it is in many other infectious fevers. Influenza attacks its victims with extreme suddenness. It is noted also that in convalescence the malaise often departs as suddenly as it came on. The temperature is not high nor prolonged. It is often below normal and may remain so for a time. Influenza is commonly divided into three types,—the respiratory, the nervous, and the gastro-intestinal. The writer adds a fourth, namely, the continuous form. For the disease keeps on in some cases with an indefinite febrile curve. Certain cases begin with violent neuralgic pains in the back and limbs, or head. Ear complications in children are a source of very grave anxiety. An interesting point in diagnosis is that the urine is not high-colored in this disease. Convalescence is extremely slow, and its duration is not in proportion to the attack. Neuritic and paralytic attacks sometimes occur. The veins are not very rarely attacked by phlebitis. Angina pectoris has been noted. In the case of a dilated heart, much nursing is necessary. These cases ultimately do well, for the intoxication is primarily rather of the nervous than of the muscular tissues. Chloroform should be avoided in these cases. One sequel not commonly mentioned is sweats which sometimes keep up for months after the attack, and are of a very profuse and trying kind. The writer concludes by emphasizing the fact that the patient should go to bed the moment that influenza is suspected, and stay there till the acute phase is well past. The diet should be one free from purin bodies, and much nitrogen, such as milk, custards, and the like, especially leaving out meat.

Preliminary Note Upon a Leucocytozoan of the Dog.—Charles A. Bentley discovered this parasite while he was examining the blood of a number of dogs. These animals were of English breed, born in Assam. They showed no marked symptoms beyond a slight anemia and some little febrile disturbance. Nucleated red blood cells were present in small numbers in the blood. In dried blood films stained by Leishman's modifications of Romanowski's stain, one or more oval nucleated bodies were seen in many of the polymorphonuclear and transitional leucocytes. These bodies had a clear outline and their contents were more refractile than the protoplasm of the leucocytes. No signs of degeneration could be found in these bodies. There were marked changes in the contour and position of the nucleus of many of the leucocytes which were harboring these parasites. Fresh films showed the parasite as a rod-like refractile body lying in the protoplasm of the leucocyte, sometimes upon and at other times to one side of the neucleus. In one case a vermicule which had been freed from its enclosing capsule was seen for some time to make a side-to-side movement of one extremity, upon which appeared a markedly refractile spot. Leishman's stain gives the best results. The parasite is from 8 to 10 microns long, by 4 Mor 5 broad, with a nucleus of from 2 to 3 microns in diameter. It has been suggested that this parasite may belong to the hemogregarines. The writer declares that if this prove to be true, it will be the first hemogregarine reported as occurring in the blood of mammalian host, and the first to be found as a parasite of the leucocytes, in contradistinction to those already known to occur as parasites of the erythrocytes of cold-blooded animals.

Berliner klinische Wochenschrift, April 24, 1905.

Modern Methods in the Diagnosis of Surgical Affections of the Kidney.—Vogel reviews the various procedures by which different authors have attempted to solve the problem of determining the condition of the healthy kidney before nephrectomy. The methods of Achard, and of Voelcker and Joseph, who used subcutaneous injections of methylene blue and indigo carmine respectively, as a measure of the renal activity to be determined by watching the ureteral openings with the cystoscope, have proved to be unreliable, as well as the conclusions based on quantitative analyses of the various urinary constituents. Even the freezing point determinations of the blood on urine, as practised by Koranyi, are not wholly dependable, though this, as well as the phloridzin method of Casper and Richter, is of great value. The next step was in the development of methods of obtaining segregated urines of the two ureters, of which the most reliable is that by separate catheterization. Nitze has recently removed some of the objections to this procedure by devising a ureteral catheter with an inflatable balloon attached to it which is introduced into the ureter together with the catheter, and then serves to block the orifice completely and prevent all leakage. In this way it is necessary to catheterize only the suspected side, and there is, therefore, no risk of infecting the healthy kidney. The author sums up the present standpoint of renal diagnosis by saying that catheterization of the ureter is the most important aid in localizing disease and testing the function of the kidney. Having obtained separate urines in this way, the determination of the urea, cryoscopy and the phloridzin test, as well as cryoscopy of the blood must be carried out. All these methods are uncertain when taken singly, and a diagnosis should never be founded on any one of them alone. Only when the results of several coincide, is it safe to draw conclusions. In some cases they may all prove unsatisfactory, but it will then often be possibly by a careful microscopical, chemical, and bacteriological study of the separate urines, as well as by thoughtful analysis of all the conditions and of the clinical picture, to arrive at a correct diagnosis.

Münchener medizinische Wochenschrift, April 15, 1905.

A Danger of the Inverted Position in Operations on the Uterus.—Lauenstein enumerates several more or less serious sequelæ which have been attributed to the so-called inverted position which has developed from the original Trendelenburg position, and he describes a complication dependent on this source which he says has not yet been mentioned. A patient on whom an easy and uncomplicated supra-vaginal hysterectomy was done for fibroids, died twenty-four hours after operation of acute peritoneal sepsis. As the patient had been suffering from a profuse vaginal discharge, it is the opinion of the author that during the removal of the uterus some of this secretion, by the force of gravity or of aspiration, made its way into the abdominal cavity and gave rise to the acute infection. In this case the vagina had been sterlized in the usual way, but as it had not been supposed that a hysterectomy would be necessary, the vagina had not been packed with gauze. The author suggests that in order to prevent the possibility of such occurrences it be made the invariable rule to dry out the vagina before operation and to pack it with gauze in order to prevent any possible leakage of secretion.

Intussusception and a New Method of Operative Treatment.—K. Israel describes two cases of intussusception in children, with recovery, after an operation carried out on a new plan. The abdomen was incised over the intestinal mass and the colon sutured to the parietal peritoneum. The colon was then opened by a longitudinal incision and the intussusception drawn out until healthy gut was reached. At this point the intestine was cut through by degrees, and the two serous layers carefully united by suture, step by step, so as to avoid all contamination of the free peritoneal cavity. The line of sutured intestine was then pushed back along the gut so as to unsheath the invagination. The artificial anus was kept open a short time, as a precautionary measure, and then closed, both patients making good recoveries. The author warmly commends this method of extraperitoneal operation as much safer than the usual plan.

Radical Operation for Leg Ulcers.—Schneiderlin says that the multiplicity of remedies suggested for this condition is sufficient evidence of the inefficiency of all of them. He has had good results with a plan which depends on the following principle for this condition: The chief cutaneous veins of the skin, as a result of the inflammatory condition become overdistended and insufficient. The blood cannot be drained off properly in consequence of the insufficiency, and the ulcer remains in a state of chronic congestion. It is possible to relieve this state of affairs, and cause the ulcer to heal, by rest and elevation of the limb, but as soon as the treatment ceases the healed ulcer breaks down again. If it were possible to change the flow of venous blood into other healthy channels the chief cause of the ulcer would be removed. This can be done by completely blocking all the cutaneous veins and forcing the return stream to follow the deep veins. The operation consists in a circular incision carried completely around the thigh in its lower third, and extending down to the muscle and fascia. All the vessels are ligated on both sides and the incision closed by suture. The ulcer itself must also receive careful treatment, preferably by wet dressings of alumium acetate, which are changed three times daily. A number of cases are cited in which even long standing and rebellious ulcers were promptly cured by this method.

Deutsche medizinische Wochenschrift, April 27, 1905.

The Application of the Röntgen Rays in Warfare.—Schjerning says that the use of the modern small caliber projectile and the development of the Röntgen ray apparatus are the two most prominent features of modern military surgery. In all of the recent wars, in which nearly all races have been engaged, the Röntgen apparatus has been found so valuable that there is no difference of opinion as to its indispensability in military surgery. Operations and manipulations requiring such assistance are carried out both in the field and in the permanent hospitals. Although the extraction of bullets is no longer as important a part of the military surgeon's duty as formerly, it still happens frequently enough that foreign bodies must be removed from wounds, and in the treatment of bone injuries of all sorts the assistance of the rays is, of course, invaluable. It is, therefore, the duty of all military surgeons to be thoroughly conversant with *x*-ray technique, and the authorities must provide proper equipment. The essentials for such an outfit are that it shall be provided with means of generating its own current, and also of being arranged to make use of any available source of electricity, no matter what its nature; that it be extremely strong and simple, and that the entire outfit be comprised in a single wagon. Such an outfit has been devised, and is described and illustrated by the author. It contains a dynamo actuated by a gasoline engine, a coil with interrupter, rheostats for converting any commercial current, suitable sets of tubes, standards, etc., electric light clusters to be used in performing operations, and everything needed for the preparation of radiographic negatives and positives. Tests as to the durability and serviceability under adverse circumstances of this outfit have shown that it is thoroughly practical and capable of answering all demands upon it.

Experiences in One Thousand Appendix Operations.—Kümmell says that the increased frequency of appendicitis in modern times is both apparent and real, being partly due to more accurate diagnosis by the profession, and the education of the public, and partly to an actually greater prevalence of the disease. Causes of the latter are the changed conditions of life, especially the greater consumption of meat, and the wider dissemination of the infectious diseases, particularly of influenza. He also considers that heredity plays a part in the production of some cases, and he cites instances in which numerous, partly non-related, members of the same household have been attacked. Of 1,000 cases treated by the author, 695 were operated in the interval, with a mortality of ½ per cent.; 49 in the acute stage, with a mortality of 6 per cent.; 178 cases with abscess formation, with a mortality of 10 per cent; and 82 cases of diffused peritonitis, with 89 per cent mortality. In regard to the indications for operation, the author says that every patient who has once had a single pronounced attack of appendicitis should have the appendix removed, if possible during the interval. Every case should be operated at once, the earlier the better. These two propositions are now pretty universally accepted, but there is still difference of opinion as to what to do with cases that are not seen until about forty-eight hours after the beginning of the attack. In general, unless immediate intervention is urgent, expectant treatment with opium, ice, etc., is advisable, cathartics being strictly avoided. Abscesses should be opened as soon as possible, but the removal of the appendix is better deferred to a secondary operation.

The Röntgen Rays in Dentistry.—Miller reproduces a number of radiographs to show the value of the *x*-rays in the diagnosis of various dental conditions. Among these are deep alvelor abscesses, or pus collections at the root tips, caries of the alveolus, thickening of the root through deposits of cementum, absorption of the roots, in the determination of the presence or absence of retained teeth, in ascertaining the position of the roots of teeth that are to be regulated, the presence of new growths of the pulpa, in the detection of fragments of needles or instruments broken in the course of operative work, or of buried roots, cysts, fractures, of the jaw, etc. All of these applications may be of the greatest utility and furnish information that is obtainable in no other way.

French and Italian Journals.

Experimental Researches in Putrid Pleurisy.—Guillemot, Hallé, and Rist have made on several occasions inoculations of pus from putrid pleurisy into the marginal vein of a rabbit's ear. They have also made inoculations into arteries. By these experiments they have proved that multiple and varied lesions, putrid and gangrenous, can be produced through the agency of the blood. Intravenous inoculation often gives rise to pulmonary infarcts. In rare instances the lesions go on to gangrenous transformation, but generally the animal dies too soon for this change. In the cases of pulmonary infarcts, obliteration of the arteries has often been noted. The vessel is then filled with a putrid mass. In other cases, the lung has many small foci of the size of a grain of wheat and of a small pea. These foci are white in color and are surrounded by a hemorrhagic zone. These lesions resemble those of embolic gangrene of the lung. Vegetative endocarditis can be produced by this same method. In all of the cases it has been possible to recover the anerobic microorganisms which have been inoculated. In one case, small, multiple abscesses of the liver were produced, a lesion very rare and difficult to obtain even with the septic microorganisms of the anerobic series. Suppurative arthritis was observed in these experiments in one or two cases.—*Revue Française de Médecine et de Chirurgie,* May 1, 1905.

Phlegmatia Alba Dolens of Ganglionic Origin.—Courtois-Suffit and Beaufumé relate the history of a patient who in the course of an attack of typhoid fever, which was not very severe, suffered from the complication of phlegmatia alba dolens. The phlegmatia occurred in the right leg during convalescence. It presented the usual classical picture, with the exception of beginning in an abnormal manner. The first indication was the development of a voluminous subinguinal adenitis. For three days, besides the slight febrile manifestation, this was the only clinical symptom of the infection. This affection was easily diagnosed, but its true significance was not recognized until after the symptoms of phlebitis appeared. In this case the adenitis was the clear index of a deep venous infection, which had affected the lymphatic system before the venous obliteration was established. No explanation of this condition is attempted, but the clinical fact remains undisputed. —*Revue Française de Médecine et de Chirurgie,* May 1, 1905.

Experimental Aortic Atheroma.—A. Pic and S. Bonnamour refer to certain experiments in which atheromatous lesions of the aorta have been caused by repeated intravenous injections of small doses of adrenalin in rabbits. In their own work, they met with absolutely negative results in the case of two rabbits, although the experiments extended over a period of three months. But the animals were young and weighed respectively, 1 kgr. 220, and 1 kgr. 300. The first essential factor in this work is that the animal experimented on shall weigh over 2 kilogrammes. The injection of the watery extract of the suprarenal body has the same effect as that of adrenalin. The adrenalin acts more surely and more rapidly when the resistance of the animal is lessened as in the case of tuberculosis or lactation. These investigators have also experimented with trinitrin, but this had no effect on the aorta.—*Bulletin de la Société de Biologie,* February 4, 1905.

Three Cases of Exophthalmic Goitre Treated With the Blood and Serum of Thyroidectomized Sheep.—P. Sainton and B. Pisanté report these three cases. The first patient was a woman 35 years of age, who had been ill for a year and a half. She had been treated with various drugs, among which were thymus extract and thyroid capsules, but with no effect. The symptoms of the disease were much accentuated in this case. There were present arhythmia of the heart, edema of the limbs and progressive weakness. A spoonful of the blood of a thyroidectomized sheep diluted with glycerine and put into coffee, was given to the patient. Improvement followed. The results of the administration of serum were still more marked. The second patient was a man 31 years of age. Improvement followed the administration of the sheep's blood. The treatment was stopped and a relapse was the result. The treatment was renewed with the same excellent results. The third patient, a woman of 51 years, was treated by injections of the blood. She had been suffering with goitre for ten years, but this treatment was rewarded by progressive improvement.—*Revue Neurologique,* December 1, 1905.

Feeding Subcutaneously.—Giuseppe Crisafulli details his experiments on animals, as well as human beings, as to the absorption of food materials when injected under the skin, and their effect on the system. He wished especially to clear up the point whether alimentary substances injected under the skin are useful, or whether they are injurious, and which of them have the greatest nutritive value. He experimented on cats, dogs, rabbits and man. He injected butter, oil, isotonic physiological serum solution, in one series; glucose, and peptone in another series; sugar and salt solution in a third and fourth. His conclusions are that none of the solutions injected had any value in maintaining life longer than in an animal which received no nourishment at all. As a result of these experiments, the author does not advise the use of food substances subcutaneously.—*Giornale della Associazione Neapolitana di Medici e Naturalisti,* No. 3-4, 1905.

Second Attack of Smallpox.—Alfonso Montefusco details the case of a baby, who had recovered from a mild attack of smallpox. Six days after its discharge from the hospital it was attacked by smallpox in a virulent form, to which it succumbed. The author had previously observed a similar case in an adult, who was treated for an undoubted attack of smallpox, and a few days after his discharge returned to the hospital for treatment for another eruption, having all the characteristics of a true smallpox. Several similar cases have been recorded in literature, for instance, that of Louis XV., who had smallpox at twenty, but died of it at 64. The author also tells of a boy of 14, vaccinated in the previous summer successfully, who had an undoubted attack of smallpox. A second attack of measles is quite common, while in scarlet fever and smallpox it is rare. An immunity is conferred by one attack of the disease, but this may not be permanent, just as the period of immunity conferred by vaccination varies much, and finally passes away. The immunity in smallpox is not always permanent. The author believes that the microorganism of smallpox remains latent in the system, in organs and tissues, and responds to a slight exciting cause, which determines a second attack.—*Giornale Internazionale delle Scienze Mediche,* April 15, 1905.

Etiology and Pathology of Hepatic Cirrhosis in Infants. —L. M. Spilverini draws our attention to the common belief that hepatic cirrhosis in infants is comparatively rare, much more so than in adults. His observation has led him to believe that such cases are much more common than is generally believed. The liver of an infant has a different physiological attitude from that of an adult, and the functional reactions in the presence of morbific agents have different characters. If the forms of hepatic cirrhosis are difficult of diagnosis during life the author thinks it desirable to publish such cases. The principal causes of the disease in infants are (1) Infective syphilis, tuberculosis, malaria, biliary infection. (2) Toxic—alcohol, dyspepsia, splenomegally. (3) Mechanical—circulatory. The most frequent variety is of syphilitic origin. The malarial form is uncommon, as is that of circulatory origin. It has been supposed that the alcoholic form was rare, on account of the tender age of the child. There is reason to believe that this is not the case, since it is found that among the poorer Italians, especially of the Roman Campagna, it is the custom to give children wine as a daily food, and they even drink it as a beverage at night when thirsty. The author describes two such cases, one of which recovered slowly when the alcohol was stopped, while the other, a baby of 18 months, died. The dyspeptic form is also rare. The chief reason of this is the resistance of the child's system to the poisons from the intestine. A third case was one of hypertrophic cirrhosis, with chronic icterus. Onother occurred in a child afflicted with a very extensive eczema, which the author believes to have been the cause of a toxo-infective cirrhosis. The liver had a smooth surface, regular border, uniform increase in size of both lobes, with a marked ascites, and no icterus.—*Rivista di Clinica Pediatrica,* April, 1905.

Book Reviews.

RÉSURRECTION DU CŒUR; LA VIE DU CŒUR ISOLÉ; LE MASSAGE DU CŒUR. Par le DR. MAURICE D'HALLUIN, Chargé des Travaux pratiques de Physiologie à la Faculté Libre de Médecine, Ancien Préparateur de Physique biologique, Externe des Hôpitaux, Lauréat de la Faculté Libre de Médecine. Avec 22 Dessins et 6 Planches hors texte. Paris: Vigot Frères; Lille: Vve. A. Masson, 1904.

IN this book the author gives us the results of his experiments and researches on the important topics mentioned in the title. He first discusses the various methods that have been employed in isolating the heart; then he passes in review the serums that have been used at different times to produce an artificial circulation. Next, the author's attempts at reanimation are detailed. His experiments were conducted on dogs and still-born infants; in the case of the latter he was particularly successful, being able to record contraction of the ventricles after a lapse of twenty-four hours, and of the auricles after so long a time as forty-two hours. The second part deals with the possibility of resuscitating a person who has ceased to breathe; and the last half of the volume treats of the massage of the heart (including methods, results, and reasons why it has not always been successful in the past). The book is instructive and entertaining, and those interested in the subject will enjoy reading the volume in the original.

PRACTICAL MANUAL OF DISEASES OF WOMEN AND UTERINE THERAPEUTICS, for Students and Practitioners. By H. MACNAUGHTON-JONES, M.D., M.Ch., Master of Obstetrics (honoris causa), Royal University of Ireland; Fellow of the Royal Colleges of Surgeons of Ireland and Edinburgh; formerly University Professor of Midwifery and Diseases of Women and Children in the Queen's University, and Examiner in Midwifery and Diseases of Women and Children in the Royal University of Ireland; ex-President of the British Gynecological Society; Corresponding Member of the Gynecological Society of Munich. Ninth Edition. New York: William Wood & Co., 1905.

THE first edition of this book was issued in 1884, and contained 410 small pages. This ninth edition appears as the book "comes of age," and contains more than 1,000 large pages; indeed, the various enlargements and improvements rendered necessary by the great strides made by Gynecology during this period, have resulted in making the volume almost too bulky to be easily handled. Among the topics that are responsible for this growth may be mentioned: Asepsis and antisepsis; ovarian and uterine tumors and their treatment; tubal pregnancy; deciduoma malignum; affections of the bladder, ureters, kidneys, and rectum; electrotherapeutics; ovulation and menstruation; internal secretion of the ovary; value of rectal exploration in female children; the ophthalmoscope in diagnosis; curettage; ventrofixation; hysterectomy. Besides these, many histories of cases have been introduced and the illustrations have been enlarged, and increased in number. We think that the book might have been kept within smaller limits if the sections on the affections of the bladder, ureters, kidneys, and rectum had been omitted. These subjects hardly belong to gynecology proper, and although the chapters dealing with them are quite up to the high level of the rest of the volume and add very considerably to the value of the book, they also add to its bulk. From the first this book has held an enviable place among text-books on gynecology, and this new edition will no doubt prove as popular as former editions have been. Nine editions in twenty years is evidence enough of merit on the part of the book and of appreciation on the part of the profession.

THE URINE AND FECES IN DIAGNOSIS. By OTTO HENSEL, Ph.G., M.D., Bacteriologist to the German Hospital, and RICHARD WEIL, A.M., M.D., Pathologist to the German Hospital, New York, in Collaboration with SMITH ELY JELLIFFE, M.D., Ph.D., Instructor in Pharmacology and Therapeutics, Columbia University, etc. With 116 engravings and 10 colored plates. Philadelphia and New York: Lea Brothers and Company, 1905.

THIS book is a laboratory guide to the examination of the urine and feces, and as such is as complete and up to date as any that have recently appeared. It is, however, distinctly a guide for the laboratory worker, the student, and the physician with a bent toward laboratory work, and does not emphasize the clinical relations of its subject to the extent which might be desirable. The section on the urine (by Hensel) has been brought up to the very latest time; for example, the pancreatic reaction (1904) is spoken of. The subject of urinary diagnosis is considered in a table and scarcely one page of text, while the significance of individual elements is too scantily treated in many instances—an evidence of the neglect of the clinical side of the subject, already spoken of.

The section on the feces (by Weil) presents a detailed consideration of the methods of examination. The normal and abnormal constituents of fecal matter, and the bacterial flora of the intestinal contents. This part of the book is of special value to the laboratory worker who wishes to have all the latest researches on this subject accessible in a condensed form. The work of Ford, Miguela, etc., has been freely drawn upon, and the bacteriological section is most complete. Ten pages are devoted to the characters of feces in disease, and the diagnostic side of feces is rather more freely considered throughout this section than is the clinical side of uranalysis in the first part of the book.

The authors have done their work accurately and thoroughly, and in many ways the book is an excellent one.

THE DISEASES OF SOCIETY (The Vice and Crime Problem). By G. FRANK LYDSTON, M.D., Professor of Genito-urinary Surgery, State University of Illinois, Professor of Criminal Anthropology, Chicago Kent College of Law, Surgeon to St. Mary's and Samaritan Hospitals, etc. Philadelphia: J. B. Lippincott Co., 1905.

THE author's views on the vice and crime problem expressed in this work are evidently based on long and close observation of the social system and its diseases. In earlier chapters are given his reasons why we have been unable in this country to diminish this volume of defectives. These are in brief ignoring the adverse social conditions directly responsible for members of this class, society permits them to breed, and contents itself with punishing them after they have become a menace. He emphatically condemns this system, and in succeeding chapters, notably on the therapeutics of social diseases, are presented the remedial measures which he deems expedient and effectual. With a very far-seeing eye, he predicts the final abolishment of all punitive, and the substitution therefor of reformatory institutions and principles. Perhaps equally far-seeing is he in his prediction that society will eventually avail itself of the right to impose a legal restraint on the marriage of the defective class, and of sterilization or asexualization as effective substitutes.

A Utopian dream, possibly, and yet one must feel the necessity of such measures with the gallery of outcasts in mind that adorns these pages. Vivid descriptive and photographic characterizations these are, of the type that society permits to propagate, while ineffectually struggling with results.

AILMENTS OF WOMEN AND GIRLS. By FLORENCE STACPOOLE. Certified by the London Obstetrical Society, Lecturer for the National Health Society and for the Councils of Technical Education; author of "Advice to Women on the Care of Their Health, Before, During, and After Confinement," "Our Sick, and How to Take Care of Them," etc., etc. Bristol: John Wright & Co.; London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1904.

ALTHOUGH this is a small manual of only 238 pages, it teems from cover to cover with helpful advice. The writer believes that "suffering is not woman's necessary lot." The various ailments common to girls and women during the different epochs of their lives are skilfully discussed. The style is clear, simple, and interesting. After the first chapter, which describes the uterus and its surroundings, the author considers the broad subject of Menstruation, with its many and varied complications. Warning is given as to the danger incurred by women who attempt to treat themselves in any trouble at all serious. Still, many a life could be saved if women had enough knowledge to act in emergencies before a physician can reach the patient. Simple remedies are suggested for various disordered conditions. Some of the subjects treated are: Cancer of the Uterus, Displacements and Inflammation of the Uterus, Inflammatory Disorders of the Vagina and Vulva, Care of Delicate Girls, Anemia, Chlorosis, and Indigestion, Backache, Urinary Troubles, Constipation, Piles, Headaches, Hysteria, and Neuralgia. Many pertinent quotations from authorities on these subjects are scattered throughout the text. The volume is a most valuable one not only for women in the home, but also for physicians. There is an excellent index.

DIE VERGIFTUNGEN. Von DR. MED. O. V. BOLTENSTERN, Prakt. Arzt., Staatsärtzlich approbirt. Leipsic: C. G. Neumann, 1902.

THIS small handbook of poison-lore is designed especially as a practical guide for the physician in dealing with cases of acute and chronic poisoning. No attempt is made to cover the whole field of toxicology, but the symptoms and the treatment of poisoning with various substances are given in sufficient detail for practical purposes. A good index is provided, and the book appears in the convenient form common to the other volumes of the series known as "Medicinische Bibliothek für praktische Aertzte."

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twentieth Annual Meeting Held in Washington, D. C., May 16 and 17, 1905.

FIRST DAY, MAY 16.

(Special Report to THE MEDICAL RECORD.)

The President's Address.—Dr. E. L. TRUDEAU of Saranac Lake, delivered the address reviewing briefly the Association's work since he became a member in 1886, and stating that it had more than fulfilled its destiny along certain lines. He referred briefly to the loss of three members during the past year, one by death and two others by removal to England.

A Study of the Fear of Cats and the Power to Recognize Their Presence Unseen and Unheard.—Dr. S. WEIR MITCHELL of Philadelphia presented this communication, reporting in detail two instances in which people were able to recognize a cat in the room unseen and unheard. Dr. Mitchell said he had made inquiries regarding this recognition of cats, dogs, and sheep by persons when the animals were unseen and unheard, and had received 159 replies from different parts of the world and from many well-known people. About one-third of the replies were valueless for several reasons. In some cases the odor of the animal announced its presence. In others the olfactory organs were the parts through which the fear, terror or disgust was suggested, but without the recognition of any sense of odor as the cause. Besides the fear, terror or disgust excited by the presence of these animals, there were many other symptoms produced; in many of the cases the symptoms disappeared upon the removal of the animal. The symptoms in most cases appeared during early childhood, but there seemed to be a remarkable increase in the manifestations of the peculiar phenomena at the time of puberty. In one-quarter of the cases the condition was spoken of as a family peculiarity; in one family there were five instances, in another seven, although single cases in a family was the rule. Sex appeared to have no influence. It had been claimed that Washington was disturbed by the presence of cats, although there could be found nothing in the way of distinct evidence to prove this assertion. After a very careful examination of the replies received, he reached the conclusion that 31 per cent. gave distinct evidence of being able to tell the presence of cats unseen and unheard. The emanations from cats he said might produce emotional disturbances without the olfactory nerves recognizing odors.

Intrapleural Lipoma: Pericardial Exploration.—Dr. R. H. FITZ of Boston said that intrapleural lipomata might grow from the subperitoneal subpleural and mediastinal fat tissue, and project into the pleural cavity from the diaphragm, costal wall or from the mediastinum. The diaphragmatic lipoma was a rare anatomical curiosity, only two cases having been reported, and had had no clinical significance. The costal subpleural lipoma might penetrate the wall of the chest and appear as an external tumor connected by a stalk with the internal growth. Three such tumors had been operated upon with two deaths. The mediastinal lipoma might penetrate also the thoracic wall and grow upon the surface of the chest. Three cases had been reported and were operated upon with fatal results in all. Dr. Fitz reported a unique case occurring in a patient 24 years old with a history of a pneumonia with supposedly delayed resolution. It turned out to be a case of pedunculated lipoma, intrapleural, of mediastinal origin. Its significance in the differential diagnosis of pericardial and pleural effusion was suggested and its diagnosis considered possible. Its presence was explanatory of the failure to obtain pus in purulent pericarditis. He said the xiphocostal route was to be preferred in pericardial exploration by paracentesis or incision and in the establishment of drainage. In the case reported the lipoma was the size of an infant's head. The diagnosis should be made by puncturing the growth and examining for the drop of fat under the microscope.

Dr. JAMES EWING of New York reported an instance of such a tumor consisting of five lobules about the size of a goose-egg each; this was found in the dissecting room. Each was connected to others by pedicles. It surrounded the aorta as well as encircled the diaphragm.

Dr. WILLIAM OSLER of Baltimore agreed that it was better to enter at the xiphocostal entrance in puncturing for pericardial effusions, and said that fifteen or sixteen years ago he had made a series of observations in the Philadelphia Hospital with reference to this point, whether there was any danger of perforating the liver, etc. In every instance he found that you could readily puncture into the pericardial sac, and he had done it often with perfect safety in cases of pericardial effusions. He referred to one case in particular that had been tapped in several places on several occasions and only a very small amount of fluid had been obtained each time; when the xiphocostal route was chosen by far the largest amount was obtained. There was undoubtedly an exudate which depressed the liver and diaphragm as well, and kept it from being endangered. He called attention to the frequency with which patients died with large pericardial exudates, and recently, in going over the pneumonia records, he said there were at least four or five whose lives might have been saved by operation. He advocated the more frequent use of the small hypodermic needle; if one should puncture the heart near the apex no harm would result.

Dr. GEORGE L. PEABODY of New York spoke of the different types of pneumonia cases encountered each year; during the past winter the fibrinous exudate could not have been detected by the use of any small hypodermic needle. He believed it better to wait until there were evidences of impairment of cardiac function by the exudate and then to remove the exudate.

Dr. FORCHHEIMER of Cincinnati, Dr. WM. P. NORTHRUP of New York and Dr. ROACH of Boston also discussed the paper.

Rhythmic Lateral Displacement of the Heart as a Sign of Unilateral Pleural Exudate.—Dr. CHAS. L. GREENE of St. Paul read this paper. In 1902 he had called attention to a hitherto unobserved sign of unilateral pleuritic exudate, consisting of a rhythmic lateral displacement of the heart, synchronous with respiration and extended observation during the past three years confirmed the original observation and showed that the sign was of value in differential diagnosis. A number of cases were quoted in support of the foregoing statement, a large number representing other conditions having failed to show rhythmic lateral displacement. It was absent in subdiaphragmatic abscess, malignant disease of the lung and pleura and in pneumothorax. The sign was best observed by the fluoroscope or by auscultatory percussion. The degree of effusion markedly influenced the movement; trifling effusion failed to show it; massive effusion was accompanied by a minimum of rhythmic displacement. The sign was sometimes obtained by inspection, but such observation was subject to error. It was more readily recognized in right than in left-sided effusion. Deep respiration was necessary and might require the exhibition of morphine for the relief of the attending pain. He doubted the statement, generally accepted, that in certain cases of effusions the diaphragm was rendered immovable or bulged into the abdominal cavity, no such a condition having been observed. He also took issue with the statement that the extent of cardiac displacement in liquid effusions could be accurately determined without the use of the fluoroscope, auscultatory percussion in cases of displacement to the left and simple percussion having yielded outlines corresponding accurately to fluoroscopic findings. In a résumé of the probable causes of rhythmic lateral displacement he took the ground that in the presence of unilateral exudates of considerable quantity such movement was inevitable on the basis of purely physical causes, the anatomical structure and physiological mechanism of the thorax and its contained organs. His conclusions were (1) A rhythmic lateral movement of the heart occurred in unilateral liquid pleural effusions; (2) such movement was most marked in medium-sized effusions; (3) the heart approached the affected side in inspiration and moved outward in expiration; (4) the extent of movement was variable, but often amounted to two inches; (5) that it might be measured by fluoroscopic examination, auscultatory percussion, or in the case of right-sided effusions by simple, deep percussion of the free cardiac border, or in some instances by mere inspection of the chest; (6) deep breathing and especially forced expiration were essential to the success of the maneuver and, to obtain this, morphine must sometimes be administered; (7) marked rhythmic lateral movement had not been found in puenmonia, tuberculous infiltrations of the lungs, malignant disease of the pleura or lung, or in subdiaphragmic abscess.

Gonorrheal Septicemia and Endocarditis.—Dr. W. S. Thayer of Baltimore said that the frequency of valvular endocarditis in septicemia was not well known and that in many instances it was of specific origin. He took up a consideration of several cases of gonorrheal septicemia and ulcerative endocarditis that had occurred at the Johns Hopkins Hospital, and also one instance of general gonorrheal septicemia associated with arthritis without other apparent complications. In this case there was a continued fever, simulating in some respects typhoid fever of over two months' duration where there was complete recovery. Gonococci were obtained in pure culture from the circulating blood. This patient recovered and without any apparent bad results, and it was now some five or six months after the infection. He referred to a series of 10 cases, 2 being but recently seen, of gonorrheal endocarditis; in 6 the gonococci were positively identified, four during life from blood culture, and two alone at autopsy. In three instances with a mixed infection there was also a general gonorrheal invasion. In five cases there was an endocarditis preceded by a more or less acute gonorrhea without other apparent causes. He wished to emphasize the fact that urethritis was not infrequently followed by endocarditis.

Dr. William Osler of Baltimore said we should not forget those cases of acute pulmonary septicemia in which there was an overwhelming toxic cause. One such a case was reported by Howard which was first regarded as one of typhoid and the patient died within one week; there was found a gonorrheal septicemia, endocarditis, and a slight pocket of pus was found in one lobe of the lung.

Fever in Chronic Endocarditis.—Dr. J. S. Thatcher of New York said that he had been struck by the great number of cases of endocarditis in which there was a considerable amount of fever without any explanation for that fever. He gave an analysis of 1,001 cases observed at the Presbyterian Hospital. After deducting those cases which he did not believe should be included, there remained 900 cases. and these he divided into several groups according to the temperature range. In one group in which the temperature never went above 100 degrees he was surprised to find 316 cases, and two-thirds of the cases were above 100. In 585 cases the temperature at times was above 100. The febrile cases number over 131, in which there were articular symptoms. There were 23 cases with distinct petechial or hemorrhagic eruptions. Taking out all those cases with signs of certain complications there was left but 291 cases in which there was fever above 100, and in which there was no apparent explanation for the fever, unless there was a bacterial explanation. Of the 23 eruptive cases 18 died. The studies at autopsies in these cases showed that the petechia were not necessarily associated with ulcerative vegetations. In those cases in which frank signs of complications which might have caused a considerable elevation of the temperature there were 207 cases with 254 complications. The most frequent complications were lobar pneumonia, pericarditis, etc. Among the 291 cases in which there was more or less fever, but in which there were no distinct evidences of complications to correspond to that fever, about 45 per cent. were due to the presence of chronic endocarditis. In 16 cases where the fever went above 103, there were some faint indications of unimportant complications, such as pain on one side of the chest. It was peculiar to note that the afebrile cases gave a larger mortality than the febrile; the afebrile cases gave a mortality of 19 per cent., while the febrile gave one only of 7 per cent. The frank cases with complications had a mortality of 35 per cent. One of the most striking points was the large number of cases encountered with fever and without any possible explanation for that fever.

Dr. A. Jacobi of New York said that often we were apt to make a diagnosis of endocarditis when there was a systolic murmur, when there was a myocarditis present. He had had such cases under observation year after year; now and then they turned up with a systolic murmur (mitral). Then they would get better and remain so for months after treatment by rest, etc. The murmur would be brought out by the slightest exertion.

Dr. James Tyson of Philadelphia spoke of the relation between pericarditis and these petechial eruptions.

Dr. Victor Vaughan of Ann Arbor said that the toxic effect upon the temperature depended upon the kind of germ and upon the rapidity with which the poison of that germ was set free. We all knew that the clinical differentiation between tonsilitis, for instance, and diphtheria rested with the degree of temperature; if it were 103° or higher it was in all probability a case of tonsilitis; whereas if below 100° it was diphtheria.

Dr. William Osler of Baltimore presented a remarkable chart showing the temperature curve in a case of chronic endocarditis. In certain cases of endocarditis with a fatal outlook recovery would take place. He had one patient under observation about fourteen years who had had several extremely severe attacks of fever in connection with a mitral endocarditis and who recovered from each attack.

Dr. Francis P. Kinnicutt of New York had seen several cases such as described by Dr. Osler, one case lasting five and another lasting seven months, and to-day, although the murmur persisted, they were apparently in excellent health.

A Case of Hemophilia with Special Reference to Joint Disease.—Dr. Francis Kinnicutt of New York called attention to a patient, 16 years of age, whose family history was negative so far as any hemorrhagic diathesis was concerned. From birth, the skin was thin and of delicate texture. When five months old, a small swelling in the leg appeared, which was quite discolored. A blackish lump appeared on the chest, which persisted for many weeks. When two years old, the patient had nose-bleed, which was difficult to control, and until the age of five years he was never free from hemorrhagic spots appearing on different parts of the body. At the age of five, he began to have attacks of what appeared to be inflammatory rheumatism. A nose-bleed occurred when eight years old, which was controlled only after forty-eight hours' efforts. A blow on the thigh produced a lump, a large extravasation. The year following bleeding from the nostril occurred, lasting for several weeks. There occurred what was supposed to be an acute attack of rheumatism of the left hand. Dr. Kinnicut saw the patient in 1897, and the patient died seven years later. The often recurring joint symptoms were supposed to be of rheumatic origin. The temperature was but moderately elevated. Various joints were involved, and at intervals that varied greatly. Attacks of hematuria occurred. There were no very severe arthritic attacks until in 1902, when a large interstitial hemorrhage occurred in the extremities. From 1902 until 1904 he had attacks of severe hematuria and effusions into the left elbow joint, etc. In all the attacks the pain was present and the temperature went as high as 103.5°. In February, 1904, the patient complained of acute pain in the lower part of the abdomen and became blanched; the whole abdomen was distended and rigid, with tenderness and muscular rigidity present. The temperature was 101° and pulse 120, but during the following week the symptoms became grave, the temperature ranging between 100° and 103°, but finally absorption gradually occurred. In July, 1904, there appeared acute symptoms and abdominal pain. No blood passed by way of the bowels. A fatal issue occurred twenty-four hours after the occurrence of the first symptoms.

Clinical Notes on Opium in Myocarditis.—Dr. John H. Musser of Philadelphia spoke of the beneficial effects which seemed to have occurred in many typical instances of myocarditis. In senile weak heart, there was no doubt but that the continued use of opium was of advantage. It was also of great value in chronic myocarditis, in order to prevent the occurrence of insults to the cardiovascular system. Opium was not contraindicated in chronic myocarditis attended by melancholic symptoms. In case of myocarditis or endocarditis more satisfaction was to be had by the continued use of opium than from the use of any of the so-called cardiac drugs.

Dr. M. H. Fussell of Philadelphia referred to an instance where, after the subsidence of an acute pneumonia, an extremely weak heart occurred, in which the use of morphine was followed by the happiest results and appeared really to have saved the patient's life.

Dr. Beverley Robinson of New York thought that all would agree that in most cases of so-called heart failure nothing stimulated the heart more than opium.

Dr. A. Jacobi of New York said that opium was just as useful as strychnine was harmful, and no remedy had given worse results and done more haim in the average case of myocarditis than strychnine.

Some Phases of the Neurotic Heart.—Dr. Beverley Robinson of New York read this paper, in which he stated that nervous disorders of the heart were not well understood, and he presented and emphasized certain facts. Apparent or evident slight enlargement of the heart, with or without dilation, was occasioned by or preceded directly from cardiac neuroses. There was also a condition of secondary anemia, as shown by the microscopical examination of the blood, which resisted all kinds of treatment, and also an absolute or relative uselessness of digitalis unless the heart muscle itself was involved. There was also an impaired nutrition with an accompanying slight cardiac dilation, which subsequently remained stationary and functionally compensated.

Report of a Case of Pneumococcus Sepsis.—Dr. J. S. Thatcher of New York reported a case of acute lobar pneumonia, which was followed by empyema and an intense and rapidly progressing general infection by the pneumococcus with malignant endocarditis and meningitis.

A Report of Six Cases of Perforation in Typhoid Fever in Children.—Dr. J. P. Crozer Griffith of Philadelphia made this report. The first case was a girl, twelve years old; on the twenty-third day of a severe attack she developed severe abdominal pain without vomiting or collapse or any fall of temperature, and it was not until the day following that she really appeared very ill. Twenty-four hours after vomiting began, and there was a slight abdominal pain, distension of the abdomen began to increase and the diagnosis of perforation was made. No operation was possible. The second case was a boy, eleven years old, who suffered from pleurisy, a complication of typhoid fever of mild type. He ate icecream one day, and as a result abdominal pain occurred, and vomiting. There was also a slight rise of temperature. On the day following the patient became worse and was supposed to have an attack of severe indigestion from indiscretion in diet. It was not until two days following that it was discovered that he had suffered a perforation, and operation then could not be performed. The third case presented symptoms of perforation, with a sudden drop of temperature from 102 to 97 and severe abdominal pain. Forty hours later operation was performed, but it was unavailing. The fourth case was a boy eight years old, and the perforation apparently occurred in the third week of the disease. Vomiting was the first symptom, and there was no fall of temperature and no collapse or abdominal pain. There was but moderate abdominal distension. Operation was asked for and refused. The fifth case was a girl of four years, who passed from a mild attack into convalescence, having had no fever for a week. The perforation appeared to have occurred about the end of the third week, when she complained of some stomach ache. There was no elevation of temperature and she did not appear to be at all ill. The child was sitting up in bed, and then the temperature gradually rose, with occasional vomiting, but without abdominal symptoms. The next day she died, and without abdominal distension or pain. The sixth case was a girl of six years, who was presumably in the second week of the disease. The history of this case was very vague. She had an excellent pulse and but slight tenderness, but only on firm pressure. She was operated upon, but she, too, died on the seventh day after. Dr. Griffith made reference to the variance in published statements regarding the frequency of perforation in typhoid fever in children, the general trend of opinion being that it was rarely seen. More recent observations tend to show that probably it occurred more often than had been supposed. Basing his remarks on the condition seen in most of these six cases, he concluded that the accident was more difficult to recognize than in adult life. There was often a less degree of constitutional impression. Abdominal pain and tenderness might be absent or trivial, and in many instances the statement of the child was less to be relied upon than in later life. Vomiting was so frequently a symptom in different diseases of childhood that its occurrence in perforation was of little import.

Dr. A. Jacobi of New York said that cases of perforation were often seen without even diarrhea preceding, not even occurring during the entire course of the disease. Diagnosis was almost impossible in many cases.

Dr. George L. Peabody of New York said that we should not look for diarrhea as one of the symptoms of perforation, and it was rather the rule to have perforation without diarrhea.

Hematemesis from Gastric Ulcer; Notes on Over Two Hundred Cases.—Dr. W. Gilman Thompson of New York presented data based upon records of the Presbyterian and Bellevue Hospitals, and the conclusions arrived at were that operation should be undertaken more often than now. He admitted the great difficulty of an accurate diagnosis of the condition of the stomach. The examination of gastric contents, especially when done but once, was of no value whatever in the diagnosis of these cases. Some chronic cases began with large hemorrhage and hematemesis could not be used as a basis upon which to classify these cases clinically. The surgical records in the treatment of gastric ulcer were now very encouraging, and Moynihan had presented 123 gastrotomies for gastric ulcer and only lost two cases as the result of operation. It was very desirable to have earlier operative interference in these cases.

Dr. Francis P. Kinnicutt of New York said that it should be borne in mind how frequently perforation and hematemesis occurred, and yet the point of ulceration was never discovered; the most careful search for the ulcer was needed in many cases, and he referred to a case that had been operated upon by Dr. Weir and Dr. Abbe with a fatal result following; at autopsy, the most careful search was demanded to discover the gastric lesion. He said that frequently death seemed to be imminent when the hemorrhage would suddenly cease and the patient get along all right without further trouble.

Dr. J. Solis Cohen of Philadelphia spoke of an operation that had been advised at the Philadelphia Hospital. The patient was a man well advanced in years, a carpenter by trade, who had a profuse gastric hemorrhage without pain or other symptoms of any definite kind. It was decided that he was too weak to submit to operation, and the patient then got better; then it was decided that the necessity for operation, under the circumstances, had passed. The man, however, died, and the autopsy showed thirty or forty ulcers, twenty-nine or thirty-nine of which had healed. Death was the result of the last large ulceration. Here there were multiple ulcerations, which had occurred without giving rise to symptoms. He reported another case, to show the vagaries of gastric ulcer.

Dr. Sippy of Chicago asked when one was permitted to operate after perforation. One should hesitate to operate when the hemoglobin had fallen under 40 per cent.

Dr. John H. Musser of Philadelphia said that we should not forget the possibility of cirrhosis of the liver as a cause of symptoms simulating those of gastric ulcer.

Dr. Thompson closed the discussion.

The Relation of Certain Stomach Disorders to Diabetes Mellitus.—Dr. John S. Sawyer of Cleveland read this paper. He said that treatment directed to the condition of the stomach, determined by examination of test meals, was given in nineteen diabetic patients for time enough, under suitable conditions, to afford usable results, and in all these cases there were noted almost immediate relief from thirst, hunger and excessive polyuria, with improvement in strength in many, and in several cessation of the glycosuria. The known duration of the glycosuria was from six weeks to five years. The youngest patients were fifteen to sixteen years old. The cases were of varying degrees, tested by standard diet. The first of the series came under treatment over five years ago. The measures adopted had been those usually employed in the special treatment of chronic glandular gastritis, varied according to the acidity and motor condition. Lavage had been signally beneficial, especially when used in the cases with motor insufficiency and hypochlorhydria. In several cases on stopping treatment the thirst and polyuria recurred, with prompt relief on resumption. In a few cases similar results were gained without lavage. These cases showed that thirst, hunger and polyuria were not as dependent on hyperglykemia as had been supposed, and that the stomach disorder was a factor of far greater importance in the treatment of diabetics than had been believed. A few tests of blood showed that hyperglykemia persisted without thirst or polyuria.

Dr. James Tyson of Philadelphia said that in his experience he had frequently noted the association of an active gastric disturbance associated with diabetes, and he thought this explained the efficacy of Fowler's solution, which might have an effect upon the stomach function. It was impossible that the acetone and diacetic acid that formed might have been the result of a catarrhal gastritis.

Clinical Notes on the Use of Nux Vomica, Especially in Certain Forms of Hypochlorhydria.—Dr. John H. Musser of Philadelphia told of those cases of gastric neurasthenia with hyperchlorhydria in which sedatives, antacids, etc., failed, but large doses of nux vomica gave relief. Ascending doses of the drug were given until its physiological effect was produced as shown by a slight stiffness in the neck and vertigo. When those symptoms appeared, the dose was reduced five or ten drops, and after a while the dose was again increased. Sometimes four or five months were required before the best results were obtained. The agent was given before meals, and the dose, of course, varied with the individual.

Umbilical Hernia as a Little Recognized Source of Abdominal Pain.—Dr. D. D. Stewart of Philadelphia read this paper, which dealt with the necessity of having in mind that hernia in the linea alba above the umbilicus, however small, might be a cause of recurring abdominal pain and various dyspeptic symptoms, the source of which, the hernia escaping recognition, was often regarded as obscure. These hernia, when small, were very commonly overlooked, the patient being treated for indigestion, gastralgia, gallstones, and the like. The importance of having in mind the most infrequent occurrence of umbilical hernia, and a careful search for it in abdominal examinations in all cases of pain, was pointed out.

Concerning the Obscurity of Diagnosis Sometimes Attending Stone in the Kidney, with Report of Cases.—Dr. D. D. Stewart of Philadelphia spoke of the recognition of certain observed cases of renal calculus, the symptoms of which were unusual and quiescent as concerned the kidney, and in which the stone or other affection of the kidney or ureter had not been suspected until they came into the doctor's hands. Certain cases simulating renal calculus—one was in an hysterical subject who had been previously operated on without result for suspected stone, and in whom a second operation had been contemplated—others in which the symptoms of calculus were due to inflammatory obstruction of the ureter were detailed and the points in the diagnosis of these cases were discussed.

Dr. J. N. Danforth of Chicago presented a calculus removed from the bladder of a female medical student, aged 35 years. One year later several stones were removed from the kidney. One week after this a calculus of large size was removed from the left kidney and a large calculus from the right kidney at the post mortem. There was pus, albumin, phosphates, mortar-like deposits in the urine, but no pain up to the time of her death, and yet a calculus weighing nearly five ounces was removed from each kidney.

Dr. James Tyson of Philadelphia said that in the last two operations he had performed there seemed to be a condition which might explain the symptoms, at least in part; the cases presented tenderness in the kidney with intermittent or remittent or catarrhal condition of the ureter which was described as "a moderate amount and number of leucocytes and a trace of albumin." These cases came to operation and in each case there was what seemed to be what might be termed a "capsulitis," the capsule of the kidney being adherent and depressed in spots.

Dr. Forchheimer of Cincinnati said he had met with three cases of similar nature in which the symptoms of tenderness were present, and other evidences of renal calculus, and yet the urinary signs showed nothing of the sort.

Dr. Frank Billings of Chicago said that the microscopical evidence of blood in the urine was of value, and spoke of a patient who had an acute pain in the right abdomen, which made him think of gallstones and perhaps perforation. Microscopically, blood appeared in the urine, a good differential point between appendicitis and calculus in the kidney. The *x*-ray he believed was many times as much a foil as it was a help in diagnosis, and was of but little value unless interrupted by one who was an educated physician. He referred to an interesting case of a woman seen within three years, who suffered from pain in the right side of the abdomen, and in which a diagnosis of renal stone was made. Subsequently an *x*-ray picture was taken by a so-called specialist, and the interpretation given of ureteral calculus, not far from the bladder. Other *x*-ray pictures were taken and in every instance shadows were shown which made the specialist believe he was dealing with stone in bladder. When Dr. Billings saw her he expressed doubt as to the existence of stone and suggested further examination. The result was the discovery of a bulbous pessary in the vagina.

Abdominal Tumors.—Dr. R. C. Cabot of Boston presented this communication, mainly one of figures from the records of the Massachusetts General Hospital. He reviewed 4,876 abdominal tumors as follows:

Tumors of the Abdominal Wall.—Hernia, 488; abscess, 79; sarcoma, 27; lipoma, 17; actinomycosis, 12; cancer, 6; hematoma, 4; fibroma, 3; tuberculosis, 2. Total, 638.

Tumors of the Liver.—Passive congestion, 1,288; biliary stasis, (?); biliary cirrhosis, 153; Hanot's cirrhosis, 0; cancer, 151; abscess, 51; lipoma, 46; Hodgkin's, 10; amyloid, 9; hydatid cyst, 8; syphilis, 8; fatty, 6; simple cyst, 6; actinomycosis, 3; sarcoma, 2; displaced, 2; tuberculosis, 1. Total, 1,702.

Tumors of the Spleen.—Myelogenous leukemia, 58; lymphatic leukemia, 13; biliary cirrhosis, 60; unknown cause, 26; chronic malaria, 16; cancer of the liver, 10; abscess of the liver, (?); Hodgkin's, 12; pernicious anemia, 3; myeloid, 2; sarcoma, 2; floating, 1; abscess, 0; tuberculosis, 0. Total, 206.

Tumors of Intestines with Peritonitis.—Cancer of the gut, 90; tubercular peritonitis, 33; intussusception, 17; acute obstruction, 20; dilated colon, 6; tuberculosis of cecum, 2; mesenteric tuberculosis, 3; fecal impaction, 2; omental cancer, 18; omental sarcoma, 4. Total, 195.

Tumors of the Kidney.—Floating kidney, 227; malignant, 27; tuberculosis, 41; abscess, 16; cyst, 10; etc.

Tumors of the Stomach.—Cancer, 285.

Tumors of the Pancreas.—Acute pancreatitis, 1; chronic pancreatitis, 1; cancer, 32; cyst, 3.

Tumors of the Uterus and Ovaries.—Uterine fibroma, 766; sarcoma, 14; tumor, 90; cancer, 609; ovarian cyst, 382; cancer, 43; fibroma, 11; sarcoma, 1.

They were also classified as follows: Abdominal tumors, 4,876. Of the abdominal wall, 150; of the liver, 1,702; of the spleen, 206; stomach, 265; pancreas, 37; intestines with peritonitis, 173; mesentery with omentum, 22; kidney, 378; retroperitoneal, 9; aneurysm, 25; uterus, 809; ovary, 437; broad ligament, 85; hernia, 488.

Dr. M. H. Fussell of Philadelphia wished to confirm what was stated regarding the chronicity of carcinoma of the cecum and he said he recently had seen a case lasting 14 months and probably longer.

Dr. W. S. Thayer of Baltimore thought that the frequency of fever in connection with cancer of the liver was a very interesting point. In many instances of rapidly occurring fever in sarcoma the diagnosis had been made of typhoid fever.

Dr. A. Jacobi of New York believed that the fever in such cases was due to the pressure upon the peritoneum; in cancer of the liver if the cancer would stop growing the fever would cease.

Dr. John H. Musser of Philadelphia believed that chronicity was a feature of cancer of the large bowel, not only of the cecum but other portions of the gut.

A Case of Cardiospasm.—Dr. Frank Billings of Chicago reported the case of a patient who had been sent to him with cardiospasm, with hypertrophy of the circular fibers and dilatation of the esophagus, about 500 c.c. He taught the woman how to pass a tube herself which she did unusually well. Sometimes the spasm would occur and she could not pass it for some time. In this way she fed herself. Dr. Sippy had worked out a plan of treatment and he was asked to demonstrate it.

A New Treatment of Cardiospasm.—Dr. Sippy of Chicago spoke of the varieties of this condition, primary cardiospasm resulting in dilatation or primary atony of the walls of the stomach without cardiospasm, primary atony of the walls of the stomach with secondary cardiospasm, disease of the pneumogastric nerves as described by Kraus, and that resulting from inflammation of the esophagus with reflex spasm at lower end of the esophagus; again, there were cases of congenital dilatation or sacculations in the lower part of the esophagus and subsequent cardiospasm. By far the most common was the primary cardiospasm. Balloons had been devised for dilatation of the esophagus, but they had not been successful because the pressure was not exerted at the right place. Dr. Sippy had devised a balloon with a central canal through which passed an ordinary esophageal bougie; the balloon was covered to prevent undue expansion. When distended with air it was about 14 cm., just a little more than the amount of dilatation required, and a little more than what was used by those who dilated from below. The patient had had this device applied twice and was very happy over the results, because for the first time in many months she had been enabled to partake of her food as other people did, and had had no discomfort since.

(*To be continued.*)

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held April 27, 1905.

Dr. Chas. F. Adams in the Chair.

The Effect of X-ray Examination upon Pregnancy.—Dr. Sinclair Tousey said that the purpose of this paper was to consider what effect if any exposure to the *x*-ray had in preventing conception, or in producing abortion or stillbirth. In this connection he said there were the observations of Dr. F. Tilden Brown to the effect that all of the *x*-ray workers, sixteen in number, who submitted to examination had shown either complete azoospermia, or a degree of oligospermia, or a degree of necrospermia which depended upon the length of time during which they had been radiologists. He did not know whether this came on gradually or as a sudden climax after some particularly long and intense action of the rays. Dr. Tousey said that this condition developed in *x*-ray workers who had never experienced the slightest dermatitis or other visible effects from the *x*-ray. He reviewed the literature showing azoospermia to have been produced by the *x*-ray with, in some instances, atrophy of the testis, but without external irritation. The observation of his own which he wished to record was to determine what effect, if any, would be produced by short exposures ordinarily required for *x*-ray pictures. The subject radiographed was a cat belonging to his household, young and strong, and who had been the mother of several healthy families. The pictures were taken at a time when she appeared to be "in heat," which was five or six weeks before she showed external evidences of pregnancy, and were continued up to the time when confinement seemed to be momentarily expected; during the last ten days no radiographs were made. The cat was never in the *x*-ray room except during the taking of the pictures. Each picture was taken with the cat lying on her left side upon the photographic plate, held there by his own hands resting upon the cat and equally exposed to the rays. A 12-inch induction coil was used, and usually a heavy anticathode Müller tube, No. 13, but for one picture a forty centimeter Friedlander water-cooled tube was used. The exposures were designed to be of the same strength and duration as for radiographing human tissues of the same thickness, but owing to the restlessness of the cat it was necessary to cut short some of the exposures. Measured by Holzknecht's chronoradiometer, the total exposure of the nearest part of the cat's body was ½ H., or four and a half minutes for the whole series. He said that 1 H. was one-third of the amount required at a single exposure to produce a visible reaction upon the human face. The result was naturally nil so far as the outward and visible appearance of the cat and so far as his own hands were concerned. The pictures were taken on October 6, 12, 16, and 21, November 18 and 29 (at which time the cat first presented positive external evidence of pregnancy) and December 17, 1904. Thirteen days after the last radiograph (December 30, 1904), three large and perfectly developed kittens were born dead. The cat was not again exposed to the *x*-ray, and on March 12, 1905 (two and a half months after the still-birth), four large and healthy kittens were born alive, and they are still alive and strong. He said it was very unusual for kittens to be still-born, and it had never happened before with this cat, and he thought it must have been due to the action of the *x*-ray. The conclusions to be drawn were that precautions should always be taken to prevent unnecessary exposure of the ovaries or testes; that where *x*-ray exposure of the reproductive organs was required, as in the treatment of cancer, even the existence of pregnancy might be disregarded as the full dosage required for a therapeutic effect did not necessarily interfere with the progress of gestation, or the viability of the child; that even the small dosage of the *x*-ray required for a radiograph sometimes might destroy the life of the fetus, but there was reason to believe that such exposures, even if required on several different occasions, would not produce even temporary sterility.

A Report of Seven Cases of Cesarean Section.—Dr. James D. Voorhees read this paper. After detailing the histories of the seven cases, which occurred during his summer service at the Sloane Maternity Hospital and in private practice, he said that the operation of cesarean section was becoming more and more common and the indications more and more relative. There were reported during the year 1903 87 such operations, and 148 during the year 1904. During the first ten years and nearly three months of the existence of the Sloane Maternity Hospital, from January 12, 1888, to May 1, 1898, in 7,205 cases the records did not show a single woman delivered through the abdomen in the hospital. In looking over the first 15,541 confinements at the Sloane Maternity, he found that the fetal mortality for the induction of labor in contracted pelves was 21 per cent.; for medium forceps in contracted pelves, 20 per cent. of the babies succumbed; while in high forceps operations performed for contracted pelves, 57.6 per cent. of the babies died. In cases where version was performed for pelvic deformity, the fetal mortality wos 46.3 per cent. In five symphyseotomies performed by three different operators, one baby was still-born, a mortality of 20 per cent.; two of the mothers died from sepsis, a maternal mortality of 40 per cent. The records showed that 56 craniotomies were done for pelvic obstruction; in seven cases the fetus was alive, in four of which either its poor condition or the poor condition of the mother warranted the operation. Since May 1, 1898, to the present date 38 cesarean sections had been performed at the Sloane Maternity Hospital, 30 of these by Dr. Cragin, one by the late Dr. Tucker, and seven by the reader of the paper. Three patients died, giving a mortality of 7.5 per cent. All the babies were born alive except in one carcinomatous case. All maternity hospital statistics he said were unreliable because so many cases were admitted in labor, having been neglected by doctors and midwives outside. Yet, allowing for such adverse conditions, the statistics show that many infants were sacrificed, which with cesarean section undoubtedly could have been saved. The results for the child in the operations other than cesarean section, he said, were startling, and when obstetric operations carry with them such a tremendous mortality it should make the accoucheur hesitate attempting them. How different was it with cesarean section; practically all the babies being saved, perfect in every way and unharmed. One might say that we are not justified in recommending such an operation to save the life of the child, thereby increasing the risk to the mother, but it had been shown that this risk was slight, or not so much greater to her than when the other operations were performed. Placing the figures at a minimum and omitting all doubtful cases, he found that there was approximately a maternal mortality of 3 per cent. for the induction of labor, 1.8 per cent. for high forceps, 2.3 per cent. for version, 2.4 per cent. for craniotomy, and when symphyseotomy was performed 40 per cent. of the mothers died. Excluding one case of carcinoma of the cervix, which was moribund on admission, the maternal mortality for cesarean section was 5.1 per cent., and these were not selected cases, many of them being in labor when brought in. Other operators have better reports; in 172 operations performed by eight different surgeons, there was a mortality of barely 1.2 per cent. Deducting the moribund cases and those infected before operation, there would in all probability be a mortality of between 3 and 4 per cent. There was no question but that cesarean section was the only means of delivering a living child in marked degrees of pelvic deformity, and where tumors of various kinds blocked the parturient canal. Disputed points arose when the pelvis was only moderately contracted. Dr. Voorhees said he was unwilling to discard an induction of labor in the management of all contracted pelves. The fetal mortality at the Sloane Maternity for this operation was fairly high; 21 per cent. of the babies were still-born, and only 71 per cent. were discharged in good condition at the end of two weeks; but it should be remembered that a large number of the cases on which the percentage was based were delivered before the era of the cutting operation, even as long ago as 1888. From facts and figures he presented, and from his own personal experience, he still believed that labor could be induced with good results in slight to moderate degrees of contracted pelves, *i.e.* where any of the pelvic diameters was not less than 8 cm. The child, however, should have reached 36, preferably 38, weeks of intrauterine gestation, the head should not be too large, and the cervix should not be too long, closed, or tough. To determine just when to interfere and to estimate the exact relations of the size of the child's head to the pelvic canal, were both very difficult questions. Again, he said, we were confronted with the questions, will the uterine contractions be strong enough, and will a long and immature cervix soften up and dilate? He believed that Williams' plan of letting all cases "go to term, fall into labor, complete the first and enter the second stage to ascertain what nature can do," especially if gestation was prolonged, would cause more cesarean sections and other major operations than were necessary. He might save more babies, but the risk to the mother was increased. There were certain borderline cases where the pelvic deformity or contraction was slight or moderate, and here labor could be induced without injury to the interests of the child, most of them being born spontaneously. By the statistics given, he did not contend that too many difficult high forceps and versions were performed. If a version was performed, very few children at term survived after coming through an internal conjugate of 8 cm. He believed that if a version was done where the child was of fair size and the pelvis moderately contracted, especially in the justominor pelvis, most of the babies would be lost. With the low mortality rate of a cesarean section, a craniotomy, except on rare occasions, should never be an operation of choice if the child was alive. Symphyseotomy was an operation that certainly was on the decline; in 2021 operations performed by eight surgeons the maternal mortality was 14.4 per cent., and 18.5 per cent. of the babies succumbed. The only possible indication for this operation in the hands of a good surgeon would be in a case where the head was impacted well down in the pelvis after a prolonged labor, where the child was alive, and where forceps was unavailing. Whether Gigli's operation would ever supplant symphyseotomy and fulfill the earlier dreams of symphyseotomists was yet to be determined.

His conclusions were: (1) That cesarean section was only a dangerous operation when infection was present. (2) That there were too many fetal deaths from the other major operations. (3) That in view of the low maternal mortality the field for cesarean section should be broadened. (4) That in contracted pelves of a moderate degree (in the borderline cases) a late induction of labor was justifiable. (5) That when possible difficult versions, prolonged high forceps operations, and high forceps operations performed early in labor, should be avoided. (6) That craniotomy on a living baby was an operation only of necessity and emergency. (7) That symphyseotomy was an operation of the past.

Dr. Edwin B. Cragin said that those cases in which the obstruction in the parturient canal was so marked that the child could be delivered by cesarean section only need not concern the members of the section; in all such cases the operation was distinctly indicated. But, on the other hand, in those cases where the child could be delivered in other ways than by cesarean section, but with probable or certain death to the child, these were the cases that concerned them. In selecting any method one principle should always guide, *i.e.* that the future life of the mother should receive consideration. Any method which might save the child and yet which risked the life of the mother should be discarded. The question that concerned him was this: "Had modern cesarean section so low a mortality and morbidity that we were justified in recommending it to patients and families?" Personally he believed it should be advised, if the mother and child were in good condition, in good surroundings and if good assistants were obtainable. The mortality of cesarean section, under these conditions, should not be over three per cent. With such a mortality he said we were confronted with the choice of two pictures, viz., a living child and a happy mother with three days of marked discomfort, or a dead child with a mother heartbroken and mentally depressed. Although cesarean section, performed by those skilled in abdominal surgery, was a simple operation, yet it should not be recommended and carried out except under the conditions mentioned; one could never foresee the dangers. He believed the field of cesarean section would spread not only in hospital, but in private practice.

Dr. J. C. Edgar told of the difficulties in diagnosis in the so-called borderline cases; it was exceedingly difficult in any given case to tell exactly what was the relative amount of space in the pelvis when moderately contracted; he knew of no way to ascertain the size of the head other than by passing the hand up. While cesarean section might be a simple operation he could not get away from the feeling that it was mechanically imperfect on the score of drainage; therefore, before doing this operation, he advocated dilating the cervix freely in order to obtain adequate drainage.

Dr. Austin Flint, Jr., said he was glad to note the conservative attitude assumed by so many even in an operation that carried so low a mortality as three or four per cent. This was an operation that could not be done offhand. At the Lying-In Hospital, among 10,000 cases, there were but three or four cesarean sections, one having been done for pelvic deformity and two for fibroids. Cesarean section should be resorted to only in those instances of pelvic deformities where one was sure that the child could not be born alive by the natural passages.

Dr. H. N. Vineberg said that one would seldom meet a woman or a husband who would give consent to this operation when the matter was placed fully before them. Although the mortality was given as three, four, or five per cent. he said that statistics could not be at all relied upon, and even with such a low mortality he had yet to meet a patient who would give consent to cesarean section. With a moderately contracted pelvis he believed the induction of premature labor was the operation of choice; here the chances of getting a living child were fairly good and a less serious operation was done. Personally he had a number of cases in which he had induced labor for lesser degrees of pelvic contraction, and so far every child had lived and the mothers had made good recoveries. He thought the operation of inducing labor had a wider field.

Dr. William S. Stone reported a few experiences with the object of illustrating certain points. His own experience with cesarean section was limited to eight cases, with the result of saving all the babies and losing one mother. In one case he reported the pathological condition was a hard tumor of the pelvis which almost completely blocked the birth passage. In another case there was a fibroid which plugged the pelvis. One of the most important things to bear in mind was the relation between the head and the pelvis; in the last ten days of gestation there was a hardening of the head. He believed the field for cesarean section, as well as that of inducing premature delivery, was broadening; this had been brought out by Norris of Philadelphia.

Dr. George H. Balleray protested against the impression which might be given out that cesarean section was an easy operation. In those cases in which there was a question as to the extent of the pelvic deformity he advised giving nature a chance first; one should wait until the second stage of labor was reached before interfering.

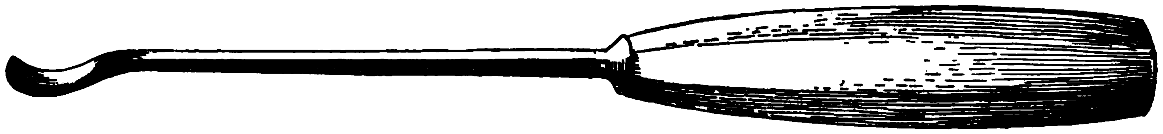
Dr. Voorhees closed the discussion.

New Instruments.

THE FRONT-BENT GOUGE IN CRANIAL SURGERY.*

By H. Sohier Bryant, M.D.,
New York.

This tool has long been in use among wood carvers for working out under a design to give it more relief. A year and a half ago I noted its possibilities if applied to bone surgery, especially to cranial work. Since that time, I have used it with much satisfaction in all my operations on the skull. It shortens in a very great degree the time of operating, it lessens the danger of untoward accidents to the patient, it relieves my mind from much of the strain consequent upon the impending danger to the patient, and is the means of sparing the patient the repeated blows of the mallet which is generally used in this work. The good results are also shown in the shorter convalescence, compared with the usual time, which the patients pass through. The instrument is a gouge with a long shaft, and a handle that rests comfortably in the hand. Near the tip the blade is bent forward sharply. Two sizes are used, 3/16 and 1/4-inch blade.



The instrument is better than a trephine on account of its safety and quickness of action. In order to bore a hole through the bone, it is rotated on its longitudinal axis. When the excavation is deep enough to hold the end of the gouge, the handle is rotated and swung at the same time, thus cutting on the sides and floor of the depresssion. The instrument cuts along the surface to be removed by a slow forcible movement of the cutting edge. This action is accomplished through the convexity of the curved blade which rests on the sides of the bony wound and acts as a fulcrum, while the shaft is swung like a pump handle. To enlarge an opening already made, the blade of the gouge is directed around the opening, the sides of which act as a fulcrum. To remove bone from the side or the floor of a bony cavity, the edge of the instrument is applied to the point to be removed, and with the convexity of the blade resting on adjacent bone, the desired fragment is readily cut off.

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* Shown before the Surgical Section of the New York Academy of Medicine, April 7, 1905.

The danger of slipping through is reduced to a minimum because the force applied is never parallel to the direction of the excavation, but at right angles to it. The cutting edge of the instrument is not sufficiently sharp to cut soft tissues, but slides over them, and thus avoids any danger of wounding the dura mater or venous sinuses, etc.

With the use of this instrument, the time of convalescence has been found to be from a third to a quarter shorter than would be expected under the usual conditions. This lessening of the time of convalesence can, I think, be largely attributed to the saving of the patient from the jar inflicted by the blows of the mallet in cranial work. If anyone doubts the serious disturbance resulting from the use of the mallet, let him apply a blunt instrument to his skull and let some one pound the instrument with a mallet in the usual way in which it is done in bone surgery. I think that he will admit that this procedure is not good for his health, or for his peace of mind.

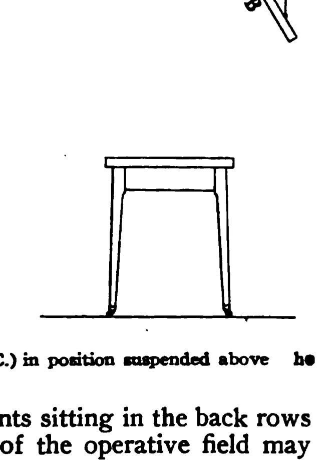
48 West Fortieth Street.

A MIRROR DEVICE FOR FURTHERING PRACTICAL TEACHING OF OPERATIVE SURGERY.

By FREDERIC GRIFFITH, M.D.,
NEW YORK.

The device consists of a single, large plane mirror, or two or three placed side by side, and suspended ing-table as he fruitlessly sought a vantage point of view, gave me the idea which I believe worthy the consideration of those engaged in teaching surgery to bodies of students.

The device consists of a single, large plane mirror or two or three placed side by side, and suspended above the operating-table. By raising or lowering the ends of the glass the proper angle of reflection to afford students sitting in the back rows of seats adequate view of the operative field may be obtained. The criticism that such reflected images would be confusing to the spectator, may be met with the answer that a reflected image is better than none, which observation is borne out by the generally accepted value of the ordinary throat-mirror.



Mirror (A B. C.) in position suspended above he operating table.

While modern surgical amphitheaters are not generally constructed to seat two or four hundred students as heretofore, it is nevertheless a fact that even where but thirty or forty are accommodated, only a comparatively small number seated upon the first three or four rows gain an unobstructed view. Where the students are permitted to collect about the table possibly only six or eight of them see with satisfaction. It would seem, therefore, that a trial of the mirrors set up as suggested would prove them of distinct value.

49 East Sixty-fourth Street.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor wil not be of interest to its readers.*

Report of the Commissioner of Education for the Year 1903. Vol. 1. Whole Number 341. 8vo, 1216 pages, muslin.

Practical Problems of Diet and Nutrition. By Max Einhorn, M.D. 8mo, 64 pages, muslin. William Wood & Co., New York. Price, $.75 net.

Surface Anatomy. By T. Gillman Moorhead, M.D., M.R.C.P.I. 12mo, 150 pages, illustrated, muslin. William Wood & Co., New York. Price, $1.50 net.

Operative Surgery. Volumes 1 and 2. By Joseph D. Bryant. Fourth Edition. 8vo, pp. 1-737 and 739-1559, illustrated, muslin. D. Appleton & Company, New York.

Transactions of the Vermont State Medical Society for the Year 1904. Annual Meeting for 1905 at Burlington, October 12 and 13. 8vo, 239 pages, illustrated, muslin.

Sixth Annual Report of the State Board of Insanity of the Commonwealth of Massachusetts for the Year Ending September 30, 1904. 8vo, pp. 1-110 and i-lxiv. muslin.

Surgical Diagnosis—A Manual for Practitioners of Medicine and Surgery. By Otto G. T. Kiliani, M.D. 8vo, 449 pages, illustrated, muslin. William Wood & Co., New York. Price, $4.50 net.

Lo Sgombero degli Ammalati l dei Feriti in Guerra. Memoria del Dr. Luigi Bernardo. By Dr. Giuseppe Brezzi. 8vo, 276 pages, illustrated, paper. Presso il Giornale Medico del R. Esercito, Rome, Italy.

Dental Surgery for Medical Practitioners and Students of Medicine. By A. W. Barrett, M.B., M.R.C.S., L.D.S.E. Fourth Edition. 12mo, 159 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $1.00 net.

Wharton and Stille's Medical Jurisprudence.. Vol. 1. Mental Unsoundness. By James Hendrie Lloyd, A.M., M.D. Vol. 3. Physical Conditions and Treatment. By Truman Abbe, A.B., M.D. Legal Aspects. By Frank H. Bowlby. Fifth Edition. 8vo, pp. 1-1031 and 1-692, illustrated, leather. The Lawyers' Co-operative Publishing Company, Rochester, N. Y.

Dyspnea in Pneumothorax.—Hofbauer states that in unilateral pneumothorax the resulting dyspnea is not entirely due to the collapse of the lung on the injured side, but is, in addition, the result of great interference with the function of the other lung as well. Owing to the instability of the mediastinum, which is ordinarily maintained in its position by the balance of negative pressure existing in the two pleural cavities, when one pleura is opened the mediastinum is at once drawn several centimeters toward the uninjured side. This lung is, therefore, also caused to collapse to a considerable degree, though enough of pulmonary activity still persists amply to supply the needs of the body without giving rise to dyspnea, were it not for another factor. The dyspnea of pneumothorax is not inspiratory, but expiratory, and depends on the fact that the lung, on retracting, has sacrificed a large part of the elastic energy needed to expel its air content during expiration, and ventilation of the air passages is, therefore, dependent on the accessory muscles of expiration, which are few and not well adapted to the work.—*Zentralblatt f. innere Medizin.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 13, 1905:

	Cases	Deaths
Measles	742	14
Diphtheria and Croup	312	36
Scarlet Fever	235	13
Smallpox	6	1
Chickenpox	129	.....
Tuberculosis	474	195
Typhoid Fever	37	3
Cerebrospinal Meningitis	136	88
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	2,071	350

Carcinoma Arising After Twenty Years in a Vaccination Scar.—Wm. B. Crawford describes this case. The patient was a colored farm-hand, 68 years of age. The family and personal histories were negative, except that the patient had had frequent attacks of malaria. Twenty years before he had been vaccinated upon the right arm. A scar about the size of a quarter resulted. No tendency to hypertrophy in the scar and no keloid formation had been noted. The patient was a moderate drinker, but denied syphilis. Eight months before admission to the hospital the scar became painful and tender, although there had been no injury. The scar also began to increase in size, and the patient consulted a physician. Within a few months after these symptons the scar broke down, with a resulting foul-smelling lesion. Loss of strength and flesh became rapid and decided. On admission the upper third of the arm showed a necrotic, foul mass, covered with a purulent discharge, which bled readily. The axillary glands and a chain down the sides of the chest were enlarged. These glands were discreet. The general appearance of this lesion was that of an infected keloid. The temperature was 100°, the pulse 96, and respirations 22. The urine was negative. At operation the arm was disarticulated and removed with an extensive dissection of the axillary space and side of the chest. The patient never recovered from the shock of the operation and died twenty-two hours after.—*The Georgia Practician.*

Diphtheritic Paralysis.—M. McCrory declares that the term diphtheritic paralysis is scarcely broad enough to cover all the nervous symptoms of the disease, for these are not always strictly paralytic in nature. He sums up his observations as follows: Signs of early affection of the nervous system, such as disorder of the mechanism of swallowing, loss of knee-jerks, or occurrence of vomiting, are of particularly grave omen, while as to prognosis in cases of paralysis coming on at a later period, it is generally favorable, most cases terminating in recovery without much treatment. Yet each case has an element of danger, and the symptoms which should more especially cause anxiety are the occurrence of vomiting, disturbances of the circulation, or paralysis of the diaphragm or intercostals; cardiac failure offers the greatest danger; and in these cases there is little doubt that it is the innervation which is at fault. In all cases with which the writer has met, where the heart has failed, there have been other signs, such as vomiting and abdominal pain, strongly supporting the idea of a nervous origin for the cardiac symptoms. Tonics are needed to fight the anemia and debility of these cases. In cases of cardiac failure, brandy or champagne, ether or ammonia, digitalis or caffein, carefully given, may be most important. The nasal tube for feeding may be necessary, and all such conditions which would indicate this must be carefully watched. Antitoxin does not protect the nerve centers when they have been acted on by the toxin of diphtheria.—*The Medical Standard.*

Fluorescence of the Urine in Diabetes.—Schilling refers to an observation first made by Strzyzowski, to the effect that the urine of diabetics, if rich in sugar, displays fluorescence twenty-four to thirty-six hours after the addition of formalin, if kept at room temperature. The author, in investigating the matter, found that the phenomenon always appeared in urine containing over four per cent. of sugar, but when only 0.5 to 2.5 per cent. is present, no fluorescence develops. Experiments to determine the nature of the substance causing the phenomenon showed that it is not due either to aceton, diacetic acid, or B oxybutyric acid, and the probability is that it depends on some coloring matters that are still unknown. The assumption is that these are formed in some gland or tissue in consequence of perverted metabolism, and, reaching the urine, are rendered fluorescent in the presence of formalin.—*Zentralblatt f. innere Medicin.*

Treatment of Hemoptysis.—Francis Hare was led to try inhalation of amylnitrite in hemoptysis on physiologic grounds. He argued that the peripheral vasodilator influence of the drug would cause a fall of blood-pressure in the aorta, left ventricle, left auricle and ultimately in the pulmonary arterioles. He gives the results obtained in the first nine cases (8 tuberculous, 1 mitral). Sixteen attacks of hemoptysis were treated by amyl nitrate; in all save one, the bleeding ceased in less than 3 minutes, for the most part instantaneously; in the one exception there was an immediate retardation, but cessation did not occur for 10 minutes. The drug does not interfere with cough, hence retention of blood and subsequent septic pneumonia are obviated. The treatment is safe and easily applied by the patient himself.—*American Medicine.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended May 13, 1905:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, Los Angeles	Apr. 15–22	1	..
San Francisco	Apr. 22–29	2	..
District of Columbia, Washington	Apr. 30–May 6	7	..
Florida, Jacksonville	Apr. 30–May 6	8	..
Illinois, Chicago	Apr. 30–May 6	13	3
Kentucky, Covington	Apr. 30–May 6	1	..
Lexington	Apr. 22–29	1	..
Massachusetts, Boston	Apr. 30–May 6	..	1
Michigan, Grand Rapids	Apr. 22–May 6	47	5
Missouri, St. Joseph	Apr. 30–May 6	20	..
St. Louis	May 1–8	11	2
Ohio, Cincinnati	Apr. 29–May 5	8	..
Toledo	Apr. 22–May 6	7	..
Pennsylvania, Lebanon	Apr. 30–May 6	3	..
Wisconsin, Appleton	May 1–8	4	1
La Crosse	Apr. 22–29	1	..

SMALLPOX—INSULAR.

Hawaii, Honolulu ....Apr. 24............ 1 on steamship *Coptic* from Oriental ports.

SMALLPOX—FOREIGN.

Africa, Cape Colony	Mar. 25–Apr. 1	1	..
Monrovia	Mar. 4–11	10	2
Brazil, Pernambuco	Mar. 15–31	..	240
Rio de Janeiro	Apr. 2–9	3	5
Ecuador, Guayaquil	Apr. 11–18	..	3
France, Paris	Apr. 15–22	11	..
Great Britain, Bradford	Apr. 1–22	10	..
Cardiff	Apr. 15–22	1	..
New-Castle-on-Tyne	Apr. 15–22	1	..
Nottingham	Apr. 15–22	4	..
Southampton	Apr. 15–22	..	2 Among cases previously reported.
South Shields	Apr. 15–22	2	..
India, Bombay	Apr. 4–11	..	86
Calcutta	Apr. 1–8	..	6
Karachi	Apr. 2–9	15	6
Madras	Apr. 1–7	..	9
Italy, Catania	Apr. 6–13	..	2
"	Apr. 20–27	..	2
Norway, Christiania	Apr. 8–15	1	..
Russia, Moscow	Apr. 8–15	5	..
Odessa	Apr. 15–22	5	3
St. Petersburg	Apr. 1–15	24	7
Spain, Barcelona	Apr. 10–20	..	10
Straits Settlements, Singapore	Mar. 18–25	..	2

YELLOW FEVER.

Panama, Colon	Jan. 23–Apr. 2	6	3
Panama	Jan. 1–Apr. 29	50	20

CHOLERA.

India, Calcutta	Apr. 1–8	0	58

PLAGUE.

Africa, Cape Colony	Mar. 25–Apr. 1	5	1
Arabia, Aden	Apr. 7–14	6	5
India, General	Mar. 25–Apr. 1	65,000	57,702
Bombay	Apr. 4–11	..	765
Calcutta	Apr. 1–8	..	712
Karachi	Apr. 2–9	104	176
Rangoon	To Apr. 11	500	380
Mozambique, Govura	Feb. 2	(Present.)	

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Original Articles.

INTERMITTENT CLAUDICATION AND ALLIED SYNDROMES DUE TO ANGIOSCLEROSIS OF THE EXTREMITIES.*

BY J. RAMSAY HUNT, M.D.,

NEW YORK.

CHIEF OF THE NEUROLOGICAL CLINIC AND INSTRUCTOR OF NERVOUS DISEASES IN THE CORNELL UNIVERSITY MEDICAL COLLEGE; NEUROLOGIST TO THE CITY HOSPITAL; ASSISTANT PHYSICIAN TO THE MONTEFIORE HOME.

THE sclerosis of the arteries and veins of the extremities and the abnormal vasomotor states sometimes associated, form a subject which well illustrates the intimate relationship of neurology and the broad field of internal medicine, some of its phases even transporting us into the domain of surgery.

While the syndromes resulting from angiosclerosis and angioneurosis of the extremities are many and varied, the underlying pathological changes are those so familiar to us all—the arteriosclerosis, the obliterating endarteritis, and the senile calcification of the arterial tree.

Among the more or less clearly defined clinical pictures dependent upon vascular disease of the extremities may be mentioned: (1) The intermittent claudication (Charcot); (2) some forms of erythromelalgia (Weir Mitchell); (3) some types of symmetrical gangrene (Raynaud's disease); (4) the spontaneous gangrene of the extremities; (5) the arteriosclerotic neuritis from obliteration of the vasonervorum. For the production of these various clinical types special factors are essential, of which the more important are: The degree and nature of the vascular process; the localization and predominance in certain vascular areas; the neurotic element or the accompanying vasomotor neurosis.

Great importance must be attached to the associated vasomotor instability as a determining and often dominating factor in these cases. A simple obliteration of an artery would have as a result the so-called spontaneous gangrene. If such obliteration were symmetrically distributed, a picture similar to Raynaud's disease would follow. If, however, to the arterial disease a vasomotor instability is superadded, with a tendency to vasoconstriction or vasodilation, the symptoms of intermittent claudication or erythromelalgia would result. The so-called arteriosclerotic neuritis, a very rare manifestation, is merely an unusual predominance of the process in the vessels of the nerve trunks, inducing widespread degeneration of the nerve fibers and the symptoms of an irregular, progressive neuritis.

The kindred nature of these various clinical types receives abundant confirmation in a similar pathological anatomy, in their occasional combination, and a somewhat rarer alternation, *i. e.* the disappearance of one syndrome and its replacement by another, and, most important of all, in a very striking tendency to a common termination, *the dry gangrene.*

In fact, the important practical lesson taught by a consideration of this subject is to regard all these various manifestations in the light of a distinct warning and forerunner of this unhappy termination.

As the intermittent claudication has received but scant attention in this country, and even less in Great Britain, and as the subject is one of great practical importance, a somewhat detailed description is ventured upon, including four personal observations.

Historical.—For the name and the first description of this affection we are indebted to Charcot. His first publication appeared in 1858, and described in a most graphic manner a complex of symptoms, which he christened Claudication Intermittente; use was also made of the term Paralysie Douloureuse Intermittente. The autopsy revealed an aneurysm of the right iliac artery, the vessel having been occluded by a thrombus for a short distance below. Charcot also remarked the resemblance between this group of cases and a similar condition observed in horses by veterinarians. (Bouley in 1831, Rademacher in 1838, Böther in 1839, and others.) Animals suffering from this disease, which we term springhalt, after covering a short distance, are seized with sudden weakness and stiffness in the hind legs, which become absolutely rigid. After a short rest the spasm relaxes and the function of the extremities is restored. In these animals arteriosclerosis and calcification at the bifurcation of the aorta and in the iliac arteries was found interfering with the free circulation of the blood in the parts below.

Further contributions from the pen of Charcot appeared in 1886, 1887, 1891, and 1892, crystallizing and enlarging the clinical picture and adding materially to our knowledge of the etiology. Other communications from French observers appeared in 1873 by Sabourin; 1890, Delaunay; 1892, Magrez; 1894, Levet, and Bourgeois, in 1897.

Strangely enough, this very striking, and, as has been demonstrated by subsequent experience, not uncommon affection, received but little attention in other countries. It was not until 1892 that Elzholz, and in 1895 that Goldflam, recorded cases in Germany. In 1898 however, Erb, in a masterly exposition, comprising a complete analysis of the literature and a most able discussion of the whole subject in all its phases, inaugurated a new era for the intermittent claudication, and insured it a permanent and important niche in the pantheon of disease. While Charcot attached the greater importance to disease of the larger arterial trunks, as did also the veterinarians, Erb demonstrated in the clearest manner possible its dependence in the vast majority of cases upon sclerosis and obliteration of the smaller arterial branches and terminals.

Since Erb's publication many monographs have appeared in German literature showing the frequency and growing importance of the affection.

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Among these are Higier, in 1900, recording 23 cases; Hagelstam of Helsingfors, in 1901, recording 7 cases; Idelsohn, in 1903, recording 14 cases. In this country the first report of a case was made by Putnam of Boston in 1901. Subsequent case reports followed by Dana, in 1902; Riesman, 1902; Walton and Paul, 1902; Levy, 1902; Patek, 1904, and Burr, 1904. In the literature of Great Britain no contribution to this subject could be found. The natural inference is that in this country and Great Britain either the malady is rare, or it has not yet attained widespread recognition and importance.

Several names, more or less descriptive in nature, have been suggested to supplant the original, as suggested by Charcot. Intermittent muscular paralysis (Grossman); myasthenia angiosclerotica (Higier); angina crusis (Walton and Paul); dysbasia angiosclerotica intermittens (Erb). The intermittent claudication seems, however, to have been firmly fixed by usage, and at present still finds most favor, although the dysbasia angiosclerotica, as proposed by Erb, is more descriptive and has a more general application.

Etiology.—The disease is much more frequent in men than in women. While the etiology is still obscure and somewhat speculative, a number of causative factors, both general and special, have come to be recognized. All those general causes favoring the development of angiosclerotic changes naturally assume a prominent place—advanced life, alcoholism, syphilis, gout, and nicotinism. Diabetes was present in a certain number of cases. Among the special causes having a more or less local influence may be mentioned exposure to excessive cold, flat foot (Idelsohn), arterial compression by a truss, and aneurism (cases of Charcot, Barth, Mannaury). Some observers, notably Oppenheim, attach great importance to the neurotic temperament, the so-called neuropathic diathesis. Others again would seek a cause in the hereditary or congenital insufficiency of the cardiovascular apparatus and its controlling nervous mechanism. Erb, who has had unusual opportunities of observation, recording 57 cases in all, attaches the greatest importance to excessive smoking and exposure to excessive cold as direct excitants of the vasomotor irritability and spasm.

Pathology.—Our knowledge of the pathological anatomy of this affection has been derived very largely from the study of amputated extremities. (Charcot, Erb, Marinesco, Goldflam, Laveran, Panas, Dutil and Lamy.) Only a meager number of autopsies have been recorded. (Cases of Charcot, Elzholz, Magrez, and, recently, Erb.) The findings have been practically uniform, and may be summed up in the one word, angiosclerosis. All forms of arterial changes are met with, the obliterating endarteritis of Friedländer, the senile calcification, the arteriosclerosis of Gull and Sutton, the periarteritis nodosa of Kussmaul and Maier, with and without obliteration and thrombosis, but all tending to produce a common evil, a diminution in the caliber of the vessel, with consequent circulatory embarrassment. The veins not infrequently show analogous changes, but in a lesser degree, the phlebosclerosis and endophlebitis. These changes are all more marked in the smaller arterial branches and terminal vessels of the extremities, and they frequently show a symmetrical distribution on the two sides. It must be emphasized, however, that arteritis, aneurism, and thrombosis of the larger trunks have been found in quite typical cases.

In the more advanced stage of the obliterating process secondary changes of a trophic nature frequently occur. The muscles may become atrophied and show extensive areas of degeneration and sclerosis (Marinesco case). The nerves may present more or less diffuse degeneration from occlusion of the vasonervorum, this in turn leading to degenerative muscular atrophy (cases of Joffroy and Achard, Dutil and Lamy), or a portion of the extremity may be thrown off by the process of dry gangrene. It is this termination which unites these cases with the symmetrical, senile, and spontaneous forms of gangrene.

These are the structural changes found in the class of cases under discussion. But such alterations are very commonly present where not a trace of intermittent claudication has been observed, so that another and most important factor deserves consideration, of a purely functional nature, and may be termed the vasomotor element. The variations in arterial tone, the alternate contraction and relaxation of the vessel wall under the influence of various internal and external stimuli is well known. The flushing of the face and sudden pallor, the coldness of the hands and feet under the influence of a sudden emotion is a common experience. It is this vasomotor irritability, this spasm of the arteries of the extremities which contributes so largely to the production of this peculiar syndrome, and accounts, in part, for the sudden restoration of function after a paroxysm. Some observers even (notably Oppenheim) suggest a purely functional form of the disease, or one in which the structural alterations of the vessels play an entirely subordinate rôle.

While the vasomotor element deserves all the importance accorded it, it should not be overlooked that a mechanical impediment to the circulation alone, perhaps sufficing during rest, but insufficient for the increased demands of activity, may of itself cause symptoms of claudication.

It is generally admitted that the symptoms are ischemic in origin, the manifestation of a temporary anemia of the muscles, nerve endings, and other structures. In this connection reference is often made to the experiments of Stenson and others who, by compression of the aorta, produced paralysis and anesthesia in the parts below.

The exact relation existing between the organic changes in the vessels and the vasomotor irritability is still speculative. Whether the tendency of the vessel wall to vasomotor spasm is the direct consequence of arterial disease from implication of the intrinsic nervous mechanism, or merely an independent vasomotor neurosis superadded to the other condition. Three factors must be recognized in the production of the claudication ischemia. One, constant and organic in nature, diminishing the caliber of the vessel, and two factors, inconstant and functional, the tendency to vasomotor spasm and the increased demand upon the circulation of the part during activity.

Symptomatology.—After a consideration of the various clinical features and peculiarities of dysbasia angiosclerotica, that which is perhaps most striking and most characteristic is the intermittent character of the symptoms. An absence of pulsation in the pedal arteries and evidences of circulatory disturbances in the lower extremities are of scarcely less importance. The patient suffering from this affection, while at rest, either in the sitting or recumbent position, is unconscious of any disability; the extremities are freely movable and are free from any abnormal sensory manifestations. He feels that he could rise and walk indefinitely. In fact, it is usually possible for him to rise and start off at the usual pace without any ill effects, but gradually, in from five to ten, twenty or thirty minutes, or even longer, varying with the severity of the case, the symptoms of claudication appear, and increase in severity with the effort to proceed. At last further progress becomes distressing, or even quite impossible, and an enforced rest results. Gradually the symptoms of distress grow less, the legs resume their natural feeling and power, and in a very few minutes the pedestrian is able to pursue his way, only to halt again as the time limit of his toleration is reached.

The symptoms induced during the period of activity, while differing somewhat in individual cases, are strikingly similar. Usually the first indications of beginning trouble as the paroxysm approaches is a sense of weight and heaviness, a feeling of fatigue and pain in the leg. This is soon followed by coldness and pricking sensations, and the etremity becomes numb and weak. If activity is maintained the muscles stiffen and become painfully cramped, and the characteristic limping results, or locomotion may even become quite impossible from the intense, marble-like rigidity which follows (abasia). Thus weakness, painful cramps, paresthesia, and stiffness may be regarded as the essential accompaniments of the paroxysm, although other and often very curious sensations are sometimes graphically described by the patient, as: "A sensation of water rushing through the leg"; "as if the leg were being sundered from the body"; "a bursting feeling in the calf"; "as though I dragged a cannon shot about in my leg." Sometimes scalding or burning sensations are complained of, or the hot sensation of very intense cold.

If the feet and legs are inspected after a prolonged effort, or even in more severe cases in the dependent position alone, evidences of circulatory disturbance are very obvious. They are congested and swollen, with evidences of mottling and cyanosis, and are palpably colder than normal. In cases with marked vasomotor irritability the feet and toes may even assume a "dead" or waxy hue from the high degree of arterial spasm. In the more advanced cases the intense burning pain in the toes, which may be a glossy red or cold and purple, indicate the beginning of total arterial obliteration, with consequent gangrene.

Objective changes in the pulsation of the pedal arteries are of great importance in these cases. In the vast majority of cases the posterior tibial and dorsalis pedis arteries, one or both, are either quite pulseless or weaker than normal. To determine their constancy under other conditions Erb examined 750 cases, at all ages and suffering from various ailments, with a positive result of 99 per cent. With so small a proportion of negative cases, some of which may be accounted for on the ground of anomalies of distribution, the foot pulses may be practically regarded as fixed and constant, and their absence as evidence of a pathological state. Goldflam and Walton and Paul have carried out similar investigations on a smaller series of cases (200), with practically the same results (Goldflam, 99 per cent., Walton and Paul, 96 per cent.).

Changes are not infrequently met with in the superficial veins of the extremities, minute dilatations and varicosities, and an increase in the number of visible venules. In some cases thrombosis of the veins has been observed.

Wasting and atrophy of the muscles occasionally occur. This is often only the atrophy of inactivity, but true muscular degeneration and sclerosis may result from obliteration of the vessels. While the symptoms are often confined to a single extremity, in the majority of instances both limbs are involved, but rarely in the same degree. No adequate explanation has been offered for the greater frequency of the affection on the left side.

While the typical picture of intermittent claudication is as outlined above, the paroxysm during activity and complete freedom during rest, certain exceptions may be mentioned. In the more severe cases, in which the obliterating process is well advanced, or the patient has abused the "time limit" for a considerable period, sensory symptoms and weakness may be present more or less constantly, and may give rise to errors in diagnosis. In this group of cases sharp lancinating pains shoot through the legs and the calves may be constantly stiff, swollen, and tender.

As might be inferred from the general nature of the underlying process, the symptoms of intermittent claudication may occur in other arterial distributions of the body. One or both arms may present rarely the characteristic symptoms of the disease, usually associated with objective changes in the pulsation of the arteries at the wrist. Cases presenting this distribution have been recorded by Nothnagel, Hagelstam, Dana, Burr, and Massaut. An unusual localization was observed in a case recorded by Brissaud. A severe burning pain would regularly appear on the anterolateral aspect of the left thigh after walking twenty minutes, always disappearing after a short rest. Autopsy revealed an exquisite arteriosclerosis of the branches of the femoral artery in Scarpa's triangle. In two cases, in addition to the other symptoms, the pudendal artery was found occluded, and had produced during life rectal disturbances and impotence in the case of Luxemburg, and incontinence of urine in Burr's case.

The syndrome of intermittent claudication, viz., function perfect at rest, but impaired during activity, is by no means confined to the vessels of the extremities. It has long been thought that the paroxysms of angina pectoris were referable to a similar state of the coronary arteries. In recent years cases with autopsy are recorded showing the occurrence of this syndrome in the brain, kidney, retina (Wagenmann), and intestines (Schnitzler and Ortner).

Indeed, so general would its application seem at present that *dyspragia intermittens* (Ortner) has been proposed as a generic term, indicating the intermittent disturbance of function.

Perhaps the most circumscribed type of the affection is found in an isolated muscular localization, associated with recurring cramps and pains in certain definite areas. The frequency of these muscular spasms in old people, and their dependence upon arterial disease, has been emphasized by Walton and Paul. Thoma and Erb likewise refer to many of the so-called rheumatic pains of middle life and their possible dependence upon vascular conditions.

In discussing the pathological anatomy mention was made of secondary nerve degenerations, arteriosclerotic in origin, due to obliteration of the vasonervorum. In rare instances, notably in the cases of Schlesinger, Joffroy and Achard, the localization of the obliterating process in the neural arteries was so extreme, and the resulting degeneration of nerve tissue so great as to give a distinctly neuritic coloring to the clinical picture. These cases presented the picture of a slowly progressive multiple neuritis, of very irregular course, with occasional acute exacerbations and associated with paralyses, atrophies, objective sensory disturbances and electrical changes.

Before leaving the subject of symptomatology reference must be made to the rare occurrence of certain atypical, or even paradoxical forms described by Erb. In these weakness and fatigue in the legs may occur, without the characteristic intermission or even the necessity of resting, or activity, instead of aggravating, may cause an amelioration of the symptoms.

Diagnosis.—The diagnosis in well-marked and typical cases is easy. The nature of the motor and sensory manifestations, their intermittent character dependent upon activity and rest; the accompanying evidences of circulatory disturbances and absence or feebleness of pulsation in the pedal arteries should render the recognition of this affection comparatively easy. Early and atypical cases may present greater difficulties and suggest disease of the central or peripheral nervous systems, or even some purely local condition, such as flat foot, tarsalgia, meta tarsalgia, and podalgias of gouty origin. It is needless to insist that in every case a thorough examination of the nervous system is absolutely essential. It should also be an established routine practice in all nervous cases of doubtful nature involving the extremities to examine carefully the pedal arteries and note the condition of the circulation in these parts.

Prognosis.—The prognosis as regards cure is unfavorable. Many cases, under appropriate treatment, have shown considerable improvement, while others resist every known method, and continue their downward course, terminating in gangrene. Those cases in which the vasomotor element is well marked, and those due to obliterating endarteritis of syphilitic origin, are most amenable to therapy. In general, it may be said that, under appropriate measures much may be done towards arresting the process and warding off indefinitely the threatened gangrene.

Treatment.—One of the most important elements in treatment is rest. These patients should never be allowed to transgress their time limit, *i.e.* the period of time elapsing while walking before the appearance of the claudication. They should, as Charcot advised, walk watch in hand, with slow, measured step, and frequent intervals of rest.

From time to time prolonged periods of rest in bed are also advisable, as allowing a better collateral circulation to be established in areas poorly nourished, and also favoring the establishment of a more stable vasomotor tone, so important an element in these cases.

Of the internal remedies, potassium iodide in moderate doses finds great favor, as in other manifestations of arteriosclerosis. Where syphilis is suspected it should naturally be pushed to the point of toleration. Also cardiac tonics, especially those with little action on the vasomotor system, such as strophanthus. Drugs bearing a special influence on vasoconstriction, such as digitalis and ergot, should be studiously avoided. Nitroglycerine has been recommended in these cases for its effect on the arterial walls, but without very brilliant results. Warm foot baths and galvanic foot baths are highly recommended by Erb for their vasodilator effect, and should be given a trial in all cases. On the contrary, very hot baths and naturally cold baths should never be employed.

Idelsohn, in his series of 22 cases, found an associated flat foot in eight cases. He is inclined to regard this as an etiological factor of importance and recommends its careful correction. Its exact relation to the affection is not clear, but his suggestion that the circulation in the foot may be impeded by sinking of the arch, or that possibly by stretching of the nerves a state of reflex vasomotor irritability is induced, well merits consideration.

Report of Personal Observations.—CASE I. (Referred by Dr. Henry Russell.) The patient is a widow, 58 years of age, of unusually strong constitution and hale and hearty appearance. She has never borne any children. Her parentage is English, and on both sides of her family for several generations gout has existed in its most exquisite form. The patient herself has never suffered from this affection. So far as her memory goes no member of her family has suffered from any of the graver mental or nervous diseases. It is interesting to note in this connection that both the patient and a brother have been sleepwalkers from an early age. Two sons of this brother were also somnambulistic. This tendency was never outgrown in the patient's case, and even up to the present time a change of surroundings or any unusual stress or worry is sufficient to excite a night ramble. In her younger days these somnambulistic episodes were frequent and of some gravity. It was not uncommon to find her in this state walking the streets. Objects were frequently hidden, letters written and other complicated acts performed. She has always enjoyed exceptional health, and her mode of life has been one of unusual care and moderation. In her diet she has been rather addicted to red meats, and for many years she has taken daily six large cups of strong tea, of alcoholic beverages only on the rarest occasions. During the latter years of her life she has had many trials and anxieties, culminating about five years ago in a distressing episode, at which period her present malady began. She had always been fond of walking, took a very quick step, but rarely exceeded from three to five miles a day. Until the beginning of her present trouble she had never suffered with cold hands or cold feet or other evidences of vasomotor instability. In 1885 she abandoned the use of the circular garter.

In the winter of 1900, after walking from a quarter to a half mile, she first noticed that a slight stiffness and numbness would develop in the calf of the left leg. She frequently rested on this account, and found that after a few minutes it passed away, so that it became her habit to break a journey or a shopping expedition by these short waits. These symptoms gradually grew worse, so that in time it became necessary to shorten the distance, and for any longer effort to increase the period of rest. About the same time the right leg presented similar symptoms, but of a trifling nature and slight in comparison. It sometimes happened that when no good opportunity was offered for a rest she would try to brave it out and push on, but to her consternation the left leg would become painfully cramped, absolutely stiff and immovable, and she would have to remain standing where she was. Several times while in this condition she simply collapsed helplessly on the sidewalk, but after a short rest was able to proceed without difficulty. Her condition continued to grow worse, so that eventually only a very short distance could be traversed (from five to ten minutes) before the appearance of painful cramp, numbness, and rigidity in the affected leg. At times very sharp lancinating pains would shoot through the legs, especially at night. The feet were almost constantly cold, and in a dependent position would assume a bluish, mottled hue. In December, 1902, she slipped on the ice and fractured the external malleolus of the left leg, and while under treatment for this passed through a severe attack of pleuropneumonia. The convalescence was complicated by thrombosis of the veins in the lower extremities, first in the right leg, a day or two later in the left, preceded by severe pain and the development of tender lumps along the inner side of the thighs, and followed by a considerable edema of both legs. After recovery from this illness, in May, 1903, the legs were much worse, the feet and ankles would become puffed and edematous, and she complained of almost constant pains, numb feelings, and cramps in both legs, but much more severe on the left side. It was at this time that she first came under my care, and I am much indebted to her physician, Dr. Henry Russell, for his observation of the case previous to this.

Status præsens, May, 1903.—Complains of constant numbness and aching pain in the left calf, especially along the perineal side. In this region there is a painful throbbing sensation, "as if a boil were about to burst." She also experiences at times a sense of great weight and heaviness in the calf, as if a cannon-ball were embedded in the muscle. Sharp pains dart through the legs, often of such severity as to cause a scream, and the muscles of the leg become knotted in painful cramps. The feet and ankles are swollen and cold, and on standing they assume an angry red discoloration. After walking about three minutes the steps become slow and tottering, the muscles of the calf stiffen, the outer side of the leg, sole of foot, and toes become numb and dead, and it is only with the greatest effort, associated with dyspnea, that the left leg can be moved any further. The same disturbance, but much milder, is present in the right leg. The knee jerks and ankle jerks are present on the two sides and exaggerated. Deep pressure on the calves causes the same pain as is observed in neuritic affections. The examination of the nervous system, however, is entirely negative. Sensation over the lower extremities is normal. No pes planus. The heart is free from murmurs and regular, the first sound of good muscular tone, and the second aortic moderately accentuated. The radial pulse is exceptionally small, in view of the large physique and florid appearance of the patient, but the walls are without a trace of thickening. The urine is free from albumin and sugar.

The condition noted in the pedal arteries is as follows: Right posterior tibial, good pulsation; right dorsalis pedis, not palpable; left posterior tibial, feeble pulsation; left dorsalis pedis, good pulsation. No difference in the pulsation of the femoral and popliteal arteries could be noted on the two sides. After walking five minutes no appreciable change was noted in the character of the pulsation in these vessels. No muscular atrophy and no muscle quivering (myokymia) was observed in either leg, and the calves measured the same on the two sides. The thighs escape entirely, and the complaint is of the leg below the knees. At times, however, when seated in a hard straight-back chair, a painful rigidity develops in the gluteal muscles, especially of the left side, analogous to that described in the legs, and disappearing quickly in the recumbent posture. At times, while seated at meals and not obeying the first warnings of the gluteal spasm, the buttocks become so painfully stiff that she is unable to rise alone and has to be literally pulled out of the chair. This localization of the painful spasm never occurs in walking or in standing, nor in the recumbent position, but only while sitting.

She was removed to a sanatorium and placed at absolute rest in bed for one month. At the end of the first week nearly all the distressing subjective symptoms had disappeared, the swelling of the feet and legs had subsided, but the dorsal aspect of the toes was still reddish, paling on pressure.

A very slight thread-like pulsation became apparent in the right dorsalis pedis artery. Treatment consisted essentially of sodium iodide in ascending doses, nitroglycerin, alkaline waters, anti-gout diet and daily hot salt sitz baths at 100° F. At the end of a month the beneficial results of these measures became apparent. She could walk from ten to fifteen minutes with only a moderate sense of stiffness and numbness; if, however, the exercise was prolonged beyond this time painful cramps and rigidity would develop. After an additional two weeks she was allowed to return home where practically the same measures were instituted. She was advised never to transgress her time limit of fifteen minutes, to take frequent rests and for at least one-half of the day to maintain the recumbent posture. For six weeks after leaving the sanatorium she complained bitterly of painful cramps and stiffness in the gluteal region while sitting, but these gradually disappeared. The patient has been under continuous observation up to the present date. Her condition varies from time to time, any exacerbation can usually be traced to prolonged over-exertion and inattention to the warning pains and numbness. If the law of fifteen minutes is disobeyed, the legs ache and feel almost continuously numb, the ankles puff up and the feet become cold and cyanotic. She dreads the cold of winter and always rests with the hot water bag at the feet. Quite recently her condition was aggravated by the worry and exertion attending a change of residence. The old symptoms returned in all their intensity, and in addition, there appeared two swollen areas, very tender to the touch, one just above the internal malleolus and another over the upper third of the tibialis anticus muscle. Over these the skin was quite hyperesthetic. The swelling in the tibialis anticus muscle was tender only on direct pressure, movement of the muscle as in flexing the foot was unattended by pain. These tender swellings as well as the distressing subjective symptoms disappeared after an enforced rest.

December 12, 1904. Pulsation in the pedal arteries is as follows: Right dorsalis pedis, very faint and thread like; right posterior tibial, strong pulsation; left dorsalis pedis, full, strong pulsation; left, posterior tibial, fair pulsation but distinctly weaker and of smaller volume than the right.

Good pulsation in both femorals and popliteals. Repeated examination of the urine was negative. No change in the cardiac condition, the radial pulse is exceptionally small and soft. Dyspnea on exertion.

April 1, 1905. During the past three months patient has received treatment as follows: Moderate doses of the iodides and bromides, tincture of strophanthus, galvanism to the lower extremities, and hot salt foot-baths, under this regime some improvement has been effected, she sits with greater ease and walks with more freedom, but I cannot say that her time-limit (15 minutes), has been materially lengthened.

CASE II.—Referred by Dr. C. E. Campbell. The patient is a Hebrew, forty-two years of age, a storekeeper by occupation. Family history is negative. The man himself is of a quick, nervous temperament, but had enjoyed excellent health up to the onset of his "leg trouble," in the winter of 1902. He is careful in his habits, very moderate in the use of alcohol and tobacco, and denies syphilitic infection. The urine was examined repeatedly and was always normal.

Early in the winter of 1902 he observed that the sole of the left foot and the left leg would become numb during a long walk. The muscles of the calf would stiffen and the foot would become swollen. At such times it was his custom to sit down, unlace his shoe and rub the foot, all trace of the trouble disappearing in about five minutes. He would then resume his journey, repeating this procedure as often as necessary. If, however, he continued without resting, the leg would become more and more stiff, and the numbness extended up the thigh. A very unpleasant sensation would then develop, as if the whole left leg were being thrown off or separated from the body. Paresthenia and stiffness would also develop after long-continued standing in his shop, but never so severe as in walking. Quick relief was always obtained in the sitting or recumbent position. The right leg was unaffected. On awakening in the morning, the leg always felt perfectly well. He feels the cold in both feet, but the left foot is always the colder, both subjectively and to the feel. The left foot sometimes swells about the ankle, but he has never remarked any bluish discoloration. It is possible for him to walk from one-quarter to one-half mile with comparative comfort.

Status præsens.—July 31, 1903. The lower extremities are normal on inspection, no atrophy, no fibrillation, no discoloration. There is no appreciable difference in the temperature of the two sides. The knee jerks and the Achilles jerks are exaggerated and equal on the two sides. No flat foot.

There is no evidence of any involvement of the central or peripheral nervous systems. Heart action is good, no murmurs; the aortic sound is sharp. The radials are not thickened.

Pedal Arteries.—Dorsalis pedis: a full pulsation on both sides; posterior tibials; good pulsation in both posterior tibials, but the right is appreciably weaker than the left; popliteals, pulsate equally on the two sides; femorals, also pulsate well, rather fuller on the left side; the difference, however, is not marked.

The patient was cautioned about over-exertion, and the same measures taken as in Case I. He returned to his home in Corning, N. Y., where he continued this treatment for several months, with some amelioration in the symptoms, and has not come under my personal observation since. In response to an inquiry dated December, 1904, I received the following reply: "The trouble is still entirely in the left leg, especially the sole of the foot and the calf of the leg. I can walk about half a mile without much annoyance; then the prickling, electricity-sensation, pain and stiffness develops, especially in the calf of the leg. Standing for a time also brings it on. The foot does not swell or change color. If I rest about five minutes, all the symptoms disappear. There is no material difference in my condition summer or winter. My physician advised me to wear a plate in the left shoe, which seemed to giv me some relief but my condition remains about the same."

Case III.—(From Prof. Dana's Neurological Clinic, Cornell University Medical College.) A bartender aged sixty years, no venereal history, excessive use of alcohol. For the past twenty years averages ten to twenty drinks a day, in addition to this frequent sprees lasting one or two weeks. For twenty years has smoked ten cigars a day, also chews tobacco (half an ounce in a day). His occupation behind the bar and in damp cellars, has entailed prolonged exposure of the feet to cold and wet for many years.

The first indication of his present trouble was a numbness and coldness appearing in the right great toe about two hours after beginning work in the morning. This was first noted about five years ago and has persisted ever since, gradually involving the whole foot to the ankle. The feeling is one of stiffness and weakness in the right foot and toes, associated with stinging pains, numbness, and prickling sensations. The foot also feels cold and is cold to the touch. In the morning on awaking there is not a vestige of any disturbance, but after walking one-quarter to one-half a mile the stiffness and numbness are induced, varying in intensity with the temperature, and season of the year. In winter all his symptoms are much aggravated and frequent rests are necessary. After resting about fifteen minutes with the feet held before a fire, nearly all symptoms disappear. It is possible for him to walk a mile or even a greater distance, although with much discomfort. The leg above the ankle and the thigh are not involved. Until six months ago the left leg had been perfectly free. At this time a numb, cold feeling made its appearance in the left great toe and gradually extended to the other toes. The disturbance here is likewise described as a stiffness and weakness in the toes with much pain and prickling sensations gradually extending up the foot. As in the right foot it is brought on by standing and walking and is relieved by resting. With the exception of the symptoms just described and occasional rheumatic seizures this patient enjoys fair health.

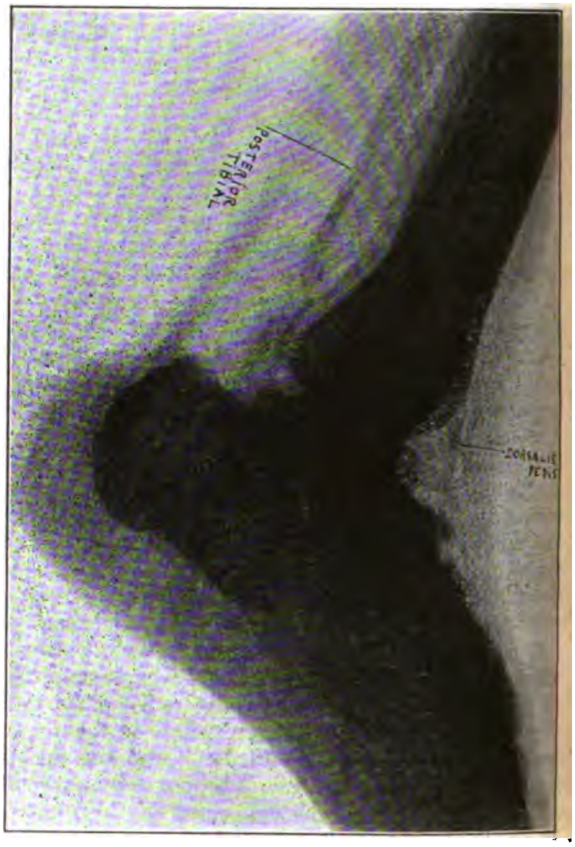

Fig. 1. Skiagram of leg in intermittent claudication, showing deposits of lime and calcareous plates in the walls of the dorsalis pedis and posterior tibial arteries.

Status Præsens.—The temperature of both feet is distinctly lower than normal. They are free from any swelling, but on standing the veins stand out with undue prominence and there is moderate cyanosis. The venules of the skin of the feet and legs are the seat of minute dilatations and ectasies.

The pulsation in the dorsalis pedis on both sides is absent and the artery may be felt beneath the finger as a minute rounded cord. A fair pulsation is present in the posterior tibial arteries. While this was the most constant condition noted in the pedal arteries, it must be remarked that on one occasion (a very cold day), no pulsation could be felt in the posterior tibials behind the internal malleolus and often the pulsation was very feeble. At no time was a pulsation felt in either dorsalis pedis artery. The pulsation of the femoral arteries and the popliteals was of normal volume and equal on the two sides. The general indications of arteriosclerosis are manifest. Arcus senilis, hypertrophy of the left ventricle, accentuation of the second aortic tone, thickened radial with increased tension, a trace of albumin in the urine, no sugar. A careful examination of the nervous system, including motility, sensation and reflexes fails to show any abnormality whatever. The calves of the legs show no atrophy or fibrillary twitchings and present equal measurements on the two sides. He is not flat-footed and there is no tenderness along the nerve trunks.

Radiographs of the right foot and leg show deposits of lime in the posterior tibial and dorsalis pedis arteries delicately outlining their cause. See the illustration.

Case IV.—(Cornell Neurological Clinic).—The patient is forty-nine years old and has been an iceman for thirty-two years, an occupation which exposes the hands and feet to the influence of cold and wet almost continuously. He has indulged excessively in alcohol for many years, as a result of which had gastritis and hemorrhages two years ago. Smokes six cigars a day and chews tobacco almost without intermission. In 1879 acquired syphilis, ulceration on the right leg in 1880 and a perforation of the nasal septum in 1885. In September, 1903, was removed to the alcoholic pavilion of Bellevue Hospital in delirium tremens, where he remained eight weeks. During a part of this time restraint was necessary and he was bound in the usual manner by sheets attached to the wrists and ankles. The first symptoms of the present affection were noticed immediately after discharge from the hospital and were attributed by the patient to the restraints used. He complains of a numbness and "dead" feeling in the toes and dorsum of both feet which become stiff and weak in walking. The left side is worse than the right. The stiffness extends as high as the middle of the calf and is produced and aggravated as are the sensory manifestations by standing and walking.

Last summer he could walk a mile without resting, with discomfort to be sure, but at present (winter), a quarter of a mile renders a rest necessary preferably before a fire, when the more distressing symptoms disappear in about fifteen minutes. The feet feel cold and numb most of the day and swell considerably after standing and walking. They also become blue and mottled in appearance. At times sharp, shooting pains are felt in the feet and legs. On rising in the morning the legs feel perfectly well and natural but after standing and a short walk, the numbness, coldness, and stiffness reappear.

Status Præsens.—Both feet and ankles are swollen and cyanosed. The dorsal surface of the feet and the front of the legs present numerous small venous dilatations and varicosities. The toe-nails of the left foot are marked with transverse ridges. A full pulsation in the dorsalis pedis is present on both sides. A faint pulsation is apparent in both posterior tibial arteries. Good full pulsation in both femorals and in both popliteals. Not infrequently on a cold day it was quite impossible to detect any pulsation in the posterior tibials.

The general signs of arteriosclerosis are present, and the urine contains a faint trace of albumin but no sugar. The motility, sensations and reflexes are normal. No tenderness over the nerve trunks, no wasting or fibrillary twitchings in the muscles of the leg. Radiographs of the left foot and leg show an exquisite deposit of lime salts in the walls of the posterior tibial and dorsalis pedis arteries distinctly outlining their course.

Remarks.—The cases just narrated present the typical pictures of the intermittent limping in varying degrees of severity. The ages of the patients were fifty-eight, forty-two, sixty, and forty-nine years respectively. The etiological factors noted were. Case I.—Neurotic temperament, gouty heredity, anxiety, and tea. Case II.—A moderately nervous temperament. Case III.—Excesses in alcohol and tobacco and prolonged exposure of the feet to cold and wet for many years. Case IV.—Syphilis, excesses in alcohol and tobacco, and constant exposure of feet to cold and wet for years. Exciting cause: Restraint in alcoholic delirium.

Both legs were affected in Cases I, III and IV, but of unequal intensity. In Case II the left leg alone was involved. Pulsation was absent or diminished in one or more of the pedal arteries in Cases I, III and IV. In Case II the anomalous condition was found of a diminished posterior tibial pulsation on the unaffected side. The *x*-ray photographs taken of Cases III and IV, the walls of the posterior tibial and dorsalis pedis arteries are distinctly outlined by calcareous deposits. According to Sänger this method has a certain prognostic importance, for, as was pointed out by Charot, cases dependent upon calcareous deposits are less amenable to treatment, than the arteriosclerosis and the endarteritis. In all the cases something has been gained by treatment, in the amelioration of symptoms and the lengthening of the "time-limit," but in none was a very definite improvement noted. On the other hand, since the institution of a proper regime and treatment, the malady does not appear to have progressed materially.

To Summarize Very Briefly.—Angiosclerosis of the extremities in its gravest form, uncomplicated by a vasomotor nerousis leads to spontaneous gangrene. If the angiosclerosis occurs in combination with a vasomotor instability and a tendency to vasomotor spasm, the syndrome of intermittent claudication results. This is characterized by the development of sensory (pains and paresthesia), and motor (weakness and rigidity) manifestations during functional activity with a rapid and permanent restoration to the normal during rest. The syndrome, however, has a wider and more general application to the whole circulatory mechanism and has been observed in relation to various organs of the body (heart, intestines, brain, kidney, and eyes).

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THE GARDENER'S SPADE DEFORMITY AND THE SILVER-FORK DEFORMITY IN FRACTURES OF THE CARPAL END OF THE RADIUS.*

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Much has been written in recent years about the pathology and treatment of fractures of the carpal end of the radius. These lesions continue, nevertheless, to be badly treated by a great number of practitioners. It seems impossible to convince the profession that restitution of the normal concavity of the palmar surface of the lower portion of the radius is essential for comfortable convalescence and perfect cure. This must be accomplished, even if great force is required to disentangle the fragments and thrust the lower piece into its normal relation with the upper. Such force is demanded in most cases, and the surgeon who fails to employ it does not reduce the fracture. Pain, stiffness of the wrist and fingers, deformity and a protracted convalescence result from the defective surgical treatment.

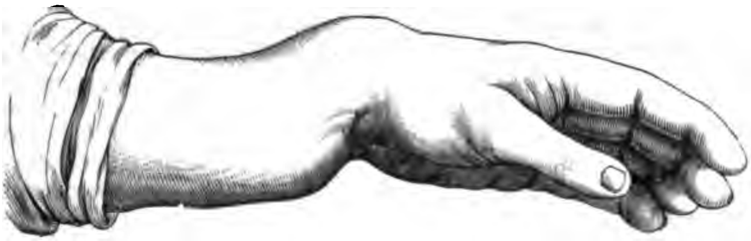
Fig. 1.—Silver-fork deformity in fracture with backward displacement. (Diagrammatic.)

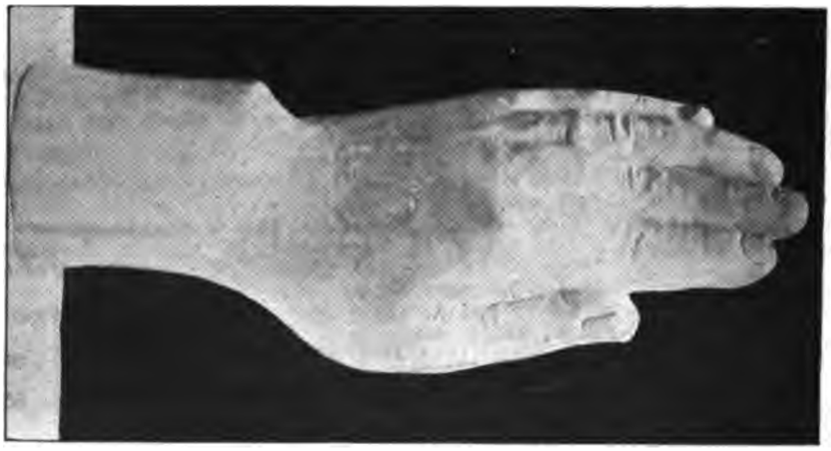
Fig. 2.—Gardener's spade deformity in fracture with forward displacement. (Beatson's case.)

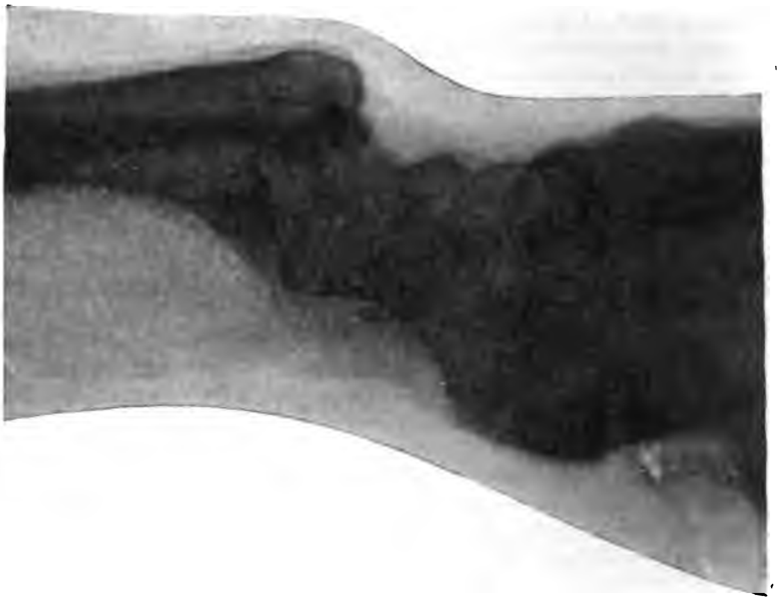
Fig 3.—Skiagraph of gardener's spade deformity. (Author's case.)

These injuries are the fractures of all others, in which "setting" of the bone must be promptly and efficiently done, by the immediate application of a very considerable degree of manual power. Ignorance of the anatomical shape of the lower third of the bone and timidity, in using sufficient force, are the chief factors in the imperfect surgical treatment.

The so-called "silver-fork deformity" of the fracture, with displacement of the carpal fragment backwards, must be absolutely overcome before the fragments may be assumed to have been properly coapted. Very often I do see cases in which the reduction has been only partially successful, because sufficient force has not been applied. The fracture in the same part of the radius with displacement in the opposite direction, namely, forwards, is frequently unrecognized and, therefore, remains unreduced. This injury is much less frequent than that in which the lower fragment is thrust towards the dorsal aspect of the forearm. It, however, occurs sufficiently often to be taken into consideration in the diagnostic examination of all injuries near the wrist-joint.

It is undoubtedly often overlooked, probably because the lower fragment, driven forwards, lies between the flexor tendons and the concave palmar surface of the radius. Little protuberance is, therefore, made by the displaced piece of bone, which simply fills up, as it were, the hollow of the radius above the carpus.

The general deformity, which in teaching I call the "gardener's spade deformity," is, however, very characteristic, even when the inflammatory swelling of the forearm and hand is great. It is very different from the "silver fork deformity" of the fracture with backward displacement of the carpal piece. As will be seen by these photographs and casts, from the Mütter Museum, the planes of the forearm and hand are related to each other almost exactly as are the planes of the handle and blade of the gardener's spade. This deformity is not at all like the silver fork contour given by the fracture with backward displacement, which has a marked elevation at the back of the forearm, due to the displaced lower fragment. That elevation is conspicuous, because the dorsal surface of the normal radius is practically level. It has no hollow as has the palmar surface.

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* Read before the College of Physicians of Philadelphia, March 1, 1905.

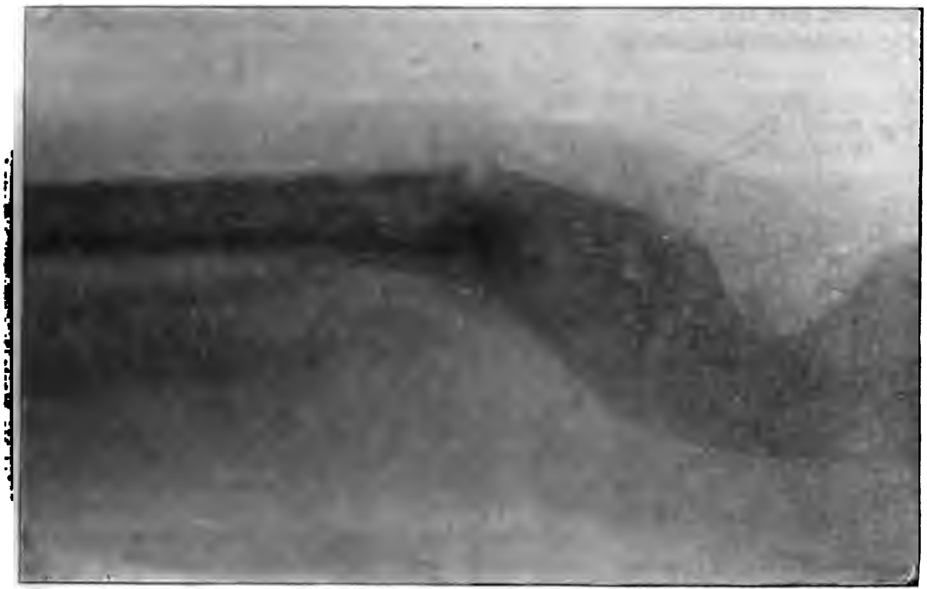

Fig. 4.—Skiagraph of gardener's spade deformity. Line of fracture further from wrist than usual. (Author's case.)

Both fractures are usually produced by falls, in which the force of the impact is conveyed to the lower end of the radius. Whether the lower fragment is thrust backwards, as it is usually, or forwards, as it is occasionally, depends upon the resultant of the forces.

Fig. 6.—Bony specimen of gardener's spade deformity. (Museum of the Royal College of Surgeons in Ireland.)

The degree of displacement dorsad or palmad of the carpal piece varies with the amount of the vulnerating force and the strength of the bone. Therefore, the degree of resemblance to the gardener's spade or the silver-fork also varies; but it is very decided in both instances when the lower fragment is markedly thrust out of place.

In both lesions the styloid process of the radius is apt to be carried upward towards the elbow. As a result, an imaginary line joining the ulnar and radial styloid processes crosses the axis of the forearm at nearly a right angle or with the radial end nearer the elbow than the ulnar end. In the normal arm this interstyloid line is farther from the elbow on the radial than on the ulnar side. The width of the forearm just just above the wrist-joint is apt to be increased in these fractures, because of the displacement towards the elbow of the radial side of the carpal fragment. The hand, on account of the change in the plane of the articular surface of the base, may be voluntarily carried further to the radial side than is normal. The ulnar head is very prominent at the back of the wrist in fracture with forward displacement; but not so in the break with backward displacement. In both forms of injury, however, the ulnar head may be very prominent at the ulnar *edge* of the wrist; because the shortening of the broken radius may give a displacement of the hand and carpus toward the radial side of the limb.

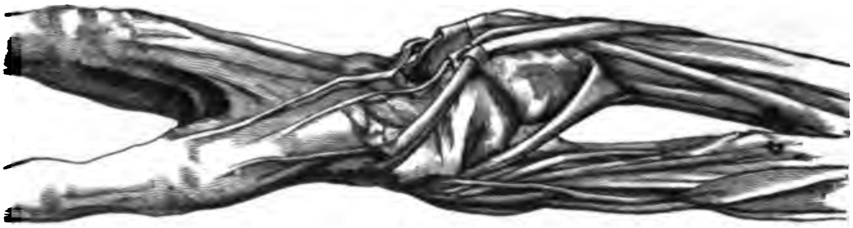

Fig. 5.—Dissection of gardener's spade deformity. (Museum of the New York Hospital.)

Examination with the x-ray will often aid in the diagnosis; though usually it is not needed, if the examiner knows the anatomy of the parts and is familiar with the symptoms of both forms of fracture. It must be remembered, too, that the x-ray picture is after all only a diagrammatic outline of the varying densities and consequent shadows. The tube placed over the dorsum may give very nearly identical results on the photographic plate, in fracture with the carpal piece displaced either backwards or forwards. A second skiagraph should be taken through the forearm with the ulnar edge towards the photographic plate. This is illustrated by a skiagraph here exhibited, which was not under-

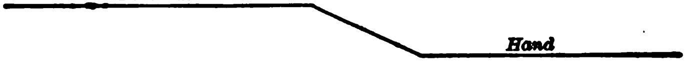

Diagram of Deformity in Fracture with Forward Displacement

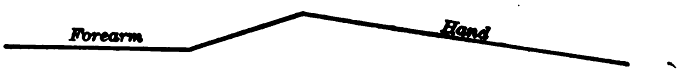

Diagram of Deformity in Fracture with Backward Displacement

Fig. 7.—Diagram showing changes in plane of dorsum of wrist in the [illegible] two forms of fracture.

stood by the doctors, who first saw it and the injury. The examination of the wrist some weeks after injury made it clear to me that the case had been a fracture with forward displacement, which had not been recognized and, therefore, was not reduced. A skiagraph showed well the displacement upwards of the radial styloid-process; but did not show in which direction the lower fragment was thrust. The gardener's spade deformity and palpation of the wrist on the palmar aspect definitely proved to me the character of the bony lesion.

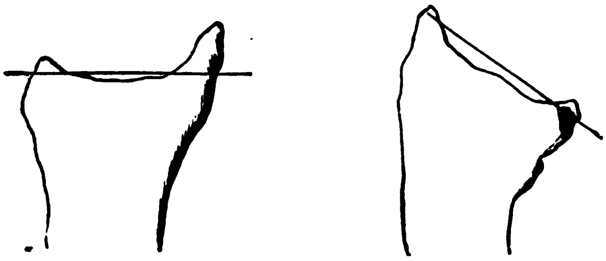

Fig. 8.—Diagrams showing change in plane of articular surface of radius after either form of fracture.

The treatment of both fractures is easy, if the doctor will only use enough force to disentangle the carpal end and compel it to assume its normal position. This forcible reduction is essential. A light straight splint on the dorsum of the forearm and hand, or a moulded splint on the palmar surface is usually the proper retentive dressing after reduction has been thoroughly accomplished. The concave palmar surface of the lower third of the radius must be maintained after forcible reduction has re-established it. Plastic splints are probably preferable to wooden ones; though wood, metal, gypsum, or adhesive plaster all make good retentive appliances, if the fracture be thoroughly reduced and the professional attendant is discreet in the selection and application of his splint material. The simpler the dressing is the better it is, as a rule

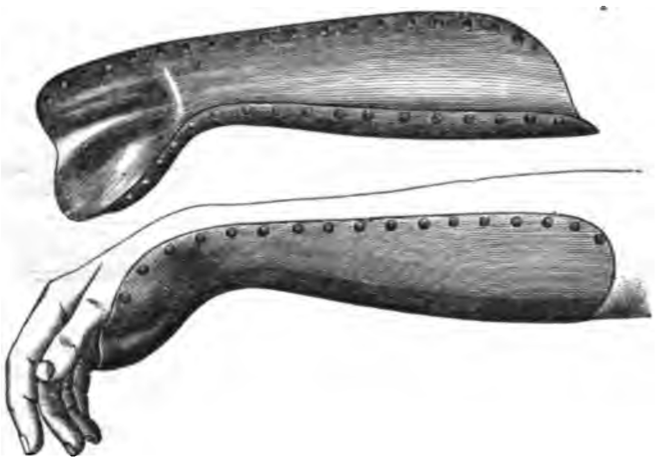

Fig. 9.—Moulded metal splint maintaining concave palmar surface of radius.

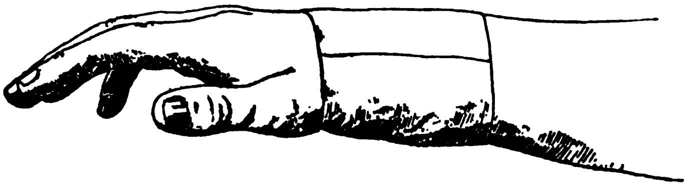

Fig. 10.—Wristlet of adhesive plaster to maintain coaptation of fragments, after the splint has been discarded, or in cases with little tendency to displacement.

MY CHANGES OF VIEW IN APPENDICITIS WORK.*

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My first operation for appendicitis, or perityphlitis, as it was generally called at that time, was on March 15, 1888. The subject of operation was just beginning to be advocated strongly in New York by Sands, McBurney, Bull, Weir, and other leading surgeons. Discussion on the subject referred chiefly to the treatment of the abscesses of appendicitis, which Sands said were usually extraperitoneal. The accepted treatment at that time consisted chiefly in opening the abscesses, flushing the cavities, and employing large rubber or glass drains, together with more or less gauze packing. During the next four years I operated in a number of cases of appendicitis with abscess, and employed the commonly accepted methods of treatment. Results were pretty bad. Patients made slow recovery, with weak points left for the subsequent development of ventral hernia; or they died of acute peritonitis or of slow septicemia.

My first planned operation for removal of the appendix was on April 24, 1902, although a number of other surgeons had already done such planned operations. In 1892 I removed seven appendices. Four were gangrenous. Two were the site of acute exacerbations of infection, and one was a quiescent "interval appendix." Six of the patients lived. One died of ileus which developed suddenly on the sixth day after operation. Morphine was almost universally employed by the physicians and nurses at that time, for controlling the symptoms subsequent to operation, and I began to forbid its use altogether in cases that were under my control. My views on the subject of morphine in this connection have changed somewhat, and the drug is now given cautiously in certain cases in which there is such a degree of restlessness that the patient does not start off well after operation. Even in such cases morphine is a double-edged sword, because it puts the eliminating organs at rest along with the sensory nerves.

During this year of 1892 I employed long incisions, peroxide of hydrogen flushing for abscesses of appendicitis, the wick drain composed of absorbent gauze rolled in gutta percha tissue in cigarette fashion, catgut sutures for separate suturing of tissue planes, and more or less gauze packing. The stumps of amputated appendices were ligated and buried, and a good deal of unnecessary surgery was forced by me upon some patients for the accomplishment of this step in technic.

Changes of view led to making incisions that were not "bold and free, and masterly in the stroke," for it seemed to me that there was a tendency to do too much surgical injury in these cases, and it was noted that short incision patients started off more quickly toward comfortable recovery. Peroxide of hydrogen flushing seemed to me to be the keynote to success in abscess cases, but later experience has shown that it is valuable chiefly in the way of neatness, and that we can safely leave pus to be disposed of by the wick drain and by the peritoneal lymphatics. There has been no change of view concerning the desirability of catgut suturing of separate tissue planes of the abdominal wall. The technic of burying the stump of the appendix has been abandoned since the publication of Seelig's article on the subject in the Annals of Surgery last year, and several minutes of time have been gained for each operation in consequence.

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*A paper read at the meeting of the Society of Alumni of Bellevue Hospital, February 2, 1905.

Gauze packing has been discarded altogether, on the ground that it is a foreign body, that it causes ileus by direct mechanical effect, and excessive lymph exudation which leads to troublesome adhesion formation. Shock is caused by removal of gauze packing, and a serious defect is left in the abdominal wall in spite of provisional sutures.

When iodoform gauze is employed patients often suffer or die from iodoform poisoning, and unless the urine is examined for free iodine the symptoms of iodoform poisoning are commonly thought to be symptoms of septicemia.

On discarding gauze packing it was at once observed that patients made remarkable recovery from operation, and that the gauze packing had been worse than useless. This view was in direct opposition to the consensus of opinion among authorities, and probably would not have been upheld in any court of law in the country during a period of several years.

In this year of 1892 I employed blunt dissection, but had sloughing of margins of external oblique aponeurosis in two cases, due to free separation of that structure no doubt. The method was dropped, and not taken up again until the publication of McBurney's description of his method. Since that time I have employed the "gridiron" method, not only in early infection and interval cases, but in practically all cases. It gives great protection against subsequent hernia formation.

In 1893 I devised a plan for making a short route for the escape of bowel contents in cases in which fecal fistula was anticipated, by suturing the cecum to the abdominal wall at the site of the incision. It was thought that this procedure would be useful also in preventing hernia formation. My views on that point have changed, and it no longer seems desirable to fix the cecum in an abnormal position. Fecal fistulæ care for themselves pretty well if we employ skillful neglect in their treatment, and postoperative ventral hernia should be almost unheard of if we have right ideas about suturing the divided structures. In 1893 I employed another resource that had been advocated as a protection against ventral hernia; the use of buried silk worm gut sutures. Silk worm gut is not encapsulated kindly in the tissues like catgut, kangaroo tendon, silk or silver wire, and my knots began to work out, weeks, months and years after they had been introduced. If I ever have a nightmare it will probably consist in a view of a row of influential patients bearing silk worm gut knots on a charger. Aside from the use of gauze packing the most serious mistake that has ever come into my appendicitis work was the employment of silk worm gut for buried sutures. In 1893 my favorite incision had been made of a standard length of an inch and a half, for interval and early infection cases, no matter what the extent of adhesions. It was noted that patients after this incision were regularly out of bed by the seventh day after operation, and ready to leave the hospital by the tenth day. It was one of my house surgeons who suggested that this was a week and a half, and others in a spirit of fun have added the instrument and a half and the dollar and a half to the formula, without my sanction. My views on the desirability of the short incision not only have not changed, but now it has been adopted for almost all of my work in abscess and peritonitis cases, as well as for interval and early infection cases. My belief is that one should take all of the room that he requires for successful work, but that he should get to require little room as quickly as the fingers can be trained to do better work when not confused by the eyes. One can easily extend the incision if necessary to do so. My friend Joseph Price says that when he gets among complicated adhesions he wants some one to tie a handkerchief about his eyes so that he cannot even see the surroundings of the room. In the language of the convert who shortened his prayers, "Them's my sentiments." In several hundred complicated appendicitis cases I have had a mishap but once when working by touch, and in that case it simply amounted to severing the artery of the mesappendix, so that the incision had to be lengthened for the application of forceps. Adhesions were often very confusing in earlier days when it was necessary to work by sight, and there was danger of injury to the bowel, ureter, or iliac vessels, but no such danger appears in the statistics after one has learned to work by touch.

In 1893 I began to note the advantage to the patient of quick work, and gradually reduced the time of operation to an average of twenty minutes, then to fifteen minutes, and it is now common to have the time from the first incision to the last suture occupy not more than seven or eight minutes in complicated cases. It has always been a rule to get the appendix out, on the ground that at least ten per cent. of cases would carry concretions, and a much larger percentage of cases would have late complications from mucous inclusions, if the appendix were left. Sometimes in a moribund patient, or when working among unfavorable surroundings, it is best to simply open abscesses, and to do expediency work expeditiously, but this has always seemed to me to be unfortunate, and my views have never leaned toward the policy of opening abscesses at one operation, and removing the appendix subsequently. I will not disagree with authorities who argue for this practice, but simply express personal views in the matter.

The question of operating upon moribund patients has always seemed to me to be one of morals rather than one of policy, and I have operated upon every patient who was still breathing when we got to the house or to the hospital. The pulse could not be counted in some of the cases, but it is surprising to note the effect of an intravenous saline infusion of fifteen hundred cubic centimeters given in advance of operation, and the effect of letting out a flood of toxins by a five or ten minute operation in many of these cases. One might as well not operate at all in such cases if he contemplates spending thirty minutes at the work, or of proceeding before the intravenous saline infusion has been given, and he must count upon having his chief death rate in this class of cases, at best.

The question of separating adhesions freely in a search for the appendix or for multiple abscesses is one in which my views have changed. At first I had the classical fear of the peritoneum and reasoned also that as adhesions were nature's protection it would be well to respect them. Later it was found necessary in many cases to separate adhesions freely in getting the appendix or in searching for multiple abscesses, and it was noted that no harm resulted from exposure of the normal peritoneum. It was evident that the local leucocytosis and other elements of protection had been called out sufficiently to guard the field, and for awhile it was my practice to break up all adhesions purposely. My final decision is that adhesions re-form at separated points in acute infection cases, so that nothing is gained by separating them, but that it does no harm to open freely into the normal peritoneal cavity in cases in which one is hunting for something among adhesions. After noting the degree to which the peritoneum was guarded against infection I dropped the idea of flushing out the peritoneal cavity with saline solution in most of the cases in which the abdomen contained septic fluid. It seemed to me that almost everything that we had been doing conscientiously added to the severity of the operation and that the nearer we could come to leaving the patient alone the better. Even large masses of lymph coagulum remaining attached to the bowel are now left undisturbed. After dropping out of my practice the features which seemed to have a special death rate of their own—gauze packing, iodoform gauze, long incisions, and the expenditure of time in unnecessary detail of work—I published a report on a series of one hundred consecutive appendicitis operations, with a two per cent. death rate. Thirty-four of the patients had abscess and various stages of gangrene and peritonitis. Twelve of the patients had acute infection with gangrene of the inner coats of the appendix in some of the cases, but without external abscess formation. The rest of the patients in the list had quiescent forms of appendix trouble. Of the two patients who died, one was properly a case of gangrene of the ileum, several feet of which had slipped through an adhesion band from an old appendicitis, but the case had to be included because I removed the remains of the appendix incidentally. The other death was in one of the moribund patient operations.

The effect of the publication of this list of cases was to cut down my practice to a very serious extent indeed, and one writer in the Medical Record for December 12, 1896, went so far as to say that such figures were "vainglorious cheats," and that operation must have been refused in many cases for the purpose of getting misleading statistics. As a matter of fact I had operated upon every appendicitis case to which I had been called during the period covered by the statistics, with the exception of two patients who were dead when we got to the house.

The methods that were advocated in my paper were generally held to be unsafe and dangerous. In the *Medical News* for July 2, 1904, Dr. L. W. Hotchkiss states that in one of the hospitals with which he is connected, and where many emergency cases are received, his death rate up to 1898 in appendicitis cases treated by the accepted methods of the day had been 31 per cent., but after taking up "unsafe and dangerous methods" he had not lost a single patient in his last seventy-two cases, although among the number there were twenty-six gangrenous appendices, with or without perforation, and fifteen gangrenous appendices with advancing peritonitis. At the 1904 meeting of the American Medical Association, Dr. Ochsner of Chicago, advocating a "starvation method of treatment" in the class of cases giving the largest death rate, reported upon his last one thousand appendicitis operations, with a death rate of two and one-fifth per cent., and since that time I have added a part of Dr. Ochsner's treatment, but prefer to do a five or ten-minute operation in the class of cases in which he would wait for the infection to become localized.

The question of removing normal appendices when they are at hand in the course of other operative work is one that I have never favored, on the ground that removal of the normal appendix delayed the operation and added a trifle of danger. Leave the appendix alone until it is infected, and then lose no time in having it inspected. This has always been my ground, and the idea that I ever favored removal of normal appendices must have been a reductio ad absurdum from statistics.

In 1902, acting from experience, and upheld by the statistics of Dr. John G. Clark in pyosalpinx work, I began to close the abdomen without drainage in appendicitis cases in which considerable pus and other débris had been left in the peritoneal cavity. The object in closing completely was to get a stronger abdominal wall and to get the patients out of bed sooner. The practice was based upon belief in the power of the natural resistance factors of the patient to dispose of such material by way of the peritoneal lymphatics.

As a result of the practice it was noted that primary union would occur in about half of the cases, but the patients would carry a temperature ranging up to 100° F., for days or even weeks after they were up and about. In some of the cases secondary abscess would form, but it always pointed at the incision, so no harm was done. In several cases in which primary union of the muscles of the abdomen was obtained, the adipose layer became infected and showed remarkable tardiness in granulating after the skin wound had been reopened. As a result of this experience I have gone back to the method of using a cigarette drain in all cases in which pus or septic débris have been left in the peritoneal cavity, but the wound is closed without drainage in cases in which gangrene and pus occur within the peritoneal coat of the appendix.

The question about the time for operating in cases of appendicitis is one that has had some fluctuations. The dictum which I promulgated about 1890, "Operate as soon as the diagnosis of appendicitis is made," aroused a storm of opposition. It was intended for a rule which would carry enough exceptions for its proving. In cases of acute progressing appendicitis I was sometimes persuaded to wait untilt a business man of large affairs could consult with his lawyers and get a business of millions into such form that others could manage it for awhile. Sometimes relatives of a school boy would telegraph us to wait until they could get to his bedside in a day or two. Occasionally I would be overbalanced in consultation with men whose opinions were highly respected. The results of such waiting have pointed straight back to the dictum.

In the class of cases in which the patient is suffering from the symptoms that go with involution of the appendix we may safely leave the matter to the decision of the patient, after stating the case clearly to him, and he may be allowed to assume the responsibility of saying when operation should be done.

In cases of acute appendicitis that are out of reach of competent surgical services, the patient is much safer under ice, opium, and starvation treatment than he would be under the kindest hands that attempted to render untrained surgical services.

In the patients who are certainly better on the day when we first see them than they were on the previous day, a question arises that has not as yet been settled—the only appendicitis question remaining on which I am uncomfortable. If we attempt to carry out the dictum we shall operate upon some patients who would do better if we waited for a month or two. On the other hand some of these convalescing patients spring a surprise upon us at midnight, just as we are taking the train for Chicago, and when we are not prepared for the emergency work required in sudden exacerbation of infection. I have had various views about individual cases in which the patients were convalescing, but have been made to feel that bacteria have ways of their own that are manifested without warning. In patients who were sent to me in the interval between attacks, but with a clear history of appendicitis reported by competent physicians, I formerly believed that it was best to remove the appendices. My views on this point have changed, and it now seems best to operate only when on palpation the appendix is found to be the definite seat of chronic infection, or of adhesions which cause symptoms. The reason for this change of view is because some of the quiet interval appendices were found to have lost their inner coats, and there was no danger of further infection. The question is one, however, which rests entirely upon accurate palpation by satisfactory method.

TOXEMIA OF INTESTINAL ORIGIN AS A CONDITION PREDISPOSING TO MINOR INFECTIONS.

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Successful inoculation of living tissue with pyogenic organisms requires the coöperation of certain well-recognized factors. Broadly speaking, they may be said to be (1) a "vital decrease" to such an extent that normal resistance to the infecting agent is impaired, and (2) the actual presence of bacteria in sufficient numbers and of sufficient virulence to overcome the resistance offered. Both are essential.

The prevailing conception of the term "decrease in vitality" and the causes operative in its production is sufficiently clear in chronic toxemias. With contracting kidney, diabetes, or even in a prolonged lithemia, it is not difficult to picture retention of substances foreign to normal body economy, resulting in disturbed metabolism and the neutralization of Ehrlich's receptors. Here the conditions are admittedly perfect for the easy introduction and rapid development of sepsis. Hence, in major toxemias, we are usually able to uncover the etiology. Each succeeding decade witnesses the development of new methods of examination with more careful workmanship. As a consequence the demarking line between idiopathic vital decrease or the state of being "run down" on the one hand, and actual disease on the other, is constantly shifting in that direction alike more satisfactory to patients and practitioner.

There is, however, a wide difference between actual perfect health, and a condition wherein there may be no symptoms, but simply a decrease in vitality to such an extent that infections find a fertile field. It seems that nature provides for the normal man a leeway of great breadth, wherein his vital processes, inappreciable to any method of examination yet devised, may ebb and flow in response to varying adverse or favorable conditions. Quite as elusive are the numerous causes of these fluctuations. Unless there are obvious organic lesions, "going behind the returns" on the appearance of minor infections terminates in cleaning out the bowels and in the exhibition of iron in tonic form. This is pure empiric medicine, sometimes accomplishing the result, often not. Other conditions such as environment, adulterated food, and possible tubercular foci escape notice.

In the hope that suggestion may evolve knowledge, the following thirty cases of minor infections are reported as the patients presented themselves for treatment at Bellevue Hospital dispensary and in private practice.

Case I.—J. B., a cook, born in England, æt. 35. Father died of consumption and mother of Bright's disease. Previous history included major children's diseases. Since her twentieth year she had had many pelvic operations, and an appendectomy. She presented for treatment a carbuncle on the right shoulder about the size of a silver dollar. She also had a boil on the nose. This was the second carbuncle in four months. The urine contained indican in moderate degree and sugar.

Case II.—F. C., a laborer, æt. 59. Parental history unknown. Previous history included two attacks of pneumonia, one of typhoid fever, minor children's diseases, gonorrhea and constipation. For some time he had been losing weight. One week previous to treatment a carbuncle came "of itself" on the back between the shoulders. There was no albumin or indican, but a marked sugar reaction.

But little comment is needed on these two cases, for acetonemia is notoriously a forerunner of minor infections. Vitality often becomes so depressed that bacterial invasion is not essential to cause molecular or organic death. They are presented as illustrative of a type, and because they occurred in the course of the investigation. Another similar case follows:

Case III.—J. U., a cigarmaker, æt. 41.—Parental history was negative. His previous history included syphilis. A week previously a pimple appeared on the back of the neck. This degenerated into a boil. On questioning, it was discovered that he had had repeated attacks of tonsilitis during the previous four months and that he had been losing weight. There was well marked dullness on percussion in the left apex, and examination of the sputum showed tubercle bacilli. The urine was negative as to indican.

The sequence of events here is obvious. Chronic tuberculous toxemia may certainly be considered a vital depressant.

Case IV.—W. D., æt. 24, a builder, whose work was out-of-doors much of the time. Parental history was negative, excepting a slight tuberculous taint. His only variation from perfect health was the present sickness and a so-called "rectal abscess," the true nature of which could not be learned. This occurred two years previously. He ate fast and was occasionally constipated. Three years prior to his application for treatment his finger festered from a splinter, and he had been troubled with boils and two carbuncles since. He sometimes urinated twice a night. General physical examination was negative. He was healthy in appearance, and very muscular in build. Three boils situated on the finger and lower legs were opened and drained. Urine—Enormous excess of indican, occasionally a small hyaline and fine granular cast and numerous large calcium oxylate crystals. One week later the boils were healing, and the indican remained about the same in amount. One month later there had been no further infections, the symptoms noted above had disappeared and the indican gave but a slight reaction. Treatment here was directed toward lessening the amount of indican and the number of calcium oxylate crystals.

Case V.—T. M. B., æt. 22, a topographical engineer. He had a negative family and personal history, except that two months previously he graduated from college where he had studied very hard. He had always been more or less constipated. His general appearance was almost cachectic, with deep blue rings under the eyes. For three years he had been suffering from minor infections, and when I first saw him he had a carbuncle and three boils on the inner surface of the thigh. The urine was slightly albuminous, with occasional small hyaline and granular casts. Indican was present in great excess. Calcium oxylate crystals were present in large numbers, and uric acid was deposited on standing. His treatment was similar to that in the previous case. During the two weeks following the first visit, sixteen boils were opened in various parts of the body. He was in bed two days of the time with a septic fever of slight degree. He continued treatment and diet for two months, during which time he grew gradually better, and his appearance improved. As I am writing this he tells me he was never in better health, and examination of his urine showed it to be practically free from indican.

Case VI.—T. H., æt. 15, a schoolboy with a slightly neurotic history on the mother's side. One year prior to his first visit he suffered from an attack of acute bronchitis, and following this at intervals he suffered with numerous boils. He exhibited two badly infected mosquito bites on his foot. General physical examination showed him to have a powerful muscular development for a boy of his age. His habits of life were exemplary. He was very fond of outdoor sports, and I know him to be a beautiful swimmer. His urine contained indican to great excess, and an occasional hyaline cast. No especial bowel treatment was instituted until a week later when he presented himself with a big carbuncle on the back between the shoulders. A month later his skin lesions had disappeared, and the indican was greatly diminished. One year later his urine was entirely free from indican, and he said that the previous winter had seen him in excellent general health.

These three cases from private practice are given together because bad habits, poor nourishment and unhygienic surroundings can be eliminated as causative factors. The patients were all accustomed to plenty of air and exercise, were moderate in diet, and yet, notwithstanding these facts, it is interesting to note that in two cases there was evidence of suboxydation in the urine. It will be noted that in the following series the infections occurred in laboring men accustomed to air and exercise, though in every case it was impossible to ascertain the character of their environments.

Case VII.—W. T. S., æt. 29, a boilermaker. His parental history and the history of childhood were unknown. He had pneumonia and pleuritis at 14. No lung symptoms since that time. Two days before he sought medical aid a carbuncle appeared on the right buttock. The urine contained a great excess of indican, a trace of albumin (by Esbach's test) and no sugar.

Case VIII.—J. A. C., a motorman, æt. 32. His parental and previous history was negative. For two months he had been troubled with various minor infections, including a suppuration under the thumbnail from a splinter. He was treated for a boil on the back of the neck near the hair line. Urine showed moderate indican excess and calcium oxalate crystals.

Case IX.—Charles P., æt. 38, a laborer. Parental history included tuberculosis. Previous history of typhoid at 10, following which he had been constipated. For a year previous to application for treatment he had been suffering from a train of small infections, including a felon on the index finger of the right hand, a carbuncle on the buttock, and also numerous boils. He was treated for a rapidly enlarging boil on the back of the neck. The urine was tested and indican in enormous excess was found. No albumin or sugar.

Case X.—P. O'B., aet. 43, a laborer. Parental and family history was unknown. History of syphilis some years previously. One week prior to admission a beam fell on his left leg, causing an abrasion on the calf. This had entirely healed, but above and externally were two boils. The urine contained a moderate degree of indican, but no sugar or albumin.

Case XI.—D. A. F., a driver, æt. 39. Parental and previous history negative. For one week he suffered from a felon, index finger of the left hand. Now he also shows a cellulitis on the dorsum of the hand and a lymphangitis of the forearm. The urine contained a trace of albumin (by Esbach), no sugar and a moderate excess of indican. No secondary objective symptoms of nephritis.

Case XII.—H. McK., æt. 16. Parents living and well. Previous history negative except for minor children's diseases. He was constipated. He presented for treatment a very painful and acute paronychia on the index finger of the right hand. The first joint was also involved. The urine was negative as to albumin and sugar, but the indican was very excessive. The wound healed slowly, and the bone of the terminal phalynx sloughed out.

Case XIII.—J. C., a stonemason, æt. 35. Parental history indicated a tubercular tendency. Previous history included an attack of facial erysipelas. He was constipated and drank to excess. The thumb of the right hand was injured by a tool, causing an abrasion of the skin. This became infected and four boils broke out on the arm above. The urine was negative except for a moderate excess of indican.

Case XIV.—W. R., a driver, æt. 23. Family history negative. Previous history of constipation and pneumonia. One week before admission he had a left axillary abscess opened at Gouverneur Hospital. This was slowly healing. He ran a splinter beneath the nail of the index finger on the right hand, and this promptly festered. Later a string of boils appeared on his forearm. The urine contained indican in great excess.

Case XV.—F. S., æt. 25, and a laborer. Previous history unobtainable, as he spoke no English. He had a burn of the second degree on the left hand. This healed slowly, became infected, and was repeatedly dressed for a month, when five small boils appeared on the arm above the burn. The urine showed indican in moderate excess. He also gave evidence of being a heavy drinker.

Case XVI.—J. S. S., an ironworker, æt. 24. Parental history negative, and previous history of children's diseases and constipation. Drinks much beer. During the previous month he had had three boils on his right forearm. He presented himself with a burn from an elevated third rail. This became infected and healed slowly. While this was being dressed he developed two more boils. The urine was pale, with a marked indican reaction and otherwise was negative.

Case XVII.—H. E., a carpenter, æt. 28. Parental and personal history negative. Two days before I saw him a pimple appeared on the middle finger of the right hand. This was followed by an infective periostitis of the finger and cellulitis of the hand. Patient was a typical hardv mechanic, living in the country. The urine contained indican to moderate excess and an occasional calcium oxylate crystal.

The first and last of this series were country dwellers, and it may be presumed that the balance lived in tenements. One-half of them suffered from infections which undoubtedly had their port of entry at some point distant to the seat of manifestation.

Case XVIII.—Clara F., a typical east side girl, aged sixteen. She was a bookbinder and worked in a loft where light and air are considered unnecessary. There was tuberculosis in the family history, and her personal history included asthma and malaria. She had been feeling unusually well, however, for some time. She had two boils on the shoulder which appeared without apparent cause. Urine highly concentrated, no albumin or sugar, but the amount of indican was increased. This case is classified by itself because there was evidently bad environment and lack of nutrition involved.

Case XIX.—C. O., æt. 42, a driver. Parental history included cancer. Previous history negative. Good habits, but an excessive meat eater. He smoked a pipe often and had a suspicious lip ulceration, size of a half-pea. Two boils appeared between the shoulder blades four days before he presented himself at the clinic. The urine contained a trace of albumin, was of low specific gravity, no sugar and marked indican reaction. He had no secondary objective symptoms of contracting kidney and the blood pressure (Janeway, 12 cm. cuff) registered systolic, 160 mm. The lip ulceration demanded attention, and I have been unable to learn the subsequent history of the case.

Case XX.—W. R., a driver, æt. 23. Parental history negative. His personal history included a slight attack of pneumonia three years previously. One week prior to admission he had a left axillary abscess opened and drained. He came to the clinic to have three boils along the left forearm treated. The urine showed a trace of albumin (accounted for by a history of sexual excess and spermatorrhea), no sugar and a very excessive indican reaction. Another possible cause reveals itself here in the sexual history.

Case XXI.—J. McD., æt. 46, a bank cleaner. Parental history negative. He drinks freely. He had been a sufferer from headaches for a number of years, and from his appearance it was thought that they were due to refractive eye errors. He was constipated and a heavy meat eater. Two weeks prior to admission he had a number of boils and was suffering from a large boil on the calf of the leg. The indican reaction showed the presence of ethereal sulphates in great excess; no traces of albumin or sugar.

Case XXII.—C. B., æt. 32, a bottler. Parental history included rheumatism and Bright's disease. Previous history negative except occasional periods of constipation. He presented himself with a boil on the right cheek. The urine contained indican only in moderate excess.

Case XXIII.—H. K., a sculptor, German, æt. 57. The parental and personal histories were uneventful. He presented for treatment a boil on the right hand. He was a meat eater. The urine gave a reaction for indican in excess.

Case XXIV.—S. McG., an electrician, æt. 23. Family and previous histories negative. He had a carbuncle on the back of the neck the size of a silver dollar and four days old. The urine gave a slight reaction for albumin, a very heavy indican reaction, and contained occasional casts, hyaline in character.

Case XXV.—F. K. G., a buttonmaker, æt. 28. Parental history included rheumatism. A brother died of tuberculosis. Personal history was negative except that he was "never well" when a boy. He exhibited a fluctuating mass under the right arm. This was opened, and two ounces of pus oozed out. The urine gave no reactions for albumin and sugar and presented a large content of indican.

Case XXVI.—J. T., æt. 32, a cook. Parental history negative. He had a brother die of heart disease induced by rheumatism. Previous history included scarlet fever at five, from which later developed a mastoiditis. Operation at seven years of age which was in every way successful. He was suffering from a felon. This was opened and two days later the terminal phalynx sloughed out. The urine was negative except for a moderate indican reaction.

Case XXVII.—M. C., æt. 38, a cooper. Mother died of pulmonary tuberculosis. Never sick before, and was a drinker. Bowels regular, and he felt well. He had on his right shoulder a carbuncle which had lasted for over a week. The urine showed no albumin or sugar, but contained indican in great excess.

Case XXVIII.—L. U., a crockery packer of the Jewish race, æt. 45. Mother died of consumption. Always healthy. Occasional constipation. Nine months previously he was operated upon for stricture of the urethra and varicocele. He had had a paronychia for four days. Boils on face and neck within a month. The indican reaction was greatly increased.

Case XXIX.—T. L., æt. 39, a German piano polisher. He drank moderately. There was a cellulitis starting from an abrasion on the dorsum of the right hand. He also had an infected spot over the canthus of the right eye. The indicanuria was marked; no sugar or albumin was present.

Case XXX.—T. G., æt. 17, a printer. Parental and previous history negative. One week prior to admission a pimple appeared on the right lower jaw and rapidly developed into a large boil. There was a moderate increase in indican, but no albumin or sugar.

In obtaining these histories and making the necessary physical and urinary examinations, care was exercised to exclude other morbid conditions. The question, for instance, as to the use of meats and the habits of the bowels was asked, and if not especially mentioned as present, such factors may safely be excluded.

Whole number of cases examined........	30
Number presenting glycosuria...........	1
Number presenting glycosuria and indicanuria	1
Number presenting tuberculosis..........	1
Number presenting excess of indican in the urine (contracting kidney being excluded as far as possible)...........	27

Leaving the main conclusion to be discussed later it may be well to review the evidence presented. There are undoubtedly many causes not specifically mentioned. Unhygienic environment, poor nutrition (as was particularly well marked in one instance), food adulteration and its bad preparation, and alcohol, all may be said to have played their part. It would be difficult to collect thirty cases in which these causes could be entirely eliminated. We can also pass organic or systemic diseases, three cases of which were encountered. A coexisting condition of lithemia and suboxidation, as evidenced by urinary examination, was met in a goodly percentage, and at least in two instances (Cases IV. and V.) when it was least to be expected. There were no histories of hereditary tendency to gout or rheumatism in these two cases, and from personal knowledge I can say that their habits and lives are all that is to be desired.

The extent to which vital processes were interrupted was aptly illustrated in another way. It may be supposed that in a healthy individual, a wound will either heal by first intention or with but little local reaction. In a goodly percentage of our cases, however, there were reproductions of the infections either in close proximity to the initial lesion, or at distant points. Initial wounds also healed sluggishly. But the one striking condition present in every case (except two, referable to tuberculosis and diabetes) was that form of toxemia which has its etiology in the small intestine and its principal index in the urine, viz. autointoxication. It was often complicated with other morbid conditions. But a sufficiently large number of cases remain in which it was apparently the main factor. We are then in a position to make a tentative conclusion, subject to future revision:

Conclusion.—In many cases of vital decrease, manifested objectively by minor septic infections, toxemia of intestinal origin may be regarded as the predisposing cause.

It may readily be seen that the direction toward which this conclusion points is very far reaching. It suggests for instance an explanation of the problem met by the surgeon: given two patients of apparently similar vitality, the same operation and a fixity of technique, why is it that one will promptly recover and the other perhaps either take longer to recuperate or die of sepsis? In the domain of infectious medical diseases, why is it that one person contracts typhoid fever and another does not? This leads us, of course, into that fascinating field of study comprised within the limits of natural immunity for which the dawn of knowledge is just beginning. But the train of thought is certainly apparent.

The practical application of the conclusion means attention to the proteid fermentation taking place in the bowel, particularly in those cases in which the urine presents a large amount of indican. It is not sufficient simply to produce evacuation of the bowels. The indicanuria must be treated by diet and other procedures looking toward its complete cessation. This will undoubtedly completely cure many troublesome cases of recurring minor infections.

Bayside, L. I.

RESPONSIBILITY IN MENTAL DEFORMITY.

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The law recognizes certain degrees of responsibility in the mentally diseased; yet, strange to say, with but a few exceptions, it fails to take cognizance of the sociolegal status of the mentally deformed.

Moral philosophy, as enunciated from the pulpits of our churches, is founded on *quasi* Socratic premises; on the assumption that mind is an "essence flowing from divinity," and that its origin is not, *per se*, physical in character. This faulty concept of the nature of the mental organism is to blame for the peculiar legal situation outlined in the first paragraph of this paper.

That there can be physical deformity without physical disease no one will dispute; and that deformity is confined, *in toto*, to the macroscopic and miscroscopic anatomy of the body the psychologists and alienists of the present era must emphatically deny.

Mind cannot be seen with the microscope, nor can it be viewed with the naked, unaided eye; yet clinical evidence declares, beyond peradventure, that it has a physical basis; that it is merely a resultant of nerve cell action. And just as any other function of the physical organism may be diseased, perverted or deformed, the mind itself may become the subject of lesions and deformities.

It is beyond the scope of a paper like this to discuss all of the multiple and varied abnormalities of the mind (be it understood deformity is meant when the word abnormality is used), which are to be observed in a study of the strange, wonderful, often disgusting and bestial perversions of the psychical being which daily meet the student who follows the devious paths of psychiatry.

The undoubted kinsmanship of the brute and human is brought plainly to the view by certain of these mental habitudes, and that strange yet most true of all the tenets of evolution, the law of atavism, is but emphasized and made most evident. The doctrine of mental heredity, that most abstruse and most frequently debated of all psychological questions, is strengthened, in fact, made almost undeniable by data in its favor.

The body-birth of psychos, the "parting of the ways," not only of the ancient medieval philosophers, but also of the classicists of to-day, also drags down the scale in its own favor when it is weighed against the evidences of an immaterial, extra-physical or spiritual origin.

Thought must be, necessarily, a conservation of energy. Helmholtz, in one of his university lectures, announces this almost in the shape of a dictum, a doctrine not to be disputed. Recent experiments demonstrate the fact that there is an expenditure of physical dynamics in every act of conscious or unconscious ideation. Baldwin, Loeb, Dana, and many others have shown this both in their laboratory work and in their public demonstrations. Hence, there is not one authority of any weight throughout the entire scientific world who will deny the physical basis of the mind.

We cannot tell in so many words what electricity, what heat, what light, and what dozens of other natural phenomena are; we only know that they are forms of energy. Neither can we enter into the details which constitute the thousand and one conservations, resultants of these energies. Our finite thought can only go so far and no farther. Just so with mind; we know that it must be a conservation of energy—a resultant of nerve cell action in which energy undergoes transmutation and makes its appearance in other shapes.

Mind and thought (ideation, ratiocination), are not analogous, and the reader must bear this in mind throughout this paper. There can be mind without thought, but no thought can be formulated without the existence of mind.

As we study the question and tabulate the data, it becomes more and more patent that mind and all that its multifarious manifestations imply, being founded from the very beginning on a physical basis, is, like any other bodily function, subject to deformities.

We are aware of the fact (and do not question it for an instant), that deformities (perversions, etc.), of the senses, physical functions differing from the mental functions only in kind and method of appreciation, exist; therefore, we have no right, logical or otherwise, to deny deformity in the case of the mind. Especially must this be allowed when we remember that mind itself, conscious and unconscious, is based upon the senses.

The law in dealing with the mentally deformed uses statutes in most of the States which are framed solely on responsibility in mental disease; in no State does the idea of responsibility in mental deformity enter into the treatment of the psychically deformed in any law as now written in which the mental pervert is recognized as such.

It is true that in some States legislators seem to have had some inkling as to the importance of this question and have, in a measure, vaguely recognized the existence of a certain class of mental abnormalities; the establishment of reformatories points to this. Yet, even in these states (far in advance of their sister commonwealths as they are), the real grain of wheat in the bushel of chaff has not yet been discovered; the ancient "essence of divinity" idea of mind still clings to legislators and clogs their footsteps with its weight of ethical paradoxes in their search for it, and blinds their eyes to its presence, although it lies in plain view! Huxley's "Mosaic fence with its comminatory sign-board: 'No Thoroughfare!'" still stands in the path and blocks the way of many a seeker after truth!

Owing to its limitations, the law is forced to use its statutes, framed solely as to responsibility in mental disease, when dealing with mental deformities. This is wholly due to the faulty concepts of the origin of the psychical organism as enumerated above.

Thus, congenital imbecility, which is purely a mental deformity, in nine case out of ten, presenting no physical lesions whatever, is recognized by the law; yet, is classed, legally, among the insanities. So, too, are the many forms of retarded and imperfect intellection and phychical defects.

Though the congenital imbecile, as far as physical functions are concerned, may present no abnormalities, yet, in the vast majority of cases he "shadows forth in face and form the semblance of a mind unbalanced and unstrung"; his mental deformity is reflected in pendulous lip, unsteady tongue, expressionless eye, titubating gait, and ill-formed torso.

The congenital criminal, "the savage dwelling in the midst of civilization," likewise indicates by certain physical stigmata the deformity existing in his psychical organism.

No one who has made a study of criminology and who is willing to accept the testimony of exact data, and who will give to the question an unbiased judgment, will deny the existence of those stigmata, and that they form a type as fixed as any other type to be found throughout all nature. The mental habitudes of the congenital criminal also emphasize the fact that he is a man apart and, like Caliban, "a freckled whelp, hag-born," as far as normal ethics are concerned. Some years ago, in the *Scientific American*, the Medical Record, and the *Century*, I presented my personal evidence as to the existence of the congenital criminal, and described in detail the physical and psychical abnormalities which declared him to be, as far as the civilized, normal man is concerned, a being wholly *sui generis*.

These conclusions and deductions were supported by photographs and drawings made by myself which were gathered "in the field," and not from books. To Lombroso, Ferri, Ellis, Krafft-Ebing, and others I owe thanks for directing my researches towards this branch of psychiatry, and to them I cheerfully give primogeniture as far as many of these dicta are concerned.

Mr. Howells has boldly announced it to be a fact that Lombroso and his school generally succeed in finding what they start out to find. In writing thus, the gifted novelist shows, at once, that he is venturing into unknown territory. For many years before Lombroso and his so-called school came into existence, the congenital criminal had been noted and described, and his status in the social régime of civilized life definitely pointed out. Ellis and other distinguished English authors call attention to this fact in works, which, to the student of psychiatry, are as familiar as the alphabet. So that, Mr. Howells, the critic of Lombroso and his methods, had abundant data in his own language as to the standing of this question and its merits, even were he ignorant of foreign tongues.

The born criminal cannot be ignored in this day of modern psychology when the warfare between good and evil is recognized to be purely a personal matter as far as it touches the well-being of the antisocialist in his relations with his fellow man. This applies, of course, to the attitude in which the delinquent regards himself when he compares his status with that of the law-abiding man.

"The devil when sick a monk would be, etc.," does not apply to him in its ethical sense; his deformed psychical organism renders him a devil, sick or well; there is no monk in his mental habitudes, though he may robe himself in the soutane of a priest to further his own ends. Mentally, he is incapable, owing to his psychical obliquity, of looking at social law from the standpoint of the normal, law-abiding man.

Of course, I have reference to the congenital antisocialist, to the recidivist; the occasional criminal, the criminal through opportunity, does not enter into this study of the question except casually.

Now, in some of the eastern states, as well as some of the middle southern states, the physical aspect of criminology has been recognized and studied in a slight degree, though the magnitude and very great importance of the subject are only beginning to fully penetrate the veneer of the clerically artificial judgment of our law-makers.

Some few, very few, indeed, of the originators of state law have refused to assign to the devil the importance which his antagonists readily yield him; these few legalists disregard his Satanic majesty and yield first place to the unchangeable dicta of Natural Law! They recognize the physical basis of *psychos* and build their laws accordingly.

They are aware of the fact that, through the instrumentality of operation and brace, a club foot, where treated early in life, may be, and is, in the vast majority of cases, cured and the foot rendered useful and no longer a deformity. Just so with the criminal; they have become aware of the fact that the psychos of the youthful criminal, if taken in time and properly treated, will respond readily to that treatment, and that, comparatively speaking, a useless and expensive citizen may become, in the end, a desirable member of society.

I do not say that all of our advanced law-makers are aware of the physical forces which bring about these changes; I am inclined to believe that the majority of them think that they are warring against a personal devil, and that the battle is a spiritual instead of a physical one. The end, however, justifies the means, and, as that end is reformatory institutions, let them fight under whatsoever banner they may choose.

Whenever the kleptomaniac is mentioned in general society, a covert smile crosses the face of the wiseacre of the company; he is too wise to be "taken in"; in his opinion it is simply "a case of stealing." Yet, the kleptomaniac is truly a victim of psychical deformity and should be treated as such. Unfortunately the law is so framed that he is either classed among the insane, or, his mental status unrecognized, he is judged to be a criminal and treated accordingly.

Spencer, Huxley, Darwin, Wallace, Reclus, Haeckle, Wolfe, Ellis, and hundreds of others have preached the doctrine of evolution and have demonstrated that the law of atavism (the return to ancestral conditions), is the truest tenet of this all-powerful dictum of Natural Law; yet, the world at large fails to recognize the vast importance of this factor in the law of Universal Progress. It is willing to believe that the world is growing better, yet unwilling to grant that failures make successes doubly sure. The average citizen is prone to judge by appearances; he does not look below the surface and is satisfied with the reflection of his own, individual mirror.

A Universal Picture Machine, showing "living pictures" of civilization from its inception to the present time is an impossibility; yet any man who so wills can sit in a public library and picture forth the history of his ancestor from the time of the cave dwellers to the present moment.

Scientists tell us that there was a time in the history of man, when men held all things in common; "mine and thine were unknown, and immediate possession was the only law. The dwelling, the boat, the spear, the cooking pot, even the apron of leaves, and the wife, were communal; there was no mine and thine."

Owing to psychical deformity the kleptomaniac reverts to those ancient times; ethically he recognizes no difference between *meum* and *tuum*, and becomes, in this respect, the autotype of his savage ancestor. Modern law declares him insane; modern thought declares him psychically deformed. This single instance of mental deformity (were there not dozens of others!), where disease and abnormality, *sine morbo*, are not differentiated, but which are held to be the same and are treated as such, is enough to make the modern law-maker cry "Halt! whither am I drifting!" Of course, kleptomania may exist as one of the symptoms of mental disease; it is then pseudokleptomania. True kleptomania, as I understand it, is *sine morbo*—"without disease."

In the brief space of a magazine article it will be impossible to call attention to all of the mental deformities which force themselves into the view of the student of sociology and psychiatry; their name is legion. Yet, the psychosexual deformities play such a prominent part that no essay on this important subject would be complete without at least a short outline of some of the most frequent of these aberrances.

Alice Mitchell to-day drags out a weary existence in a madhouse simply because her psychical hermaphroditism was not recognized early in life and treated as such. The law, in her case, is cruelly and unjustly punitive, because it declares her insane when she is suffering from a psychical deformity which could have been cured had it been recognized early in life and treated as such.

"Jack the Ripper" and his thousand and one prototypes would have never materialized had the fact of their psychical deformity been recognized early in life and treated as such. Of course, many of these mental perversions are directly due to disease; but far the larger number are deformities, pure and simple, which can be treated and cured.

Was J. J. Rousseau mentally diseased? was Sir Walter Scott, or our own Poe? There was absolutely no evidence of disease in the minds of either of these men; yet there was unmistakable obliquity. Was Guiteau sane? I take it that almost every alienist of any note will declare his belief in his sanity, yet all will say that he had a "twist in his mind."

There is hardly a day that passes in which the newspapers fail to chronicle the imprisonment, either in penitentiary or lunatic asylum, of some one mentally deformed. As the law now stands it cannot do otherwise.

"WAVELAND."

Alleged Increase of Pneumonia.—An elaborate series of graphic tables is presented by J. S. Fulton, whose conclusions are as follows: (1) The returned mortality of the United States for ages between 15 and 60 during the past twenty years shows a diminishing mortality from the class of respiratory diseases commonly returned as pneumonia. Of the pneumonias occurring in this age period a large majority are true lobar pneumonia. Fifty-eight and a half per cent. of the population of the United States, and 66.5 per cent. of the population of cities are between the ages of 15 and 60. The incidence of lobar pneumonia on a major part of the population is therefore diminishing. (2) The return mortality of the United States, for ages above 60, indicate that the mortality from the class of respiratory diseases commonly returned as pneumonia has increased from 21.9 per cent. to 22.6 per cent. in ten years, the population at the same age in the same period having increased from 6.2 to 6.6 per cent. The urban mortality for the same age has grown in ten years from 16.1 to 19.5 and has been accompanied by an increase of population in that age period laterally from 5.23 to 5.27 per cent. Several pathologic conditions added to the group of pneumonias, and not provided for in statistics, are included in the returned mortality of pneumonia for ages above 60. For six per cent. of our total population lobar pneumonia may have increased in the past ten years, though satisfactory evidence of an increase has not been offered. (3) The return mortality of the United States for ages under 15 (about one-third of the total population) shows an apparent rise of mortality for the group of respiratory diseases commonly classed as pneumonia. The acute respiratory diseases of children were in former years commonly mistaken for affections of the nervous system. Year by year for thirty years increasing numbers of deaths formerly found in the indefinite accounts, and in the class of nervous diseases, have been transferred to the class of respiratory diseases and especially to the pneumonia account. Of the mortality recorded as due to pneumonia under the age of 15 years, not more than 10 per cent. is due to lobar pneumonia. A small though considerable incidence of lobar pneumonia in children under the age of 5 has come into view of late years, but there is no evidence that lobar pneumonia has increased in this age period. The remaining 90 per cent. of the recorded mortality ascribed to pneumonia includes the conglomerate group of bronchopneumoias, nearly all of which are secondary or complicating causes of death, and should be referred in the mortality tables to the primary causes of death. (4) Since 1890 a new cause of infantile mortality has come into view, an acute respiratory infection, attacking infants of 2 years old and under, commonly returned under the diagnosis of pneumonia, sometimes returned as due to a disease of the nervous system, and probably due to influenza. (5) The mortality registration of American cities is in general very poor. The crude rates and ratios offered by certain cities as evidence of a rising pneumonia mortality are inconsistent with the mortality statements concerning other causes of death, and with the characteristics of the populations concerned. They represent a perversion of statistics which must eventually bring discredit on American mortality registration.—*Journal of American Medical Association.*

Gout.—E. Schmoll offers the following as his conception of gout: In gout the uric acid is produced not only by oxidation of purin bases, but by synthesis; this synthesized uric acid therefore has not at its disposal the thymic acid necessary for its solution in the blood. This is why we can detect uric acid in the serum. If the formation of the synthetic uric acid increases for any reason the serum becomes saturated, and as no thymic acid prevents its precipitation it is deposited as tophi in the joints. He explains some difficulties of this theory and gives the results of his experiments with the thymic acid treatment. The excretion of uric acid is constantly increased during the medication and gouty attacks cease to appear, the swelling goes down and, in some cases, entirely disappears. The dose is about one-quarter of a grain three or four times a day, and is given after meals to avoid gastric disturbance. Larger doses, three or four grains in twenty-four hours, may cause local inflammatory reaction. He does not claim to cure gout in this way, but simply to neutralize the primary metabolic disturbance revealing itself by the synthetic formation of uric acid.—*Journal of the American Medical Association.*

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VALE OSLER.

DR. WILLIAM OSLER sailed for New York on Friday morning of last week, to enter upon his last professorial charge as Regius Professor of Medicine at Oxford, and his going is a cause of profound regret to his American confrères. Although a British subject and never relinquishing the allegiance to the English throne which he owed by virtue of his Canadian birth, he gave the best thought of his ripest years to the cause of medicine and especially of medical education in this country. The Johns Hopkins Hospital and the Medical School of Johns Hopkins University owe to him more than to any other one man the high rank which they hold among similar institutions throughout the world, and so thoroughly identified had he become with American medicine that the announcement of his acceptance of the call to Oxford came as a rude shock to his colleagues here, who had almost forgotten that he was not really theirs, but was only borrowed.

For nearly twenty years Dr. Osler has been one of the most conspicuous men of his profession in the United States, and unquestionably the most popular His preeminence rested upon his unusual literary abilities, his geniality, and his lovable personal character. As a medical practitioner and consultant he had many superiors, but as a medical writer he was facile princeps. There are others of his profession who rank higher in the literary world, for into the field of general literature he made few incursions, but in his ability to clothe the dry facts of medicine in a fascinating literary style which compel attention he has no equal. He is peculiarly happy in his addresses before graduating classes and medical assemblies, and there are few volumes of medicoliterary essays more entertaining than the collection recently published under the title of "Æquanimitas." The charm of his writings is in the style perhaps more than in the substance, and his serious contributions to the advancement of medical science have been few, for though a student and investigator, his forte has lain rather in the presentation of medical truths than in the discovery of new facts.

He did not begin to write until he was forty years old and has thus furnished in his own life abundant disproof of his contention that a man's best work is done before he has reached that age. If one were to accept the logical conclusion of his now famous lecture, Oxford could hardly be congratulated upon her possession of the fag end of his life of usefulness. But no one but Osler himself would dream of setting a term to his active and creative life. He may count his years as fifty-six, but his mind and body are still those of a vigorous youth, and to any one who saw him at the farewell dinner in this city a few weeks ago or who heard him speak at the Tuberculosis Congress in Washington last week the idea of his superannuation at the end of four years is unthinkable. That his sovereign may mark that period by the bestowal of merited honors upon his illustrious subject is most probable, and the event will be an occasion of joy to his American colleagues, but that he should be allowed so soon to retire from the Regius professorship and give himself over to an inactive life of contemplation and preparation for the end cannot be imagined. The annals of medicine nowhere contain such an example of presenility as that would furnish.

THE MENACE OF THE TRAVELING CONSUMPTIVE.

THE subject of the dangers resulting to the community as a whole from traveling consumptives has been dealt with frequently and exhaustively. The fact has been driven home that practically no effective precautions are taken to prevent a person suffering from pulmonary tuberculosis from disseminating the germs of the disease among his fellow passengers. Notwithstanding, however, the numerous warnings which have been uttered, little or nothing has been done by railroad or steamboat authorities to minimize the risk of spreading infection.

In the *Journal of the Association of Military Surgeons*, in May, 1905, Dr. John William Trask, Assistant Surgeon in the Public Health and Marine Hospital Service, writes concerning these dangers. He draws attention to the fact that there is a very large number of consumptives traveling in the Western States and territories, who by reason of the lack of adequate precautionary measures are a menace to the community at large, and he ventures the opinion that if as many consumptive individuals made use of the railroads in the East as in the West, proper legislation would have been demanded and enacted ere this.

There can be no doubt when persons suffering from pulmonary tuberculosis travel in trains, without knowing or caring how to protect their fellow passengers, that such trains must become badly infected. Dr. Trask points out that criminal carelessness is everywhere exhibited by consumptives, some erring through ignorance, while others are indifferent to the fact that they are ambulant foci of infection. Promiscuous expectoration is the gravest source of danger.

As to remedies for the existing condition of affairs, the author reiterates the suggestions in this direction which have been so freely scattered around during the past few years. So far, however, as advice concerning the control of consumption is concerned, we appear indeed to be a stiff-necked generation. The principal authorities on the disease have proclaimed loudly from the housetops the obvious means that must be taken to prevent the spread of tuberculosis, but the words of wisdom, as a rule, have fallen upon unheeding ears.

The truth would seem to be that an educational propaganda must be undertaken and continued by the medical profession until the general public thoroughly understand the facts of the situation. The cooperation of the medical profession and the people at large must take place ere effective work can be done toward abolishing consumption. Dr. Trask shows that correct and early diagnosis of the disease is an essential feature of a successful campaign. Notification is a useful means of ascertaining how many consumptives there may be in a community and where they are.

With regard to preventing the spread of consumption by traveling sufferers from the malady Dr. Trask suggests many remedies. He holds that coaches should be furnished and upholstered far more plainly than is at present the case, and that each car might be disinfected with formaldehyde or sulphur dioxide at the end of each trip, or, if the car makes but short runs, two or three times a week. Common drinking cups at the water tanks should be abolished. On dining cars all dishes should be well scalded with boiling water in addition to the mechanical cleansing commonly termed washing. In sleeping cars, in addition to the freshly laundered linen, blankets which have been sterilized since last being used could be furnished.

All consumptives should be required to use sputum cups while on the train, the cups to be furnished by the trainmen and cleansed and sterilized when full free of charge. Lastly, the author recommends that all trains carrying passengers to and from the Southwest should be fitted with special compartments in which consumptives who cough and expectorate tc any extent can travel by themselves.

Whether it be possible entirely to exterminate consumption is more than doubtful. It may be taken as proven, however, that the spread of the disease can be very considerably narrowed by using ordinary common-sense precautions, and certainly railroad and steamboat authorities can effect much by adopting and enforcing certain regulations with regard to the conduct of traveling consumptives.

THE BENEFICENT DUST.

This is an age of rehabilitation. The Borgias have been whitewashed, and it has been shown that Nero, instead of being a vicious and licentious profligate, was on the whole an estimable character. And this rehabilitation process is being extended to inanimate things as well. Dust, either in the streets or in houses, has hitherto been regarded not only as distinctly unpleasant, but as highly dangerous to health, and the theory that the germs of many virulent diseases are contained in dust and carried by means of the wind to infect those susceptible, has been vigorously propagated. Indeed, it is a matter of popular belief that the commoner contagious diseases are disseminated through the agency of street dust.

Dr. J. J. Cassidy, member of the Provincial Board of Health of Ontario, has, however, recently written an article in the *Sanitary Journal* of that body, in which he deprecates the ventilation of these extreme views and holds that they are not justified by facts. He quotes at length from well-known authors, and summarizes as follows: The contention that tuberculosis is spread through the inhalation of bacilli-laden dust is true. It would not, however, be a safe conclusion that the street dust, wafted about in the open, contains the bacilli tuberculosis in a virulent condition. The evidence points rather the other way, viz., that this same dust parts with its virulence in proportion to its free exposure to air and sunlight.

Smallpox is conveyed from the sick to the healthy, or from one person to another, by (*a*) inoculation with either the blood or the contents of the eruption or the dissolved dry scabs; (*b*) proximity to a patient suffering from smallpox; (*c*) fomites. The distance to which the contagion of smallpox can be conveyed through the air is probably considerable, being, according to English data, from a half to three-quarters of a mile. Measles, scarlet fever, whooping-cough, diphtheria, and influenza are communicated from the sick to the healthy or from one person to another directly by the patient (through contact or sputum thrown into the air), or indirectly by bed-linen, body-linen, furniture, toys, etc., which have been used by the patient; but these diseases are not communicated to persons at a considerable distance, by being wafted through the air in dust.

Street dust, asserts Dr. Cassidy, is not, as is the general belief, a vehicle of the commoner contagious diseases, because it contains a large percentage of horse manure. Rather, judging from analysis of street dust, it acts as a ferment and has a strong disinfectant power on the sputa of scarlet fever, diphtheria, measles, whooping-cough, or influenza, and is capable of destroying instead of enhancing the virulence of these sputa.

The germs in the dust of a room from which sunlight is more or less excluded will retain their virulence for a considerable time, but those in the dust outside exposed to sunlight rapidly lose their virulence and cease to be infective.

THE TREATMENT OF DIPHTHERIA.

In the *Practitioner* for April is published an article by Dr. J. T. C. Nash on the treatment of diphtheria. The writer lays especial stress on the necessity of treating diphtheria in its earliest stage; in fact, the whole trend of the paper is in this direction. In order to accomplish this disideratum, one of two things must be done: either the disease must be diagnosed early and treated or a suspected case must be treated. Now, it is more or less obvious that it is almost impossible always to diagnose correctly diphtheria in its early stages; other throat affections, follicular tonsillitis in particular, simulate it in many respects so closely that without a careful bacteriological examination it is extremely difficult to differentiate with exactitude between diphtheria and three or four maladies which attack the tonsils. Country practitioners and even many town medical men have not the means at hand for bacteriological examinations, and moreover such examinations are not in all cases conclusive, and in any event precious time is wasted. Dr. Nash therefore urges that whenever there is a suspicion of diphtheria the serum treatment should be adopted at once as a preventive measure. He says that, with our present-day knowledge that diphtheria is practically rendered non-fatal if treated with a suitable dose of diphtheria antitoxin on the first day of illness, it is almost criminal to defer serum treatment until a bacteriological examination has been made. He is of the opinion that 2,000 units should be administered, subcutaneously, directly there is a suspicion that the case might be one of diphtheria. The antitoxin should always be administered subcutaneously. Nash points out that diphtheria antitoxin belongs to the preventive more than to the curative medicines. The author is also a firm believer in the efficacy of strychnine in heroic doses in the treatment of diphtheria. He occasionally gives to children as much as 0.03 grm. (nearly ½ grain) in divided doses during several consecutive days, followed by smaller doses for a subsequent considerable period. For the rhinitis, which is so frequent a complication of severe attacks of diphtheria, antiseptic douchings of the nasopharyngeal passages every four to six hours is recommended. Park advocates in this condition the use of bichloride of mercury 1-1,000 or a weak solution of hydrogen dioxide. If the latter is used, care must be exercised to secure as pure a product as possible, as if the hydrogen dioxide contains impurities, the mucous membrane of the nose and mouth will be injuriously affected. There can be no doubt that it is a question of the utmost importance for diphtheria to be treated in its early stage. Taken in time, diphtheria antitoxin will abort the disease in the majority of cases. The suggestion of Dr. Nash, that every suspected case should be treated with a generous dose of antitoxin, is undoubtedly good practice.

Nervous Asthma and Skin Diseases.

The question of the relation of skin eruptions to affections of the nervous system, is one that has long interested dermatologists and neurologists alike, and fresh contributions to the subject are constantly appearing in medical literature. One of the most recent is a paper read by Bayet before the Société Belge de Dermatologie et de Syphilis and published in the Bulletin of that Society (No. 3, 1904). The paper was an essay on the relationship some asthmatic affections bear to cutaneous outbreaks, and the following were Bayet's conclusions: (1) It is incontestable that, in certain cases, there may exist a very marked alternation between asthma and the cutaneous affections which accompany it. (2) In certain cases this alternation is observed only when the case is watched for over a considerable period. It is not immediate. The sudden disappearance of the dermatosis has no marked influence on the attack. It is noted that taken together the periods of inactivity in the cutaneous manifestations are accompanied by an aggravation of the respiratory symptoms. (3) In certain cases this alternation is not seen. (4) In others the exacerbations of asthma are accompanied by aggravation of the skin symptoms. It is probable too that there exist still other types of relationship between nervous asthma and the dermatoses which accompany it. (5) The relationships which bind asthma to dermatoses are not the same for the whole course of the disease. The alternation or balance may lose its distinctive character. At a given moment the two affections may simultaneously diminish. (6) The physician should treat all dermatoses in an asthmatic, and he is at liberty to cause a reappearance of the neurodermatitis if curing the skin affection brings about a too violent return of the asthma.

The Bad Effects of Surf Bathing.

The manner in which surf bathing is carried on at the fashionable seaside resorts of this country is by no means conducive to good health. Sea bathing in moderation is beneficial in a certain class of maladies, but excess is distinctly harmful. The *St. Louis Medical Review,* April 29, calls attention to this fact and quotes from an article by Dr. Philip Marvel, which appeared in the *Journal of the American Medical Association,* April 8, deprecating the mode of bathing at the Atlantic coast resorts. The writer holds that this kind of bathing does more harm than good, and urges physicians to warn patients of the dangers of too long immersions and of exposure in wet clothes on the sand. It is pointed out that an important feature in sea bathing is the impact of the waves on the body, to which may be added the thermic stimulation of the cold, the chemical irritation of the salt, and the mechanical effect of forced activity, all producing a combination of the stimulating influence of a brine bath at low temperature with that of a hydrotherapeutic procedure. These effects are admirable for stimulating functional activity in weakened conditions in which normal metabolism is inhibited or in which a condition of perverted nutrition exists, as in some functional disturbance of long standing. Sea bathing is contraindicated in weakening or loss of elasticity of the arteries, organic heart disease, recent rheumatism, cholelithiasis, acute gastrointestinal or febrile disease, or any condition in which the normal resistance is so reduced that it is necessary to guard the patient's forces.

News of the Week.

An Amendment to the Child Labor Law.—A bill amending the Child Labor law has been signed by Gov. Higgins. The bill aims to relieve a numerous class of children who are unable to produce evidence of their age required under the present law before an employment certificate can be issued, and who, in consequence, have been obliged to go back to school. The bill allows local boards of health to accept "other satisfactory evidence" where the evidence at present required (birth certificate, baptismal or religious records or passport) are not to be obtained and when it appears that the child is of the age required. This new evidence must be submitted to the Board of Health at one of its regular meetings and made a part of the minutes in each individual case by separate resolution.

A Tuberculosis Exhibition.—It is announced that the first American Tuberculosis Exhibition will be held in this city next November under the auspices of the National Association for the Study and Prevention of Tuberculosis, and of the Committee on the Prevention of Tuberculosis of the Charity Organization Society. The committee in charge, of which Dr. Lederle, former Commissioner of Health, is chairman, is looking for a large exhibition hall, centrally located, which, it is hoped, may be obtained without charge for a period of two weeks. The committee is also soliciting contributions sufficient to insure the undertaking against financial loss. In addition to exhibits intended to illustrate different phases of the tuberculosis problem, and especially the treatment of the disease, popular lectures will be delivered by specialists. Such exhibitions have been found of great value abroad in educating the masses, and it is to be hoped that the present project will meet with the support it deserves.

Quarrel Between School and Health Boards.—There is excitement in a town in Iowa regarding the diagnosis of a disease from which many of the children of the place are suffering. The State Board of Health has pronounced the disease scarlet fever, but the members of the local School Board and other intelligent citizens of the place dispute the diagnosis in true Russian peasant or Hindu style. Two physicians sent by the Board of Health to investigate the disease and who pronounced it scarlet fever were forced to get out of town under cover of the night owing to the threats of the enraged citizens. A local physician who agreed with them was hanged in effigy, and another who placed quarantine signs on several houses was threatened with violence, and the signs were torn down within ten minutes. The School Board asserts that it will prevent the fumigation of the school buildings by force if necessary. The State authorities have notified the superintendent to close the schools.

A Marine Biological Station.—Arrangements are now almost complete for the opening of a marine biological station at La Jolla, a suburb of San Diego, Cal., under the direction of Prof. William E. Ritter, of the University of California. The laboratory will take the place of the one that has been conducted by Prof. Ritter during the past year or two at Coronado Beach. The change of location has been made on account of the better facilities for obtaining specimens at La Jolla, where the forms of ocean life most desirable for study approach to within a short distance from the shore. This region is also considered the best for research work in the United States, the climatic conditions being such as to permit of continuous study, summer and winter.

Medical Colleges Consolidated.—The Kansas City Medical College and the Medico-Chirurgical College of Kansas City, Mo., have been consolidated and a faculty will be chosen from the combined schools to form the medical department of the Kansas State University. The Ensworth Medical College and the Central Medical College of St. Joseph have also consolidated, the new school to be known as the Ensworth Medical College.

Pediatric Hospital to be Opened.—A new children's hospital, situated on the grounds of the Cook County Hospital, Chicago, will be formally opened on May 23. The hospital is three stories high, has 20 wards, accommodates 150 patients, and occupies 147 by 43 feet of ground. It has isolation wards in which patients are kept till the character of the disease is known; a large demonstration room; two dining rooms for convalescents and a reception room. The building is strictly fireproof; there will be 57 physicians on call, with a staff of 12 nurses.

Bill for Tuberculosis Sanatorium Vetoed.—Governor Deneen of Illinois recently vetoed the Glackin bill, which provided for an appropriation of $25,000 for the construction of a sanatorium for the consumptive poor.

American Laryngological, Rhinological and Otological Society.—The eleventh annual meeting of this society will be held at Boston, in the Boston Medical library, on June 5, 6, and 7, under the presidency of Dr. Frederic C. Cobb. The secretary is Dr. Wendell C. Phillips, 40 West 47th street, New York.

Scholarships for Mount Sinai Nurses.—What is to be known as the Murry Guggenheim Scholarship Fund has been established by Mr. Murry Guggenheim. The income of the fund will be used for twelve annual scholarships of $100 each for pupils in the training school for nurses. These will be awarded to the nurses in each class who stand highest in rating, six to junior and three each to the senior and graduating pupils.

A Soul-Storm.—Under the title of "The Morphineuse" Dr. W. L. Howard of Baltimore, whose novel "The Perverts" touched many similar phases of psychical aberration, depicts in *The Arena* for May an episode in the career of a female opium habitué. The sketch is as luridly colored as any fantasy inspired by the drug it deals with.

A New Form of Pasteurizing Apparatus.—The Health Department, under the direction of Dr. William H. Park, is conducting a series of experiments to determine the efficacy of a new pasteurizing apparatus imported from France by Nathan Straus for use in his free milk stations. These machines are said to be superior to the old forms in cheapness of operation, rapidity of action and reliability of results. Economy of fuel and speed in operation are obtained by using the stream of hot, outflowing milk to heat the fresh milk entering, while at the same time it is itself being cooled in the process. Should the tests be favorable it is likely that the new pattern will be introduced into the city hospitals.

Proposed Union of Medical Faculties of McGill and Bishop's.—Negotiations are proceeding with the object of merging the medical faculty of the Bishop's College Medical School into that of McGill University. The students of the former would pass over to the latter, with the same standing, and the various prizes, medals, etc., would also be transferred. No members of the faculty, however, are to assume positions on the McGill medical staff.

Beriberi at the St. Louis Exposition.—In his official report Dr. Leonidas H. Laidley, medical director of the Louisiana Purchase Exposition, reveals the fact that during the exposition there was a considerable outbreak of beriberi among the Filipinos. According to the report there were forty-five cases with three deaths.

Surgeons of the Southern Railway.—The following officers were elected at the meeting of the Associations of Surgeons of the Southern Railway, held at Chattanooga: *President,* Dr. Thos. B. Satterwhite of Louisville, Ky.; *First Vice-President,* Dr. J. H. Mitchell of Mr. Vernon, Ill.; *Second Vice-President,* Dr. R. J. Noble of Selmer, N. C.; *Secretary* and *Treasurer,* Dr. J. W. Ray of Woodstock, Ala., was reelected; *Member of the Executive Committee,* Dr. W. C. Day of Danville, Va.

Essex (Mass.) North District Medical Society.—At the annual meeting held in Lawrence, officers were elected as follows: *President,* Dr. Leslie, Amesbury; *Vice-President,* Dr. William J. Sullivan, Lawrence; *Secretary-Treasurer,* Dr. I. J. Clark, Haverhill; *Corresponding Secretary,* Dr. F. D. McAllister, Lawrence; *Auditor,* Dr. Pierce, Haverhill; *Censors,* Dr. Durant, Haverhill; Dr. Day, Newburyport; Dr. J. F. Young, Haverhill; Dr. Sweetsir, Merrimac, and Dr. Fitzhugh, Amesbury; *Counselors,* Dr. Durant, Haverhill; Dr. L. J. Clark, Haverhill; Dr. J. G. McAllister, Lawrence; Dr. George B. Sargent, Lawrence; Dr. Root, Georgetown; Dr. Atwood, Bradford; Dr. Douglas, Amesbury; Dr. E. H. Noyes and Dr. Pillsbury, both of Newburyport; *Committee on Trials,* J. F. Young, Haverhill; *Nominating Committee,* I. J. Clark, Haverhill and *Alternating Committee,* Dr. Pillsbury of Newburyport.

Norfolk (Mass.) South Medical Society.—The following officers were elected at the recent meeting in Boston of this society: *President,* Dr. John F. Welch of Quincy; *Vice-President,* Dr. N. S. Hunting of Quincy; Secretary and Treasurer, Dr. S. W. Ellsworth of Quincy.

Western Illinois District Medical Society.—The officers elected at the Jacksonville meeting were: *President,* Dr. H. A. Chapin of White Hall; *First Vice-President,* Dr. L. J. Harvey of Griggsville; *Second Vice-President,* Dr. D. W. Reid of Jacksonville; *Secretary* and *Treasurer,* Dr. A. L. Adams of Jacksonville; *Board of Censors,* Drs. Fisher of Alton, Nickerson of Quincy, and Pitner of Jacksonville.

Missouri State Medical Association.—At the annual meeting of the Missouri State Medical Association held in Excelsior Springs, May 16 to 18, the following officers were elected for the ensuing year: *President,* D. C. Gore; *Vice-President,* C. D. Avery; *Secretary,* C. M. Nicholson; *Assistant Secretary,* E. J. Goodwin; *Treasurer,* J. Franklin Welch. Dr. C. M. Nicholson was appointed editor of the journal of the Association and Dr. E. J. Goodwin assistant editor. The next meeting will be held at Jefferson City in May, 1906.

Opening of New Hospital.—The opening ceremonies of the Annex to Sherman Hospital, Elgin, Illinois, were held April 14. The addition nearly doubles the capacity of the institution, which will now accommodate 52 patients. The new building was erected at a cost of about $33,000.

Dr. A. M. Fernandez de Ybarra of this city has recently been appointed corresponding member and official representative in the United States of the Medical Association of Porto Rico.

The Decentralization of State Hospital Control.—Gov. Higgins has signed a bill which repeals the Odell law of 1902 which centralized the control of the State hospitals for the insane in the State Commission in Lunacy at Albany and substituted boards of visitation for local boards of managers for each hospital.

A "Coverer" Fined.—A registered physician in this city was recently fined $75 in the Court of Special Sessions for making out a death certificate to the Board of Health that he had attended a 5-year-old girl when in fact he had not seen her before her death. The child died of bronchitis after being attended by an unregistered physician. His defense was that many of his colleagues followed the same custom of signing death certificates for illegal practitioners, the price of the lie being one dollar.

Opposition to a Sanatorium.—Certain of the citizens of Brooklyn borough are up in arms against a project of the Department of Health to establish a sanatorium for consumptives on Henry street. It is proposed to have the clinic in a four-story building in a thickly settled district, and those who object to it claim that the department's plan will endanger the health of the neighborhood and depreciate the value of the property there.

Dr. Jacob Sobel has been appointed adjunct Pediatrist to the Sydenham Hospital.

Fighting Mosquitos in New Jersey.—The Elizabeth, N. J., Board of Health has undertaken to drain the meadows between that town and Newark in order to reduce the numbers of if not to exterminate altogether the mosquitos that breed there. A sufficient sum has been appropriated to do about two-thirds of the necessary work this season. The Central Railroad of New Jersey will be asked to coöperate to the extent of placing culverts under the roadbed wherever the ditching plan will make that necessary.

The New York Eye and Ear Infirmary.—At the meeting of the Board of Directors of the New York Eye and Ear Infirmary held on April 26, the following appointments were made: Drs. Walter B. James and Walter Lester Carr, *Consulting Physicians;* Dr. George T. Elliott, *Consulting Dermatologist.*

Meningitis in Europe.—Several cases of cerebrospinal meningitis have occurred in Irthlingborough, England, four in one house. In Prussia there have been 1,935 cases and 994 deaths since April 30, and in Silesia 1,814 cases and 932 deaths.

Dr. John F. Winn of Richmond, Va., has been appointed Professor of Clinical Obstetrics in the University College of Medicine.

Providing a Site for a State Hospital.—The Board of Estimate of this city has asked the trustees of Bellevue and allied hospitals for a report on the plan for the city to provide a site for a State Hospital for the insane. The State has appropriated the sum of $300,000 to build the hospital if the city will furnish a site on Manhattan Island. The State will pay all expenses of maintenance and the hospital will relieve the insane pavilion of Bellevue of most of its patients.

The Late Dr. Albert A. Davis.—The following minute has been adopted by the Society of the Alumni of St. Luke's Hospital:

Dr. Albert A. Davis died in St. Luke's Hospital on May 6, in his sixty-ninth year. He was born in Vermont and was graduated from the College of Physicians and Surgeons in 1864. After a year's medical service in the Union army he became an interne in St. Luke's Hospital and until his death was connected with that institution in the several capacities of resident physician and surgeon, examining physician, attending and consulting physician.

The Society of the Alumni of St. Luke's Hospital wish to express their sorrow at the loss occasioned by his death and their high appreciation of his qualities as a teacher, clinician, and friend. The Society feel that in his removal from among them they have lost one whose intellectual attainments and noble example made him an ideal for the younger generation of physicians to reverence and follow.

Obituary Notes.—Dr. H. W. Westlake of Los Angeles died on Friday, May 12, after an operation for the relief of an abscess of the lungs, at the age of 48 years. He was born in Canada, graduated from the Victoria University in 1887 and went to Los Angeles in the following year. He was a successful man both in his profession and in many business ventures, and devoted a large share of his income to charity, always with the condition that his name be withheld from the public. The beautiful Westlake Park was named for him.

Dr. Erwin Fischer of Pittsburg died May 21 of abscess of the brain. He had been comatose for the greater part of five weeks. His skull was trephined last week by Dr. Carl Beck of this city, but it was not possible to locate the abscess.

Dr. Ernst J. Lowenthal, a retired physician, died in Hoboken on May 14, in his ninety-second year. He was born near Würzburg, Germany, and finished his medical studies there, obtaining his degree in 1839. He took part in the German and Austrian revolutionary movement in 1848 and came to America in 1850. Dr. Löwenthal was one of the founders of the Republican party and was a candidate for presidential elector on the Fremont ticket in 1855. He lived half a century in Hoboken and retired from the practice of medicine twenty years ago.

Dr. Jacob H. Asch died May 19, aged sixty-five years, at his home, in this city. He came to this country as a young man, having received his degree from the University of Berlin in 1864, and settled down to the practice of his profession in this city after a brief residence in Philadelphia.

Dr. John W. Bayne died at his home in Washington, D. C., on May 17, at the age of 59 years. He was a member of the American Medical Association and the Medical Society of the District of Columbia. Dr. Bayne was born in Prince George County, Md., and graduated from the University of Maryland in 1868.

Dr Alexander A. Farris died at his home in Hickman, Ky., on May 12, at the age of sixty-five years. He was a graduate of the Bellevue Hospital Medical College in 1871.

Dr. James H. Hysell of Pomeroy, Ohio, died May 11 at the age of sixty-seven years. He was a graduate of the Medical Department of the University of Buffalo in 1861.

Dr. William M. Line of Aberdeen, S. D., died suddenly on May 9 at the age of eighty-three years. He was born at Carlisle, Pa., and was a graduate of the Jefferson Medical College in the class of 1851.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HEALTH OFFICERS AND TENURE OF OFFICE—ORGANISMS IN ENDOCARDITIS—ABDOMINAL SECTION IN CONSTIPATION—ELECTRICTY IN ESOPHAGEAL STRICTURE—KAPOSI'S DISEASE—ASSOCIATION OF SCOTCH DIPLOMATS.

London, May 5, 1905.

Questions connected with the temporary appointments of medical officers of health are again to the front. For many years their association has been striving for permanency of appointments but without success, although members of Parliament of both parties who have been interested in the matter support the proposal—an instance of the evil which party government inflicts by setting the good of party before the good of the country. The committee on physical deterioration presided over by the Duke of Devonshire recommended that a medical officer who devotes his whole time to the duties of his office should in no case, unless convicted of misconduct, be dismissed without the consent of the local government board. But politicians are too busy to trouble about the recommendation, and the public health must suffer. Dr. Bond, of Gloucester, whose good work must be known to you, and who has been regularly re-elected for the last thirty-two years, has been dismissed by the sapient electors, because he objected to undertake the care of three additional parishes without extra remuneration. The local Government Board supported his claim, but the Rural District Council went its own way, and Dr. Bond has no redress. Dr. Norman, of the Howard Rural District, has served for twenty-six years, and the council advertised the post as vacant; but as the other practitioners would not supplant him they were obliged to appoint Dr. Norman. It is frequently impossible for a medical officer to do his duty without losing his position. The local authorities who appoint him are interested in obstructing him. To call attention to infectious disease in health-resorts at once incurs the displeasure of his electors; to condemn jerry buildings or unsanitary slums sets up the back of builder and landlord, who probably sit on the councils, and persuade the still more ignorant councillors not to listen to the doctor's fads, which will only add to the rates.

Dr. T. G. Horder has succeeded in cultivating the gonococcus from the blood of a man of 26, admitted to St. Bartholomew's Hospital, with malignant endocaritis three and a half months after an attack of gonorrhea. Cultures were made twice and yielded copious growths. A month later the patient died and cultures were made from vegetations found on the mitral valve. Dr. Horder showed slides of the cultures, films and sections through the endocardium to the Pathological Society on the 18th ult.

At the same meeting Dr. Horder related two cases of endocarditis in which the bacillus of influenza had been cultivated from the blood. The first was in a man of 31. Four cultures all yielded growths—some as many as 100 colonies per cubic centimeter. Postmortem a single mass of vegetation was found upon the wall of the left auricle which gave a good growth of b. influenzæ on cultivation and sections though the endocardium showed masses of the same organism. The second case was that of a boy of 13. Blood cultures undertaken twice showed the same. Here again the autopsy gave the same results, a single large vegetation projecting into the mitral orifice gave the organism. In the first case the diagnosis was determined six weeks before death, in the second case five weeks. In both cases marked leucocytosis has occurred. No other organism was found either in the cultures or in the hearts after death. Lantern slides were exhibited. Dr. Bulloch congratulated Dr. Horder on the manner he had worked up his cases, and remarked that of late years it had been more difficult to recognize the influenza bacillus than prior to the epidemic of 1892-93.

A boy of 12 was shown at the Clinical Society (by Dr. M. Fletcher and Mr. Betham Robinson), on whom abdominal section had been performed for chronic constipation and dilated intestine. He had always had a large belly, and last November there was a great increase of the distension with pain in defecation, but without vomiting, and no blood was passed. At the operation the dilatation was seen to extend from the hepatic flexure to the rectum, the upper part of the latter measuring 9¼ inches in circumference. The bowels was emptied *per anum* by manipulation, many pounds of soft, dark feces being forced out. Recovery was satisfactory. In reply to questions Mr. Robinson said no other morbid condition was present, and if recurrence took place he proposed to open the cecum and flush the colon. Mr. Drew suggested as a cause derangement of the nervous mechanism leading to spasm of the sphincter. Mr. Mankins remarked on the unusual feature of the case in that the colon was affected only below the splenic flexure.

At the same meeting Dr. Savill showed a case of stricture of the esophagus brought on by swallowing in mistake oil of vitriol which he had relieved by electricity. Dysphagia and stricture increased for two years, when a bougie was passed with difficulty. Later the woman learned to pass one and did so before each meal, and so was enabled to swallow minces. But the difficulty returned and in June, 1903, no bougie had been passed for nine weeks and no solids taken. Fluids could be swallowed only when very hot and the patient recumbent. Electricity was tried and great improvement followed, so that in six weeks she could swallow minced meats and gained seven pounds. This continued for eighteen months when a relapse occurred. Electricity was again successful and now she swallows solids without passing a bougie. The electric treatment employed was a constant current of ten milliamperes increased to fifteen for ten minutes, followed by the faradic current and subsequently the combined current for six minutes. The positive pole was applied over the nape of the neck and the negative was connected with an intragastric electrode which was passed down to the stricture, twelve inches from the teeth.

Dr. Fawcett showed a case of Kaposi's disease in a girl of 16. She was noticed to have freckles at 2½; from 3½ to 10 corneal ulcers. For the last two years small sores appeared at intervals, leaving scars. Last January a granulomatous patch appeared to the left of the nose, which increased until March, when she was admitted to Guy's Hospital, the patch then measuring two inches by one and involving the left ala and upper lip. *X*-ray treatment was tried and the mass diminished by one third. The surface became cleaner and did not bleed so freely. There were numerous freckles on the face, chin, neck, shoulders and below clavicles, some also on the fingers, forearms, arms and shins. There were small white, atrophic patches on the cheeks, also thin white scars and talangiectases, small white, flat warts were also present on the arms.

Among other exhibits I may mention tumor of the tongue in a girl of 12, perhaps a condition of lymphangioma, traumatic cephalhydrocele in a boy of 8½ which followed a fall of twelve feet when he was six months old; congenital absence of lateral abdominal muscles with enlargement of bladder and ureters.

The Association of Medical Diplomats of Scotland does not intend to confine its energies to storming the hospital reserves of the English colleges. It has accordingly held a discussion on rheumatism—a large enough subject and still unexhausted. It was opened by Dr. Alex. Morison, who suggested many points for discussion. It was pleasant to notice that at the outset he did justice to the work of the late Dr. Maclagan, for with the progress of bacteriological investigation his real practical advance sometimes is overlooked. His theory had little influence, and is exploded, but his demonstration of the value of the salicyls was a revolution in clinical medicine. Other points mentioned by Dr. Morison are the connection of rheumatism with tonsillitis, endocarditis, chorea, and so on.

Dr. David Walsh contributed a paper on the connection of rheumatism with skin affections. He has held for some years that rheumatism is an autogenetic poison which affects the excretory function of the skin, and if it proves due to a microbe he would expect to find the organism in any cutaneous rash in rheumatic subjects and therefore he is looking for it. He mentioned some conditions of the skin which seem to him connected with rheumatism and cases relieved by salicyls.

Dr. Hawthorne read a paper on some of the practical issues which arise out of the uncertain meaning of the word rheumatism. The public employ the term in a sense very different to that attached to it by most medical men, and the inquiry into the history of children's illnesses will be useless unless this is remembered. The prevalence of cardiac disease in early life might perhaps be restrained by impressing on parents in rheumatic families the importance of sore throats and growing pains. The uncertainty of definition was further illustrated by the names applied to chronic disorders of joints—names which sometimes lead to erroneous and injurious treatment.

The discussion, though interesting enough, suggests that the society, if it continues to work in this line, might do better to restrict its debates to more defined subjects. We are continually met with the word rheumatism in a vague sort of way and contributions to accurate definitions of all affections so termed would be of great value.

On Saturday the sad news reached Liverpool that Dr. J. E. Dutton died in Congoland on Feb. 27th, about the time the expedition was preparing to return. You will remember the important part he took in the previous expeditions, and from what has transpired it is pretty certain that in this he had achieved further distinction. His discovery of a trypanosome in the blood of a European during the first expedition, which he described and classified as he afterwards did others, led to the discovery of it in sleeping sickness. At the time of his death he was engaged in the investigation of tick fever. He was only 29 but had taken a very high place among scientific investigators, and his name will be remembered among the martyrs of medical science.

I regret to announce the death of Mr. G. R. C. Tichborne, L.R.C.S.I., F.C.I., etc., who has been for many years the chemical adviser of the Dublin Apothecaries Hall. That body, of which eventually he was Governor, was represented by him on the General Medical Council for the last nine or ten years when his profound knowledge of pharmaceutical chemistry was of the greatest service on the Pharmacopeia Committee. He will be greatly missed on the Council, and in Dublin his loss will seem almost irreparable.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

NASAL CONDITIONS AND UTERINE CONTRACTIONS—THE NEUTROPHILIC BLOOD PICTURE—TRAUMATIC CYST OF THE PANCREAS—OPERATIVE TREATMENT OF GASTRIC ULCER.

VIENNA, May 5, 1905.

Drs. Jerusalem and A. Falkner have reported on experimental studies of the relation between uterine contractions and the nasal mucous membrane. The observations which were undertaken as a sequel to the investigations of Fliess, on the same subject, were made on eighty cases in Chrobak's clinic. It was found that women suffering from painful menstruation or severe lumbar pain during the period of cervical dilatation presented characteristic nasal manifestations, consisting in marked swelling and tenderness of the lower turbinate as well as of the tubercle of the septum. By the local application of adrenalin and cocaine the uterine pain was relieved or diminished. In case the pain returned the treatment was repeated at the end of several hours. During the painless interval the contractions continued without interruption. Uterine pain, depending on mechanical factors, such as cervical stenosis, or of inflammatory nature as in gonorrhea, or due to disproportion between the fetal head and the pelvis, were not affected by the cocaine, though after-pains could be relieved by a single application. No results followed the treatment in the case of women without menstrual pain, and although some swelling of the turbinated bone and tubercle was noted, these regions were only slightly sensitive. These observations are quite in accord with the results obtained by Fliess. By irritating the lower turbinated with a probe uterine contractions could be elicited at will in women with dysmenorrhea and the already mentioned nasal condition. In two cases of protracted labor strong pains were produced on stimulating the turbinateds with a very weak faradic current, but in protracted abortion the same measure gave rise only to pain in the abdomen and back, but no visible contractions, and in non-pregnant women there was no result. The experimenters believe that although there is as yet no practical value to these results, they will assist in elucidating the complex connections existing between nose and genitals.

In the Royal Association of Physicians of Budapest, Flesch and Shossberger reported on the fluctuations of the neutrophilic blood picture in infectious diseases. Under physiological conditions mononuclear neutrophilic leucocytes occur in the proportion of 5 per cent., binuclears 35 per cent., trinuclears 41 per cent., quadrinuclears 17 per cent., and cells with five or more nuclei 2 per cent. In infectious diseases this relationship changes, the polynuclears diminishing and the mononuclears increasing. Flesh and Shossberger considered the following points in their investigations: First, the degree of variation in the neutrophilic picture observed in different diseases; second, what diagnostic or prognostic importance might be attached to such observations; and, third, how these results could be reconciled with the mode of origin of leucocytosis and our general knowledge of hematology. The authors found that under physiological conditions 36 per cent. of mononuclears, 45 per cent. of binuclears, 15 per cent. of trinuclears and occasional cells with five nuclei were seen, and that in the course of infectious diseases the mononuclears increase and the others diminish. The severity of the infection and the termination of the disease are without effect on this change. An increased number of mononuclears are found in varicella, measles, typhoid and usually in rötheln and suppurative processes. In scarlatina, tuberculosis, and pneumonia they are less numerous. The blood picture does not change in diphtheria. These phenomena in most cases confirm the diagnosis, but do not equal a blood count in value. During the incubation period of measles there is a well-marked change in the blood picture. No prognostic indications are yielded by the blood findings. The neutrophilic blood picture is only a symptom of the reaction of the organism, and not a definite manifestation of the condition present.

Dr. Alfred Exner presented in the Association of Physicians a man of thirty-six with a traumatic pancreatic cyst. On the 3d of September he had received in the abdomen a kick from a horse, which caused him to fall over senseless. On the 15th of October he was admitted to the hospital, saying that he had noticed several rays previously the appearance of a swelling in the neighborhood of the stomach. On examination, a cyst-like mass, the size of a child's head, was made out, with its upper portion covered by the stomach, while the transverse colon ran underneath. Sugar was present in the urine, but several days later the tumor became softer, and finally could hardly be detected, and the sugar also disappeared from the urine. During the following days the consistency of the mass changed in this way almost from hour to hour, and as there was no further glycosuria and the patient's condition was fairly satisfactory in other ways, he was discharged from treatment. In January he returned, complaining of pain when at work. The tumor was as large as before, but there was no sugar in the urine. The diagnosis of pancreatic cyst was made and the abdomen was opened in the median line. The mass was found pushing forward the gastrocolic omentum, and this was divided so that the tumor wall could be sutured to the parietal peritoneum. Five days later the cyst was opened with the thermo cautery, and over a liter of clear light yellow fluid evacuated. The discharge of fluid continued for several weeks. The case is of interest, since it afforded an opportunity for watching the gradual development of a pancreatic cyst.

Dr. Bakes delivered before the same society an address on the operative treatment of indurated gastric ulcer. Until recently only palliative measures have been employed in the treatment of this chronic condition, but a permanent cure is not secured in this way, as the ulcer only enters into a stage of latency. The conservative therapy of the disease has already become obsolete, and the possible complications of hemorrhage, perforation, stenosis of the pylorus, and malignant degeneration demand radical procedures. The palliative measures of gastroenterostomy and pyloroplasty do not remove the dangers which existed before the operation, perforative peritonitis and carcinoma being especially frequent. Bakes examined four out of seven cases operated as benign ulcers and found evidence of malignancy in three. While we do not understand the etiology of carcinoma, we do know that the only remedy against it is the knife, and he has accordingly given up the palliative method of treatment and has obtained very satisfactory results by gastrectomy. The dangers of the operation have been greatly reduced in consequence of the modern technical progress, as well as through the means of increasing the patient's powers of resistance. On the day of operation a nutritive enema of brandy and strong coffee is given, the stomach is washed out with weak resorcin solution and the patient is wrapped in blankets. After the operation an infusion of salt solution and tea with milk, by the mouth, are advisable. The method of combined anesthesia is a very important feature. Schleich's infiltration anesthesia is used while the abdomen is being opened, and primary ether anesthesia during the orientation and eventration, after which the operation proper is carried out without any further narcosis until the last steps are reached. This plan has been followed in a very large number of cases, and has been found most satisfactory. The postoperative stage is almost ideal, the patients are able to converse about the operation, and rarely suffer from nausea. The operation can be performed slowly and carefully, every brusque traction of the organs being avoided. As a proof of these statements, Bakes demonstrated a specimen of almost total resection of the stomach with resection of the entire omentum and transverse colon. The operation lasted three hours, and in addition to a few Schleich injections, only sixty grams of ether were used.

In the discussion that followed, Dr. Hans Lorenz observed that resection was the ideal operation, but that, unfortunately, it could not be employed in many, and particularly in the most severe cases, as it is too hazardous for the patient. He reported two cases of Prof. Hochenegg's that had been cured by a simple procedure. In these much emaciated women there were found true penetrating ulcers which had involved the liver and which were torn open. The treatment consisted in tamponade of the space between the liver and the torn ulcer and in making a posterior gastroenterostomy. Permanent cure resulted, whereas a resection would have been very dangerous for these patients.

Dr. Clairmont reported that Prof. v. Eiselsberg also had obtained good results with gastroenterostomy, and called attention to the fact that some ulcers cannot be resected. One patient who had been unsuccessfully treated by internal measures for symptoms of ulcer and hematemesis was operated, and changes in the stomach wall found which pointed toward the cardia as the site of the ulcer. Gastroenterostomy was done, but death followed twenty-four hours later, owing to internal hemorrhage. At the autopsy a perforated ulcer reaching into the cardia was found, a condition that obviously could not have been treated by resection.

Progress of Medical Science.

Boston Medical and Surgical Journal, May 18, 1905.

Infections of the Respiratory Tract with Influenza Bacilli and Other Organisms, Their Clinical and Pathological Similarity, and Confusion with Tuberculosis.—F. T. Lord presents the following conclusions: (1) Of 186 nontubercular infections of the respiratory tract, observed clinically, for the most part, bronchitis: (*a*) A mixed infection with various organisms has been found in 120 (64 per cent.). (*b*) A comparatively pure infection with one group of organisms was found in 66 cases (36 per cent.). Of these pure infections those due to influenza bacilli comprise the largest group, with a smaller number of cases of pure infection with the pneumococcus, micrococcus catarrhalis, etc. (2) The pure infections, however, tend to become mixed, as the case progresses, and the observer must then remain in doubt, in the presence in the sputum of two or more groups of organisms, as to the relative importance of any one of the infecting agents. (3) In the clinical picture, the symptoms of onset, the course and duration of the different pure infections, there seems to be nothing distinctive. They all tend to set up diffuse or local bronchitis, and a varying degree of bronchopneumonia. The amount of prostration may be as great in one as in the other. (4) The pathological picture in cases of bronchopneumonia, due to the different organisms, likewise seems to be similar in the character of the exudate, its varying extent and intensity and the tendency, in a small proportions of cases, to end in permanent damage to the pulmonary substance. (5) These results of pulmonary invasion are not infrequently mistaken clinically for pulmonary tuberculosis. Of 85 cases of pneumonia, associated with various organisms, well marked localized pulmonary abscesses or induration or both, were found in 8. No tuberculosis could be demonstrated at autopsy. (6) From the clinical resemblance of such cases to pulmonary tuberculosis, the presence of the tubercle bacillus in the sputum must be regarded as the only infallible indication of this condition.

The Paramount Value of Localized Rales as a Sign of Incipient Phthisis.—H. B. Whitney considers all local signs other than râles as relatively unimportant in the diagnosis of incipient phthisis, because they are inconstant and are often of uncertain interpretation. Unquestionably most cases of chronic pulmonary tuberculosis begin at one apex as a mild bronchopneumonia. Percussion alone at the apex is a difficult means by which to arrive at a definite diagnosis, but when ever a few râles are found at the apex of one on both lungs, the diagnosis of pulmonary tuberculosis is almost certain. The author's experience leads him to regard this sign as nearly pathognomonic. Moist râles are most significant. The much rarer sibilant and sonorous râles are less so. In his experience the earliest râles have been found somewhat oftener in the suprascapula fossa that anteriorly. The regions just below the middle and outer thirds of the clavicle are especially fertile fields, while the apices of the lower lobes corresponding to the fourth or fifth dorsal vertebræ also deserve particular mention. It is best to listen first during ordinary respiration; then during a respiratory cycle made up of a rapid and forcible inspiration with open mouth. Next the patient should give a short, quick cough to be followed by an inspiration of the character above described. In general the râles are almost constantly present at a time when other local signs are absent or indefinite. Their practically unmistakable character differs widely from other signs which represent merely deviations from the normal.

New York Medical Journal, May 20, 1905.

Metacarpal Fissure; a Fracture Not Heretofore Described, and Some Points Regarding Treatment of Metacarpal Fracture.—The paper of Carl Beck is illustrated by four excellent skiagrams. He finds that the displacement following metacarpal fracture is decidedly lateral or both dorsal and lateral. Correction of the lateral displacement can be accomplished very simply by lightly pressing rubber drainage tubes between the adjoining interosseous spaces, where they are kept *in situ* by adhesive plaster strips. Thus recurrence of the displacement is absolutely prevented. The hand may then be surrounded by a plaster of Paris dressing or preferably by a moss splint, which, after being dipped in cold water, well adapts itself to the contours of the body. Special attention is called to the occurrence of fissure above the metacarpal epiphysis. In the majority of cases the line of metacarpal fracture is found in the middle of the bone, where it is thinnest. The direction is generally transverse, but the oblique type is sometimes found. When there is dorsal or palmar displacement the fracture signs are well marked, local pain and tenderness, deformity, abnormal mobility, disturbance of function, and sometimes crepitus being distinctly noticeable. There is often local ecchymosis. Should there be any yielding to the finger as it is thrust against the corresponding metacarpal epiphysis the diagnosis of fracture is established. If so, the pain following the manipulation is considerable. As a rule, therefore, these procedures should not be resorted to for diagnostic purposes, because skiagraphy is much safer and entirely painless.

Alkaline Beverages in the Treatment of Pneumonia.—J. B. Todd says that of a solution of two and one-half grains of sodium chloride and one grain of potassium bicarbonate to the ounce of cold water, from six to eight ounces should be given every two hours. The addition of a little lemon juice will make an agreeable effervescing drink. In addition, the patient should be allowed all the pure water desired. In pneumonia we should do all in our power to promote leucocytosis through the entire course of the disease, also to preserve the proper alkalinity of the blood, for upon this depend the functional life and activity of its living cells to perform their work of growth, repair, and also of the removal of waste products, and destruction of the bacteria and their toxines. We should also maintain the normal specific gravity of the blood. When the tissue and blood plasma are reduced in amount, that remaining is increased in density by being overloaded with waste products; the movements of the ameboid cells are hampered, even the integrity of the red cell is impaired. The hemoglobulin change to oxyhemoglobulin is retarded. The alkalinity of the blood can be tested by placing a drop on glazed litmus paper and brushing it off in a minute or so. When the treatment above outlined is maintained the urine amounts to from forty to eighty ounces in twenty-four hours, is light colored, and has an abundance of chlorides. If the urine becomes scanty and high colored, the alkaline saline draught should be increased in amount or frequency. Scanty, colored urine indicates tissue drought, and increased specific gravity of blood; light colored, profuse urine the reverse.

Medical News, May 20, 1905.

Pneumococcus Infection of the Hip.—L. W. Ely reports the case of a boy of four years, whose hip had been swollen and painful for five days. He had been taken with pneumonia two weeks previously, but the parents asserted that the hip gave no symptoms when the child recovered from his pneumonia. Examination showed swelling and infiltration about the joint and the boy was at once put to bed. Two days after the joint was aspirated and found to contain a thick purulent fluid. Under ether an incision was made down to the joint over the head of the femur, and the pus was evacuated. The capsule was found torn and the head of the bone eroded. A counter opening was made on the inner side of the thigh, and drainage tubes were inserted. A specimen of the pus "contained organisms identified as pneumococcus." The identification was morphological only. Some days later an incision about two inches long was made down to the periosteum, over ninth rib. The periosteum was divided and pushed away, and about one inch of the rib was resected. Pleural cavity opened. A quantity of yellow pus exuded, composed chiefly of fibrin. No bacteria found. Tube inserted. Dry dressing. The patient did well for a while, but a later rise of temperature necessitated another opening into the joint. Death resulted four days later, there having been considerable bleeding from the anterior sinus of the joint wound. No autopsy was held.

Pneumonia: Etiology and Epidemiology.—E. F. Wells reviews the history of the epidemiology of this disease. He finds that the pneumococcus is present in the fauces and neighboring cavities of very many healthy persons. It was found on the tonsils of 45 out of 135 persons. In this location it appears to be harmless, producing pneumonia only when it reaches and develops in the pulmonary alveoli. Any condition which renders the laryngeal and bronchial reflexes paretic, as, *e.g.*, prolonged exposure to cold, privation, exhaustion, or even profound sleep, may permit the gravitation of pneumococcus-laden secretions from the upper respiratory passages to the alveoli, and this is probably the usual route followed by the infectious germ. It is probably disseminated in the main by coughing and sneezing, the pneumococcus-laden secretions being thrown into the air as a spray, and thus inhaled by others. This assumption, considered as being true, explains many of the well-known etiological facts of pneumonia. Thus it would reasonably explain the notorious increase in the prevalence of the disease; its increasing severity and danger; the acknowledged dangers attending the congregation of people in public places, especially at times when many persons are coughing and sneezing; the occurrence of recurrent and family cases, house and local epidemics, etc.

American Medicine, May 20, 1905.

Mitral Stenosis.—Frederick P. Henry says the diagnosis of mitral stenosis in the first stage is comparatively easy. At that time there is a presystolic murmur easily recognized as such by the fact that it is followed by the first and second sounds, both audible at the apex. The second stage is indicated by disappearance of the second sound at the apex, this being due to dilation and hypertrophy of the right ventricle and feeble propulsion of blood into the aorta. The presystolic murmur continues. According to the literature the onset of the third stage is, in contradistinction to this, marked by disappearance of the presystolic murmur and the establishment of signs of tricuspid regurgitation. Dr. Henry has found it is only exceptionally that the presystolic murmur disappears with the onset of signs of tricuspid regurgitation. Again and again he has heard a typic low-pitched, rumbling, presystolic murmur, coinciding with pulsation in the veins of the neck, a few hours before the death of the patient. Another phase of mitral stenosis which Dr. Henry emphasizes is an extreme arrhythmia, a veritable delirium cordis, which may persist without intermission for months or even for years. In such cases there is no murmur, and in them it is impossible to distinguish the sounds from each other. The arrhythmia may continue indefinitely and constitute the chief expression of the lesion. The clinical syndrome of these cases is the following: Marked anemia, with somewhat dusky skin and cyanotic lips, a tendency to bronchial catarrh, marked periods of improvement, with little or no diminution of the arrhythmia, and no edema whatever, or none until shortly before death.

Graves' Disease and Parathyroid Therapy.—James J. Walsh reports four cases of Graves' disease treated with desiccated parathymoids on the principle suggested by Gley of Paris, Munk of Berlin, and confirmed by MacCallum of Baltimore, that it is the absence of the parathyroid glands in the neck which produce the symptoms of Graves' disease. In two mild cases, the remedy seemed to produce a good effect. Walsh concedes suggestion plays a large rôle in the relief of the symptoms in milder cases of Graves' disease. In two severer cases, the remedy failed utterly to give relief and in one case seemed to cause an exacerbation of the symptoms somewhat as if thyroid extract were being given. It is not absolutely certain that the parathyroid material was absolutely free from all admixture with thyroid substance, though it was very carefully prepared for these cases.

Infection of the Urinary Tract by the Colon Bacillus, Simulating Uremia.—James Rae Arneill reports a case of a woman of 60. There was marked constipation, absorption of toxins, autointoxication, irritation of the kidneys by the intestinal toxins, diminution in secretion, and infection of the urinary tract by colon bacilli, which probably migrated through the tissues from the distended colon. The symptoms were partly due to the kidney condition and partly due to the absorption of the intracellular toxins of the colon bacilli. Repeated chemical analyses followed by microscopic examinations of the urine were made before the diagnosis was finally established.

A New Asiatic Blood Fluke.—Ch. Wardell Stiles calls attention to the fact that the newly described Chinese blood fluke (*Schistosoma cattoi*, 1905) may be identical with a fluke (*S. japonicum*, 1904) described for man and cats in Japan. The new species is characterized by the absence of spinose warts on the male and the absence of spine on the egg, while the African blood fluke (*S. hæmatobium*) has spinose warts on the male and a terminal or subterminal spine on the egg. Clinically, in cases of infections with the African fluke both vesical and rectal symptoms have been reported, but all reported infections with the new Asiatic fluke have thus far been intestinal. Another important clinical point is the possibility that some of the cases of cerebral distomatosis, heretofore attributed only to the lung fluke (*Paragonimus westermanii*) may possibly be due to the new Asiatic blood fluke.

Journal of the American Medical Association, May 20, 1905.

The Treatment of Bone Cavities.—The difficulties of properly producing obliteration of bone cavities in surgery are noticed by J. E. Moore. The dangers of infection, the slowness of healing, etc. He has had the best results with von Mosetig's mixture of sixty parts iodoform, forty parts spermaceti, and forty parts of oleum sesami. This, uniformly mixed at a temperature of 50° C., can be poured into the cavity, where it immediately solidifies. It does not act as a foreign body or a culture medium, nor does it cause iodoform intoxication, but it is gradually absorbed and replaced by new tissue. The cavity, of course, should be dry and sterile. The periosteum is closed with catgut after the mixture has been put in and the integument with fine silk. While it cannot be used in acute osteomyelitis, in other conditions he finds it better than any other method. Four cases are reported.

Cesarean Section for Placenta Prævia.—R. W. Holmes holds that cesarean section for placenta prævia lowers the fetal mortality 30 per cent., but increases the maternal death rate nearly threefold. Approximately, the mother is sacrificed for the uncertain chance of life of the child. He questions the statistics somewhat, holding that some maternal mortality is unrepresented. A rigid os is one of the rarest complications of placenta prævia; most cases so diagnosed are, he holds, wrongly so considered. A true cicatricial cervix or rigid cervices of old primiparæ may afford an indication for cesarean section in placenta prævia. Pelvic contractions are indications for cesarean section in the presence of prævial hemorrhage, the deformity, not the prævia, being the determining indication. The earlier the interruption of gestation, other things being equal, the more may the pelvic deformity be disregarded. Usually the condition is not recognized until hemorrhages appear. Cesarean section for placenta prævia will never have so low a maternal mortality as when done for a pelvic indication. Repeated examinations for diagnostic purposes must be made, and the temporary use of a vaginal tampon may be required until the patient can be transported to a hospital or due preparations be made for operation. The acute anemia and the anatomic conditions postpartum add special danger to the operation. Suitable cases for cesarean section usually call for operation independent of the fetal condition, as the primary object is to save the life of the mother. It should be a last resort, and if an abdominal operation is forced on the obstetrician he should remove the uterus as a prophylactic against hemorrhage and infection.

Empyema Treated by Perthes' Method.—W. S. Cheesman reports a case of empyema with extensive lung compression, in which it was at first impracticable to resect a rib, and therefore a simple incision was made and a drainage tube inserted. Six days later the tube tore loose and was sucked into the cavity. This necessitated what he wanted to do at first—the resection of about three inches of the eighth rib in the midaxillary line with freer drainage and the recovery of the lost tube. For three weeks all went well, but when it became evident that the lung was not going to expand, and he therefore installed a vacuum apparatus after the method of Perthes, but simpler, using instead of Perthes' complicated appliances a dentist's saliva extractor connected with the water faucet in the room. To secure a good flange on his drainage tube, he used two rubber bicycle valve stems cemented together; this, with an air-tight dressing, worked satisfactorily, the suction being perfectly regulated by the force of the current as the faucet was turned off or on. The lung began to expand at once, and in seven weeks the use of the pump was discontinued, only a small sinus and pocket of pus remaining. This soon closed and the patient made a good recovery. While the Perthes method may not be adapted to very old chronic cases of adhesions, Cheesman has confidence in its value for cases in which the lung does not expand, though still expansible. No hospital care is necessary; all that is needed is running water and a faucet. He insists on the importance of properly securing the drainage tube; neither transfixion with a safety pin nor sewing it to the skin is sufficient, in his opinion.

Resection of the Stomach.—W. A. Clark reports a case of malignant disease of the stomach involving a large part of the greater curvature and posterior wall, leaving the pyloric and cardiac orifices intact. It was operated on by removing the whole middle section of the organ, leaving only a small portion near each orifice and making an end-to-end anastomosis. A number of enlarged glands were also removed. The patient was fed by enema for a week, after this a gradually enlarged diet was given till the forty-second day, when a small rare steak was allowed. He was discharged from the hospital sixty-seven days after the operation. He reported again two and a half months later, suffering only from a small sinus as the result of the operation. The case is reported as of interest, because of the extensive malignant disease without any very prominent symptoms, and as illustrating the advantages of early diagnosis.

The Lancet, May 13, 1905.

Anatomical Peculiarities of a Gall Bladder and an Appendix.—F. Lemon reports two interesting conditions which came to light during operation. In one, which was an abdominal section for gall-stone disease, the anterior surface of the right lobe of the liver presented what seemed to be a hydatid cyst. On lifting the liver forward, a similar projection appeared on its posterior surface, which when viewed through the substance of the liver was quite translucent. It was in the normal position for a gall-bladder, but the surfaces, both anterior and posterior, were continuous with the liver substance. As no gall-bladder could be discovered an incision was made on the posterior surface into the swelling when bile gushed out, and on further exploration two large gall-stones. The edge of the incision into the gall-bladder at the time of operation was at least three-eighths of an inch thick, the circularly arranged coat of the gall-bladder being marked off very definitely from the liver substance on the one hand and the mucosa, etc., of the bladder on the other. In the other case an appendix operation, elevation of the cecum, showed on the anterior cecal surface a small elevation about five inches from the extremity of the gut, from which a little pus oozed. At first sight it looked like a perforation of the cecum itself, as no trace of the appendix connected with it could be seen, but on further examination a little loop of appendix with a diameter of half an inch sprang from the extremity of the gut and, passing upwards, appeared to end in the cecum half an inch away from its origin. No elevation appeared on the smooth peritoneal surface to indicate that the loop had any connection with the perforated elevation four and a half inches distant. However, taking the loop as a guide and carefully dissecting away the peritoneum the appendix was traced till it ended in the elevation. The appendix was then stripped off the cecum and removed in the ordinary manner. The exposed surface beneath was the muscular tissue of the cecum and it bled freely. Recovery from operation in both cases was without incident.

Cesarean Section for Congenital Malformation of the Cervix Uteri; Recovery.—The patient of H. T. Skae was a primipara aged twenty-four years, whose labor pains began at seven and one-half months of her pregnancy. Examination showed an apparent absence of the cervix. The usual phenomena of a dry labor appeared. On further examination it was found that the vaginal cervix was represented by a small flat, warty projection, somewhat irregular and quite hard and firm. At its center was the os, so small as to scarcely admit a probe. The projection was placed almost in contact with the rectal wall, the posterior fornix being almost unrepresented. A slimy, purulent discharge was oozing from the opening. The fetal head could not be distinctly felt through the vagina. No fetal movements could be felt and the heart sounds were not to be heard. It was evident that there would be much difficulty in introducing any instrument to dilate the os and further, that any attempt to dilate would inevitably result in rupture into the rectum. And as it appeared advisable to sterilize the patient by tying and dividing the Fallopian tubes abdominal cesarean section was decided upon. (Permission to sterilize was, however, subsequently refused.) Abdominal section and opening of the uterus showed a decomposed fetus and a putrid placenta attached to the posterior uterine wall. It was difficult to drain the uterus perfectly and there was a slight febrile reaction for some few days, but the patient made a good recovery.

Symptomatologie et Diagnostic de l'Angine a Spirilles et Bacilles Fusiformes (Angine de Vincent).—H. Vincent, writing in French, gives an outline of this malady and an exhaustive bibliography. Nothing, however, is presented which has not already appeared over and over again in the special journals. He makes, in short, two forms of the disease: one, the diphtheroid, occurring in only two per cent. of the cases, and the other the common ulceromembranous variety. The smear test is the more satisfactory, as no media have yet been found in which the organisms will grow with any certainty. An illustration is inserted in the paper showing both forms of the pathogenic bacteria. This form of angina is quickly cured by local applications of tincture of iodine. The remedy should be applied by friction on a cotton carrier twice daily.

British Medical Journal, May 13, 1905.

The Logical Basis of the Sanitary Policy of Mosquito Reduction.—Ronald Ross sums up his arguments on this subject as follows: There must be for every living unit a certain distance which that unit may possibly cover if it continues to move all its life, with such capacity for movement as Nature has given it, always in the same direction. This distance the writer calls the limit of migration, because scarcely one in many billions of living units is ever likely to reach it, not because the units do not possess the capacity for covering the distance, but because the laws of chance ordain that they shall scarcely ever continue to move always in the same direction. Owing to the constant changes of direction which must take place in all random migration, the large majority of units must tend to remain in or near the neighborhood where they were born. Thus, though they may really possess the power to wander much farther away, right up to the ideal limit, yet actually they generally find themselves confined by the impalpable but no less impassable walls of chance within a much more circumscribed area, which may be called the practical limit of migration—that is, a limit beyond which any given percentage of units which we like to select do not generally pass. This reasoning the writer applies to the case of immigration of mosquitos into an area in which their propagation has been arrested by drainage and other suitable means. The subject of mosquito reduction cannot be scientifically examined without mathematical analysis. It is a part of the mathematical theory of migration—a theory which the writer believes has not yet been discussed. He concludes that the mosquito density will always be reduced, not only within the area of operations, but to a distance equal to the ideal limit of migration beyond it. On the boundary of operations the mosquito density should always be reduced to about one-half the normal density. The curve of density will rise rapidly outside the boundary and will fall rapidly inside it. As immigration into an area of operations must always be at the expense of the mosquito population immediately outside it, the average density of the whole area affected by the operations must be the same as if no immigration at all has taken place. As a general rule for practical purposes, if the area of operations be of any considerable size, immigration will not very materially affect the result. The writer believes that antipropagation measures must always reduce the mosquito density in spite of the results which have been reported.

The Cause and Treatment of Pruritus Ani.—F. C. Wallis has found in over 90 per cent. of these cases which he has examined, a shallow ulcer situated between the two sphincters. It has been more often in the posterior segment than in the anterior and generally near the dorsal midline. In some cases there is more than one ulcer, and in others there are various clefts which almost or entirely surround the bowel. The writer believes that the method of fusion of the proctodeum with the blind end of the gut is the cause of this frequent ulcer. The lining of the proctodeum is thin and is scantily supplied with blood vessels. Thus abrasions here are easily brought about. They rarely heal of their own accord. The ulcer exudes an irritating secretion which causes pruritus. The writer gives the ordinary preparation for a rectal operation. It is well for the patient to give up about two weeks for the treatment. When he is anesthetized, the sphincter is moderately stretched, and the ulcer or ulcers are brought into view and treated with the electric thermocautery. The cautery is also applied to the thickened skin as well. Vaseline is applied to the cauterized area, and a morphine suppository inserted into the bowel. A pad of wool is held in place by a T-bandage, and the patient is put back to bed. On the third night a purge is given, and a warm boracic bath is taken twice a day. The skin is then thoroughly dried and powdered with starch and zinc powder, and a small piece of cotton-wool covered with powder is introduced just inside the sphincter. The irritation ceases at once or after a few days. Even out-patients are treated either with lactic acid or with the thermocautery. The results of this treatment are most gratifying.

Congenital Hypertrophy and Dilatation of the Sigmoid Flexure.—W. F. Brook reports a case of this kind. The patient was a woman twenty-one years old. The history shows that the affection was congenital without any doubt. An abdominal tumor which developed recently was diagnosed as a solid ovarian tumor of the left side. Operation showed the tumor to be a fecal concretion. At this time also the condition of the sigmoid was discovered. The bowel incision was closed and infolded by three continuous stout catgut sutures, each including a greater length than the previous, so that ten or eleven inches of the loop were narrowed down by an extent varying from three and one-half inches in the center to one inch at either end. The abdomen was closed without drainage and the patient made an uneventful recovery. A few days ago she declared that with the help of abdominal massage and an occasional aperient, not oftener than once a week, she had been free from constipation and had had a daily action of the bowels since leaving the hospital. She had suffered from constipation ever since her earliest memory. The mother stated that the trouble dated from birth.

Berliner klinische Wochenschrift, May 1, 1905.

Kelling's Serum Reaction in Carcinoma.—Fuld undertook a series of control observations in order to determine the value of Kelling's assertions regarding the precipitin reaction in malignant disease. The latter author believes that carcinoma is the result of implantation in the body of foreign embryonal cells derived usually from articles of food, and he claims by carrying out the precipitin reaction with the blood of patients and solutions of various animal albumins, particularly chicken and pig, to be able to diagnosticate cancer in obscure cases. Fuld repeated Kelling's experiments with more or less closeness, but reached very unsatisfactory results. Only once out of sixteen undoubted cases of carcinoma of the gastrointestinal canal was there any semblance of a positive reaction, and this was not at all typical. Fuld therefore comes to the conclusion that the reaction described by Kelling does not occur with sufficient regularity either to be of use as a diagnostic measure, or to serve as confirmation of Kelling's theory as to the etiology of cancer.

The Treatment of Epidemic Cerebrospinal Meningitis.—Ruhemann warmly urges the use of sodium iodide in this condition and describes an apparently hopeless case in which its administration was followed by remarkably prompt curative effects. The sodium salt, he says, differs from potassium iodide and the newer iodine combinations in the rapidity with which it gives up in the body its iodine in the nascent state through the action of the hydriodic acid formed. This is shown by the promptness with which the taste of iodine becomes perceptible in the mouth after injection of the drug beneath the skin of the forehead or neck. The author has on other occasions called attention to the value of this salt in certain diseases of the cerebrospinal system, and he says that in cerebrospinal meningitis it will do no harm, while he is convinced that it will be of service and will certainly prevent the development of, and relieve already existing, cerebral disturbances. The drug may be administered subcutaneously or by mouth, in the former case the addition of a little eucain obviates the slight pain attending injection. He suggests the use of a one to twenty solution of sodium iodide with .3 g. of eucain to each 20 c.c.; one to two centigrams of this may be injected in the neighborhood of the head, two or three times a day. If lumbar puncture is done, three to four centigrams might be injected.

Münchener medizinische Wochenschrift, May 2, 1905.

The Nature of Progressive Myopia.—Seggel summarizes his views as to the origin and progress of myopia as follows. Myopia is the result of weakness of the posterior portion of the sclera and depends largely on absence or deficiency of elastic fibers in this membrane. Under these conditions the permanent tension due to the pressure of the lateral eye muscles causes lengthening of the saggital ocular axis. In addition to the number of elastic fibers present, the thickness of the sclera also is important regarding the refraction later on, a thin sclera at least predisposing toward myopia, while a thick one tends to prevent it. The stretching of the sclera at the posterior pole is accompanied by a pulling of the inner membranes and therefore of a diminution in visual acuity and light preception. These two functions may also be injured and this even in the emmetropic or hypermetropic eye if the ciliary muscle is weak or poorly developed. Each of these three defects is congenital and therefore hereditary, and all three together, or the first and second alone, lead to progressive myopia. By the selection of proper spectacles and especially under good hygienic conditions, even though the onset of hereditary myopia may not be prevented, its progress and injury to visual acuity and light perception may be checked.

Antithyroidin in Exophthalmic Goitre.—Lomer says that the antithyroidin of Moebius consists of the serum of sheep that have had the thyroid removed six weeks before the first bleeding. One-half per cent. of carbolic acid is added, so that the preparation keeps indefinitely. It is administered by the mouth with the object of neutralizing the toxic substances formed in Graves' disease, and numerous authors have reported good results from its use. Lomer describes its application in a well-marked case in which the appearance of the goitre had been preceded by profound psychic disturbances. The remedy was not used for a very long period, apparently only during about two weeks, 110 c.c. of serum being administered, but marked improvement, particularly in the cardiac conditions, followed. The pulse became slower, stronger and more regular, but the effect was not permanent, so that the author concludes that the preparation is an excellent symptomatic remedy, but that it is not curative.

A Case of Acute Circumscribed Edema with Orthostatic Albuminuria.—Rubens describes this case in which two obscure conditions were combined in the same person. The patient was a girl of fifteen years, who apparently was well in all respects, and had never had any serious illness. At times localized swellings appeared about the face and in the pharynx or on other parts of the body, and after lasting one or two hours disappeared again. On examining the urine it was found to contain albumin, but on putting the patient to bed this promptly vanished. It was then found that the urine first passed in the morning was normal, but that obtained a few hours after rising contained albumin, that is, the case was a typical one of orthostatic albuminuria. The author believes that this case affords evidence in favor of Senator's theory that orthostatic albuminuria is due to angioneurotic changes in the kidneys, and he suggests that some irritation from the gastrointestinal canal probably underlies the occurrence of the phenomenon both on the surface and in the kidney.

Deutsche medizinische Wochenschrift, May 4, 1905.

Protective Inoculation Against Typhoid.—Bassenge and Mayer, by proceeding along the lines suggested by Briegner and Mayer, who extracted active substances from living bacilli by agitating them with distilled water, have succeeded in producing a preparation which, when injected into the human body, provokes the formation of bodies protective against typhoid infection. The preparation, which does not contain any bacterial bodies, is a clear, yellowish, slightly opalescent fluid which can be rendered permanently aseptic by the addition of three-tenths per cent. to five-tenths per cent. of carbolic acid. The local reaction produced on injection is not severe, and in some persons the general reaction is very slight, while in others there is a feeling of fatigue and moderate headache. The preparation keeps well and its dosage may be accurately graduated. A single injection of 2 c.c. suffices to cause the production of very marked quantities of bacteriolytic substances which are still demonstrable in the blood six months later. The experimental data obtained in testing the preparation on a number of healthy people are given at length.

Cerebrospinal Meningitis in Upper Silesia.—Radmann gives some details concerning the epidemic of cerebrospinal meningitis still raging in Silesia and other Prussian provinces. This region is that through which epidemics usually reach Germany from the East, and the author fears that the disease may continue to spread. The epidemic has already attained unusual proportions, which have surpassed all previous records, and although the bad hygienic conditions common throughout this territory undoubtedly favor the propagation of the infection as they did in the former typhoid epidemics, conditions are now better rather than worse, so that the continued advance of the diseasé indicates its virulent type. The mortality has been unusually high, approaching seventy per cent.; and the malady is also much more contagious than formerly. In numerous instances group infection among several members of the same household were observed by the author and he is led to believe that in some cases the period of incubation may be only one and a half to two days. The disease has been especially marked among children, only four per cent. of the patients out of three hundred cases in the district of Kattowitz being adults. It was noticed that in cases in which a marked eruption appeared the course of the disease was remarkably light and what were certainly abortive attacks of the disease were observed. In regard to treatment nothing hopeful is said, the conventional methods all appearing to be without great effect. Symptomatically, prolonged warm baths and warm packs were of most value.

Functional and Nervous Disturbances of Telephone Operators After Electric Shocks.—Wallbaum says that the injuries received by telephone operators in the course of their work have not received sufficient attention. It sometimes happens that shocks of greater or less severity are received and the author gives the histories of several such cases in which the consequences were rather serious. According to the nature of the accident and the powers of resistance of the sufferer the first symptoms comprise fainting, clonic convulsions, attacks of weeping, swelling of the extremities, especially on the injured side, and disorders of sensation. Later on, severe headaches and dizziness appear, as well as erratic neuralgic disturbances which are most prominent during cold or stormy weather. Cramplike abdominal pain, hemiplegia, vasomotor paresis, and other evidences of nervous exhaustion such as the loss of power of mental concentration, are also observed. One important symptom which was noticed in all cases was cardiac weakness, evidenced by irregularity of the pulse, precordial pain, palpitation, etc., and the author makes this group of manifestations responsible for much of the great weakness and prostration complained of. The prognosis is bad as regards permanent resumption of telephonic work, for although great improvement may be obtained, the shock to the nervous system is too great to permit of complete restoration. The treatment consists mainly in suggestion, static electricity, massage, and baths. Faradic electricity and bromides should be avoided. The author recommends greater care in selecting young women for these positions, and the family history should be carefully inquired into. Applicants in whose families mental disorders or nervous diseases have occurred should be excluded, and those whose parents have died of a severe chronic malady should be tested with especial care as regards the nervous and vascular systems.

French and Italian Journals.

Serious Sequelæ of Taxis in Cases of Hernia.—M. Savariaud reported two cases of this nature. The first patient was a man thirty-nine years old, who had suffered from an inguinal hernia for twelve years. It had grown to the size of a child's head. The hernia became strangulated and the patient passed an entire night in great suffering. He vomited frequently. In the morning, a physician made an effort to reduce the hernia by taxis. It suddenly entered the opening from which it had been protruding, and the patient experienced great relief. Nevertheless, neither stools nor gas were passed by the anus. Fecal vomiting began. Intestinal paralysis was diagnosed, and warm injections were given. The writer was then called to see the patient, and in spite of the apparently good condition of the latter, he suspected reduction *en masse* of the hernial tumor. Incision showed that the hernial sac had been pushed back into the abdomen, but the neck of the sac was still causing strangulation. It was cut in two places, thus releasing the strangulated gut. The intestine did not show any serious lesion, and was returned into the abdomen, although with some difficulty, on account of the distention of the abdomen. Recovery was uneventful. In the second case, when the vomiting became fecal in nature, operation was performed. The groove caused by the strangulation had become effaced, but the intestine was discolored and the mesentery was ecchymotic. The writer believed it to be a case of paralyzed ileus which had been caused by too vigorous taxis. The patient died. These cases point to the importance of making moderate taxis if this maneuver is undertaken at all. They also show that after taxis, even if the patient appears to be relieved, if vomiting continues, surgical intervention is indicated.—*La Tribune Médicale, May* 6, 1905.

Digestive Disturbances of the Infant Due to Excess of Fat in the Mother's Milk.—Planchon declares that in the milk of some women, too large a proportion of fat is present, especially in those whose diet is too abundant. Children who take this milk, increase in size, although they take less milk than the quantity which is considered necessary. They often show digestive disturbances, such as vomiting, diarrhea, and so on. These troubles in some cases do not appear at first, but develop gradually, becoming serious if measures are not taken to remedy them. In changing the regime of the mother, the composition of the milk can be modified. Treatment for the mother consists in exercise and in forbidding the foods which are too rich in nutritive materials, such as meat, alcohol, wine and beer.—*Le Bulletin Médical, May* 6, 1905.

Poisoning Due to Cream Cakes.—M. P. Carles, in speaking of many recent cases of poisoning due to cream cakes, states that until recently the explanation has been that it was due to the formation in the cream of ptomains resulting from the development of special microbes which found in this substance a favorable medium. The writer suggests several other solutions for this problem. He thinks that it is worth while to enquire into the nature of the eggs that were used in cooking, if they were duck's eggs, and in what conditions the fowls that laid the eggs lived. He then speaks of the disagreeable character of the flesh of mature ducks, and describes their ordinary habits. They swim in muddy water, and eat plentifully of organic débris which is often in a condition of putrefaction. It seems possible that these toxins that they ingest become disseminated throughout their organism, even becoming incorporated in their eggs. If this is true, it is easy to see that people who eat this flesh and these eggs will feel the disagreeable consequences.—*Revue Française de Médecine et de Chirurgie, May* 8, 1905.

Contribution to the Study of the Independence of the Hepatic Territories.—Pincherle, introducing phosphorus into the stomach of rabbits, having previously ligated the pylorus, has obtained very typical partial steatosis of areas in the left lobe of the liver, with intense necrotic lesions, especially in the periportal spaces. Introducing phosphorus into various parts of the intestine, after ligature of the duodenum near the pylorus, he has produced fatty degeneration of a territory in the right lobe, always with marked necrotic changes. In the rabbit, therefore, the introduction of phosphorus into different parts of the gastrointestinal tube determines steatosis of different portions of the liver. Phosphorus, in its absorption, follows the laws of the double portal blood current noted by Ségére and others, that is via gastro-spleno-hepatic left and entero-pancreatico-hepatic right.—*La Riforma Medica, April* 29, 1905.

Two Cases of Foreign Body in the Esophagus.—Vaccari tells us that the soldo, an Italian coin the size of an old copper cent, is generally arrested, when swallowed, above the second tract for stenosis of the esophagus, that is at the level of the sternal fourchette, lying across the esophagus. The higher up it is lodged, the more urgent are the symptoms of foreign body, and so much shorter is the time it takes to reach the position. Treatment should be prompt extraction—by the mouth, if seen quickly, by esophagotomy, if some lesion may be thought to have resulted from the time the coin has been in position. Pneumonia following extraction, is a symptom of lesion of the vagus. In a case observed by the author urgent dyspnea existed a few hours after the coin was swallowed. He attempted to reach it from the mouth, and succeeded apparently in pushing it into the stomach. However, the coin came out with the sound. In another case, of about two years old the soldo had been swallowed nine days before, and it was located by radioscopy in the gullet. Cervical esophagotomy was done, and was followed by a double pneumonia.—*La Riforma Medica, April* 29, 1905.

Albuminuria and Glycosuria from Fatigue.—Guglielmo Gobbi has made observations and urinary examinations of eight men, runners of a race of 26 kilometers, both before and after the race, and gives us the results of his observations. Four of the contestants examined were soldiers and four gymnasts. The author ascertained that before the race they were absolutely sound and healthy, and that examination of the urine showed the kidneys to be in a normal condition. The course was over an ordinary road, with hills and hollows; the day was cold and humid; one-half the course was with and one-half against the wind. The race was run in from one hour and fifty-four minutes, to two hours and forty-five minutes. The first part of the race was run easily, without appearance of fatigue, the second half with evident painful muscular contractions, ending in exhaustion. After the race some showed transient excitations, others absolute exhaustion, but all were recovered in three hours. The urine examined was for less than three hours. There was no relation between the amounts of albumin and sugar eliminated by each individual; there was not relation between the albumin and the amount of sediment for each individual; the amount of urine varied greatly; the amount bore no relation to the abnormal constituents; in two cases a large amount of albumin was present with a low specific gravity, and the amount of total solids was very low in those individuals whe were exhausted and their pulses were very frequent. Seven individuals had albumin in the urine; four had blood; hyaline, granular, and epithelial casts were present in some cases, and sugar in all cases. These observations show more albumin than is normally present from simple fatigue, and indicate a new form of glycosuria. Eight days after the race all had returned to a normal condition. The author believes the albumin to have been due to complex actions of the organism, the results of prolonged fatigue. One element is the irritation by poisons arising from muscular action. There is also a disturbance of circulation, and there might be a reflex influence from nervous disturbance due to excitement. The glycosuria was due to stimulation of the glycosuric center in the bulbar region of the medulla, by the excitement of the race.

Attempts to Find a Specific Remedy for Tuberculosis.—C. H. Cattle, in discussing remedies for tuberculosis, declares that it is questionable whether any purely antitoxic serum will ever succeed, because the toxine of the disease is not widely diffused. In many cases, undoubtedly, the tuberculous process undergoes a spontaneous cure, although we do not know exactly how the victory is obtained. The tissue-cells, especially the leucocytes, probably secrete substances which inhibit the growth of the microbes. Whatever means are used for the arrest of tuberculosis, the object in view can be effected only by assisting the processes by which the natural arrest of the disease is effected. Remedial agents which increase the number of white blood corpuscles have been extensively employed in the treatment of tuberculosis. To this class belong yeast, either crude or in the form of nuclein, and cinnamate of sodium. The tendency of a liberal allowance of food, especially proteid, is to maintain a condition of leucocytosis. Vegetable proteid can be used instead of butcher's meat with equally good results. The objection to an exclusively vegetarian diet is the large amount of waste material. Apart from all questions of treatment, Koch's old tuberculin is a useful diagnostic agent. It is the only preparation known capable of exerting a specific effect on tuberculous tissues. Maragliano's product is one of the best known antituberculous serums. His toxic material is obtained from sterilized cultures which are used for immunizing horses. The result of its use depends much upon the stage and type of the disease. Marmorek has devised another serum, which even in bad cases seems to have the power of reducing the temperature when given in doses of 5 c.cm. daily for four days, followed by an interval of three days' rest. The object in using the new tuberculin is to employ it as a vaccine. Both Koch and Wright have found the agglutinative power of the blood increased by the use of tuberculin injections. Wright has reported remarkable improvement in cases treated by tuberculin as advised by him. The writer concludes that it is yet too early to judge as to the value of either the serum or tuberculin treatment.—*The Practitioner.*

Book Reviews.

CLIMATE AND HEALTH IN HOT COUNTRIES, AND THE OUTLINES OF TROPICAL CLIMATOLOGY. By Lieut-Col. G. M. GILES, M.B., F.R.S.C. Indian Medical Service. New York: William Wood & Co., 1905.

THIS is a popular treatise dealing with personal hygiene in the hotter parts of the world and including a section giving the climatic characteristics of the chief tropical countries. While the book is primarily intended for the guidance of the laity, Lieut.-Col. Giles has included in its three hundred pages many facts unappreciated by the average medical man without tropical experience, and well worth recalling to the attention even of those of long residence in hot climates. The book is not only instructive, but highly readable, as Col. Giles presents his facts entertainingly and frequently forcibly illustrates them by quaint happenings in his own experience. It is scarcely a work to study as a text-book, but rather one to be read at odd times, when in search of entertainment as well as instruction. The book is packed full of common sense, and if its teachings were followed by those going to the tropics, many lives would be saved which are now sacrificed to ignorance. With the recent assumption by this country of vast obligations in the tropics, the subjects treated by Col. Giles become of great personal importance to many of our citizens on duty in the dependencies. Particularly should the work be read by school teachers and other classes of civil servants liable to assignments away from the centers of tropical civilization, where they are largely thrown on their own resources, and the authorities should see to its official supply for such purposes. It is the best book of its kind in the English language, and fills a much felt popular want.

APPENDICITIS: ITS DIAGNOSIS AND TREATMENT. By JOHN B. DEAVER, M.D. Third Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1905.

IT is scarcely twenty-five years since our knowledge of appendicitis was placed on a sound, practical basis, yet the subject has grown so both in extent and importance, that a volume of almost 500 pages is found necessary for its proper presentation. Dr. Deaver has had a very large and exceptional experience in the observation and treatment of this disease, and now has the satisfaction of finding a more favorable opinion prevailing as to the propriety of early operation for appendicitis, which he so strongly advocated in the first edition of his book, published nine years ago. The present edition has been enlarged by the addition of several new chapters and illustrations, the former including "The Function of the Cecum and Appendix," "Appendicitis in Children," "Chronic Appendicitis," "Typhoid Appendicitis," and "The Blood-count in Appendicitis." The chapters on etiology, pathology, diagnosis, etc., are all very complete, but greatest interest centers in that on treatment. In this certain radical changes are recommended, particularly in regard to the medical treatment. Deaver continues to urge operation during the first few hours of the attack, in the so-called pre-inflammatory, or stage of appendical colic. Medical measures may be considered as an alternative only in patients in whom operation is impossible or contraindicated. The persistent use of salts he regards as dangerous and harmful, and a cathartic (castor oil or calomel) may be given only at the very onset, if there is a history of the ingestion of indigestible materials. Opium also should never be given until the diagnosis has been established. The general indications for, and the technique of operation, as detailed in the extensive chapter on Treatment, are represented in an excellent manner, and constitute a safe working guide. Taken as a whole, this treatise may be highly commended to both surgeon and internist as a work of reference and instruction. The book is well made and the plates are not only numerous, but well executed.

THE SURGICAL TREATMENT OF FACIAL NEURALGIA. By J. HUTCHINSON, JR. New York: William Wood & Co., 1905.

A GREAT deal has been written on this subject, but the only complete review is to be found in Krause's monograph (1896), and this is largely occupied with questions relating to the physiology of the fifth nerve. In the book here reviewed, Hutchinson has brought the matter down to the present time, and provides a good, clear account of a complex and difficult subject. The greater portion of the book is taken up with the discussion of epileptiform neuralgia, also known as tic douloureux. From a thorough study of his own results, and also those of others, Hutchinson concludes that where the neuralgia has already invaded two main divisions of the nerve, the major operation should be carried out as affording the only hope of permanent cure. If the branches are involved individually, resection of any one of them may be tried. Medical treatment, he considers practically useless. He has found that the best results follow the Hartly-Krause operation. Of this, together with most of the others which have been proposed, he gives complete accounts. It has been demonstrated that the risk to life is very small and the prospect of a permanent cure very great with this operation, and he thinks that it is fair to state that the Hartly-Krause method forms one of the most important surgical gains of the last twenty-five years. The book is well written, contains numerous illustrations, and a very complete and satisfactory index and bibliography.

MORPHOLOGY AND ANTHROPOLOGY. A handbook for students. By W. L. H. DUCKWORTH, M.A., Fellow of Jesus College, Cambridge; University Lecturer in Physical Anthropology; Correspondent étranger de la Société d'Anthropologie de Paris. New York: The Macmillan Company, 1905.

THE question discussed in the present volume is briefly Man's position in the animal kingdom, and the nature of his ancestors. The line of inquiry embraces the evidence derived from Comparative Anatomy, Human Embryology, the study of Variations (both Anatomical and Morphological), and lastly, Paleontology, or the investigation of fossil animals. First it is shown that man is associated in a natural classification with certain of the mammals; then an inquiry is made into man's ancestral history, that is, of the path of evolution as traced by man. The author himself supplies an admirable summary, which we herewith quote: "The means available for carrying out this inquiry are at present day threefold: (1) embryology, (2) the comparative morphology of the various human races, and (3) paleontology. The importance of the first-mentioned study, viz., embryology, depends upon the well-known generalization . . . to the effect that the individual organism recapitulates in its own developmental history the several stages through which its ancestors passed in their evolution. The second study, viz., the comparative morphology of human races may be expected to reveal the most recent stages only, and to indicate the steps by which the more highly evolved of human beings have arisen through the modification of their lowlier and more archaic brethren. The last-mentioned science supplies information as regards extinct forms of life, some of which may be regarded as at any rate representative of, if not themselves, actually human ancestors."

AN INTRODUCTION TO DERMATOLOGY. By NORMAN WALKER, M.D., Fellow of the Royal College of Physicians of Edinburgh; Assistant Physician for Diseases of the Skin to the Royal Infirmary, Edinburgh; Editor of the *Scottish Medical and Surgical Journal*. With 49 Full-page Plates and 50 Illustrations in the text. Third Edition, Revised and Enlarged. New York: William Wood & Company, 1905.

THE third edition of this admirable little volume contains a considerable amount of new matter, though as some of the polemical discussions have been omitted the size of the volume is not increased. The newer developments of radio- and electrotherapy are given an amount of space commensurate with the general plan of the work and much of the new material is devoted to these subjects. The plates, both colored and photographic, comprise an excellent series of depictions of the commoner cutaneous disorders and are well adapted to serve for ready reference in doubtful cases. The text is equally practical, and the treatment advocated is thoroughly modern, so that the book may safely be recommended as a concise, well written epitome of dermatology.

SAUNDERS' QUESTION COMPENDS. ESSENTIALS OF THE PRACTICE OF MEDICINE. Prepared especially for students of medicine. By WILLIAM R. WILLIAMS, M.D., formerly Instructor in Medicine and Lecturer in Hygiene, Cornell University; Tutor in Therapeutics, Columbia University (College of Physicians and Surgeons), New York. Philadelphia and London: W. B. Saunders & Company, 1905.

THIS is a new volume of Saunders' well-known compends. As indicated by the title, it supplies the essentials of the Practice of Medicine. Emphasis has been rightly laid on the more common forms of the various diseases; and throughout the book the requirements of the student have been kept in mind. Points of differential diagnosis have been given the attention they deserve. We are glad to note that the questions have been relegated to the end of the chapter, thus making the text more readable, and at the same time taking away that catechism-like appearance which characterized former volumes of the series. Rightly used this book will be of service to the medical student.

DIE ANÄSTHESIE IN DER ÄRZTLICHEN PRAXIS. Von Dr. MAX MARTIN. Munich: J. F. Lehmann, 1905.

DR. MARTIN'S little pamphlet contains a short and clear account of the methods and uses of local anesthesia in medicine and surgery, with special reference to the combination of cocaine and adrenalin. Ethyl chloride is also briefly considered. Precise directions are given, together with the indications and contraindications of the methods dealt with.

Society Reports.

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

First Annual Meeting Held at Washington, D. C., May 18 and 19, 1905.

(Special Report to the Medical Record.)

General Meeting.

FIRST DAY, THURSDAY, MAY 18.

The President, Dr. Edward L. Trudeau of Saranac Lake, in the Chair.

Presidential Address.—Dr. Edward L. Trudeau of Saranac Lake, in his address, called attention to the many years of unsuccessful labor on the part of the pathologist. He believed that tuberculosis was communicable, preventable, and, in its earliest stages, curable. Ten years ago the reduction of the death rate from tuberculosis was deemed impossible. Organization and cöoperation had been the most important factors in his opinion in bringing about the present excellent results, and were the recognized factors abroad as well as here. An international society was in existence with its headquarters in Berlin, and the speaker was pleased to state that the United States had a representative in that body. He urged that each State should have a representation in the national society in this country, and this society should publish a journal. He then briefly outlined a suggested method of representation. In his opinion, the first important thing was the education of the people and then of the State. Education would mean the early detection of the disease, which would enable the national association to put its heel down on quackery. He believed also that medical students should be better trained in the early detection of the disease, and expressed himself as considering that the value of the tuberculin test had not been fully demonstrated in this connection. He referred to the fact that one of the main objects of this association was the extension and advancement of the study of tuberculosis, and expressed the hope that the United States would no longer be one of the largest borrowers of scientific study. Before many years, he felt that American science would have won its place, but special inducements for the study of the disease, he regretted, were greatly needed. Commenting on research work in the laboratory, he stated that it was one of the most important factors in the study of the disease.

First Vice-Presidential Address.—Dr. William Osler of Baltimore, speaking extemporaneously, dwelt at great length on the value of education in the solving of the tuberculous problem. He called attention to the enormous amount of knowledge already possessed on the subject of tuberculosis, and expressed the fear that perhaps people were sometimes embarrassed by the knowledge they possessed. He stated that the making the knowledge effective, getting sense and getting wisdom was a totally separate and distinct quality from the acquiring of knowledge, and it was most true, as Tennyson said, that "knowledge comes but wisdom lingers." He considered that there were three to educate, the public, the profession and the patient, and the first named he considered very weak. One of the most important duties for the public to perform was the enactment of proper laws, and he heartily recommended the New York laws as good ones to follow on this subject. The proper care of the early tuberculous case, either by public or by private munificence, and the care of the hopeless cases, these being really the ones from which the disease was most often spread, were mentioned as two other important duties of the public. He then called attention to the question of the education of the profession, and particularly in the art of diagnosing cases in their earliest stages, which he felt the profession often failed to recognize. The education of medical students, especially along the line of diagnosis, was urged, and attention was called to the difficulties encountered in giving students the proper amount of practical experience in these cases owing to the scarcity of material, largely due to the fact that hospitals for the study of the disease were made few and far between by the objections of people to have them built in their midst. To at least in part overcome this difficulty, he expressed the hope that every general hospital would have a tuberculosis dispensary in connection with its general dispensary, particularly owing to the enormous educational advantages to the medical students and the great assistance it would be to physicians in referring their cases for early diagnosis. The third part of the education problem, the education of the patient, he considered the most trying and most difficult, particularly as the relatives and friends so often objected to the diagnosis being given to the patient, thus making the physician, in his opinion, *particeps criminis.* He stated that if the national association would stimulate and support work along the line of these educational problems it would do both the public and the profession good. He concluded his remarks with a very glowing tribute to the president, Dr. Trudeau, who, he said, had the true humility of a great man.

Second Vice-Presidential Address.—Dr. Hermann M. Biggs of New York discussed at great length the question of the personal registration of all cases of tuberculosis. He referred in detail to the methods employed in New York, showed that infectious disease hospitals had no effect on the public health nor the value of property in their immediate neighborhood, demonstrated that cases of tuberculosis could be kept within thirty or forty feet of scarlet fever and diphtheria patients without any restrictions in their movements and yet without any danger of one to the other, and proved the unreasonableness of the public's objection to such institutions. Taking up the question of enforced registration of tuberculosis, which he claimed did not exist anywhere in this country or abroad except in New York City, with very few exceptions, he heartily endorsed what had been said by Dr. Trudeau and Dr. Osler as to the whole matter being one of education of the public and of the profession. He explained the function of the Advisory Board of the New York Department of Health and urged the appointment of such a board in all large cities, principally on account of the confidence the public seemed to have in the work of the department if approved by this board. As a second important step in this direction, he advised the free examination of sputum to facilitate the early diagnosis and give some return to the physician for his trouble in reporting the case, mentioning the fact that the tremendous increase year by year in the number of free examinations made in New York showed the popularity of the idea. He considered that the public's fear of consumption would largely be removed if people were made to understand how different a disease it was from smallpox, scarlet fever and diphtheria, and especially if they were impressed with the idea that it was only infectious and communicable where simple sanitary requirements had been neglected. He then detailed some of the difficulties experienced in the compulsory reporting of cases, particularly in dealing with the question of duplicates, and stated that without proper registration any systematic scheme would not be operative as it would be impossible to say that apartments occupied by consumptives had been properly disinfected. He called special attention to the fact that the enforced registration caused no publicity, as the Department of Health took no action on any reported case as long as it remained under the care of a physician or removed its residence, in either of which cases the department insisted on being notified. He congratulated the national association on its bright prospect and heartily endorsed all that Dr. Osler had said in reference to Dr. Trudeau.

The remainder of the session was devoted to the passing of resolutions and the making of announcements, among the most important being the tendering of the thanks of the association to Mr. Henry Phipps for his financial assistance in the study of tuberculosis, and the announcement that the dinner the following evening would be in the nature of a testimonial dinner to the president of the association.

Sociological Section.

FIRST DAY, THURSDAY, MAY 18.

Mr. Homer Folks of New York, Chairman.

Tuberculosis From the Layman's Point of View.—Mr. Homer Folks of New York made this address. He said that the facts with which the Sociological Section of the Association had to deal were, first, that tuberculosis was the leading cause of death in this country, and second, that in the last two or three decades we had learned some of the most important secrets of the arch enemy. We had discovered the unit of his forces and we knew something of its nature. We knew how to cure a large number of those attacked if only they could be treated in time, and we knew how to capture and destroy the active agent in the spread of infection. The steps that should be taken in the application of our present knowledge to the restriction of the disease had been set forth in several notable papers, especially that of Dr. Biggs, on "Administrative Control of Tuberculosis." Considerable progress had been made in regard to carrying these measures into effect. In New York the results were read in the lowered death rate from pulmonary tuberculosis, from 3.86 per thousand in 1884 to 2.46 per thousand in 1904. The question which inevitably occurred to a layman was that if tuberculosis was a preventable disease why was it not prevented. After weighing all the reasons that were usually given, he had decided that it was because we did not realize the value of public health as an investment; that we were not willing to devote sufficient means to the saving of human life. He said that while we had the greatest possible respect for the efficiency, the expertness and the devotion to the public well-being of our health authorities, we must admit that the sums placed at their disposal were woefully inadequate for the performance of the tasks which were essential in checking this disease. There was only one tuberculosis dispensary in Greater New York. In regard to the educational campaign, he said that thousands of circulars had been printed in many different languages, but he questioned the extent to which they had really penetrated the minds of the people of Greater New York. In a political campaign, each voter was reached through the mail, not once but several times. The postage alone for a single communication was $60,000. When we had the means to carry on a work of such magnitude, we might undertake a campaign and not a skirmish of education. As for the care of consumptives in their homes, the provision of sufficient food of the right sort, adequate medical and nursing oversight, and the provision of sufficient hospitals and sanitoria we are only at the beginning. The practical question was whether knowing how to restrict effectively this terrible scourge, we should be satisfied with a piecemeal method or whether by large expenditures we should accomplish the greatest result in the shortest time. He spoke of the work that could be done by the expenditure of a million dollars a year for the next ten years in the city of New York. He said that when the city was undertaking a great public improvement the benefits of which would be extended over a series of years it did not meet the expense from its current funds, but from the sale of corporate stock, the burden of which was distributed over a series of years. Many of these investments were directly for the health of the people, as in providing parks, playgrounds, baths, hospitals, etc. Why should not an adequate expenditure for the restriction of tuberculosis by all the known methods be exactly of this character, and therefore an appropriate expenditure to be defrayed by the sales of bonds? There was every reason to believe that after the work had been carried on adequately, efficiently and comprehensively for a number of years the need therefor in some respects at least would greatly diminish. The so-called permanent improvements were of service only because they contributed to human well-being, and they were not the only means by which the city contributed to the well-being of its people. Every step taken for the protection of the health of the people, the protection of its food supplies, the care of its sick, the improving of its housing conditions and protection from moral evil was a great public improvement. The benefits derived from large expenditure for the public health could not be converted into cash, but the public health was nevertheless an asset of the highest possible value, contributing to the economic strength of the people, furnishing the foundation upon which the entire superstructure of municipal credit and life was built. No American city could find a more appropriate subject for investment at the present time than in carrying into effect the measures set forth at this meeting for the prevention of tuberculosis. It was not, however, a question exclusively for the city, but was also in a large degree a question for private benevolence. What was needed was not permanent endowments, but unusually large contributions for a comparatively brief period.

Dr. Thomas Darlington of New York said that he agreed with the chairman on many points. He thought that the stamping out of tuberculosis in this country was simply a question of education of the masses. With plenty of money, we could have the education. It was the duty of the community to take care of those who did not take care of themselves. Health meant the ability to work and to earn wages. Why then should we not spend more on health than on education, for of what use was higher education if we have a dead child. The problem of educating the masses in a great city like New York was an exceedingly difficult one. The death rate from tuberculosis in New York was increasing because of the large number of emigrants who remained in the city; these must be educated. This involved a great expense, because circulars had to be printed in so many different languages. At the tuberculosis clinic attached to the Board of Health there were 3,000 patients treated last year, and 1,100 of them were Russians who had been in this country only two years. In addition to circulars, their homes had to be visited and bad sanitary conditions corrected. Dr. Darlington did not think it would be economy to issue bonds for this work in our large cities. He thought that if we were to gain anything it would depend upon such as a society as this, together with the moral support of this Government and that of other countries.

Dr. Antonio Stella of New York spoke in behalf of the Italian element in New York City. He said that there were about 400,000 Italians in the city, and the majority of this population had a tendency to be sick, and were especially prone to pulmonary affections. Statistics in regard to tuberculosis among the Italians were deceptive, because as soon as the Italian patient was told that he had tuberculosis he returned to Italy and was not registered in the New York Bureau.

Dr. Charles F. Weller of Washington said that the national capital had a very high death rate from tuberculosis, that it was only exceeded by that of Denver and Los Angeles. He said that important legislation had been prevented by one or two Congressmen, and he begged the public to send people who were informed as to the needs of modern preventative social measures, as Washington was very much in need of measures for the prevention of tuberculosis.

Mr. Christopher Easton of Newport, R. I., said that the doctors of that city had been trying to educate the public in regard to the dangers of tuberculosis, and leaflets had been sent to every house there. More money had been spent for leaflets and lectures than for extra food.

Mr. A. M. Wilson of Boston reported that the educational campaign was going on with great strides and that large sums had been given for consumptive hospitals. One of their greatest needs to-day was suitable municipal provision for advanced cases of consumption.

Dr. Hermann M. Biggs of New York said that 'New York had done better in furnishing funds than most municipalities. Recently they had had as much money as they could spend wisely. Education must precede any judicious expenditure of money. The work could not be carried beyond the plane to which the medical profession had been educated. The education of the people and of the profession demanded an earlier recognition of the disease. There was no use in providing institutions unless the people were educated to come to them. A census taken about three months ago showed 1,800 consumptives under treatment in public and private institutions in the city of New York. From the standpoint of prevention, it was the late case that was the more important and the ones that demanded our care.

Mr. J. H. **Lowman** of Cleveland, Ohio, said that while money was necessary, it was possible to work while we were waiting for it. He told of the work of a man in Cleveland in removing children from families in which there was tuberculosis and sending them to the country.

Mr. **Elwell Stockdale** of White Haven, Pa., said that every town should have its tuberculosis association. He thought that it was a work of individual effort and that we did not need to look to the city or the State for aid.

Dr. S. A. **Knopf** of New York thought that the last speaker was too optimistic. He did not think that a consumptive could be cured for less than $7.00 or $8.00 a week. He thought the question of how to get sufficient money was a very difficult problem.

Mr. **Elwell Stockdale** said that in the institution to which he referred to cost was $5.00 per week per capita. He did not wish to compare the institution to Dr. Trudeau's sanatorium.

Dr. **Henry** B. **Jacobs** of Baltimore said that the cost in Maryland was $8.00 per week, and they were able to send patients for three months at a cost of $96.00. In this way they received more subscriptions and could thus save more lives.

Dr. **Irving Fischer** of New Haven, Conn., said that if it cost $100 to cure a patient, and without being cured it would cost $300, before the patient died it was more profitable to cure the patient. A man in middle life could earn every working year from $1,500 to $2,000, and an investment of $100 for a return of $2,000 was certainly worth while.

A Working Program for Associations for the Prevention of Tuberculosis—National, State, and Local.—Mr. **Edward** T. **Devine** of New York presented this paper. He stated that the ultimate responsibility for the control of epidemics, as for the cure and prevention of disease in general, lay with the medical profession. Responsibility could be devolved upon the medical profession only by meeting the conditions which authoritative medical opinion prescribed as essential. The program which he formulated had ten features: 1. The maximum of fresh air and sunlight for all mankind—at work, at leisure and at sleep. 2. An abundance of simple, and yet sufficiently varied and nourishing food—especially pure milk and fresh eggs. 3. Early diagnosis of every case of pulmonary tuberculosis by the family physician, and the utmost endeavor to secure compliance with his advice as to medical treatment. 4. Registration of all cases, whether in tenements or palaces, city or country—not to be followed by any unnecessary intereference by Health Board inspectors, etc., but enabling the health authorities to know their problem and to deal with it on the basis of complete knowledge. 5. The establishment of hospitals, or whatever other institutions will best serve the purpose for advanced cases, with the two objects in view of making such patients more comfortable and of diminishing the centers of active infection. 6. The establishment on a generous scale of State, municipal and private sanitoria for the treatment of patients in the earlier stages—no expense being spared so far as essentials were concerned and no extravagance being tolerated in non-essentials. 7. Publicity as to the means of preventing infection, and as to other elementary rules of hygiene through every known channel of public instruction: newspapers, schools, the lecture platform, leaflets in all necessary languages, appropriate special periodicals, and instructive visits from physicians, nurses or competent lay visitors. 8. Conference or interchange of views among those who are in any way working at the common task and associations for educational and preventative work. 9. Relief in various forms, but especially in the form of special diet for those who can and must be treated at home and who were not able to provide the necessaries of life, which in some cases included the prescribed diet essential to life and recovery. 10. Further research. More knowledge, better authenticated records, further comparison of results were needed, and for these, more laboratories, endowments and favorable conditions for scientific research, travel for observation and study abroad, and training for fruitful investigation. There was no single procedure for an anti-tuberculosis campaign in any community. The only general principle was to build on local foundations and to incorporate all that was good and applicable in the experience of similar movements elsewhere. Any existing organization, as a medical society, a health board, a civic league, etc., etc. The specific measures for which a local association for the prevention of tuberculosis should work naturally varied with the size and the character of the community in which it was to operate. If there were no special hospitals for consumptives, or separate ward in a general hospital that would be a good objective point of attack. As yet there was no city of considerable size in the United States in which there was even an approach to adequate hospital and dispensary facilities for consumptives. There was also the necessity of educating the rank and file of the medical profession as to the necessity for early diagnosis, registration and protection from infection. After these two great undertakings came the still greater and even more elementary undertaking, namely, the creation of a sound public opinion, midway between indifference and phthisiophobia, and enlightened public opinion in which every one was frightened just enough to act sensibly, and not enough to act foolishly; just enough to insure necessary public appropriations and private donations, but not enough to make it difficult for a cured consumptive to find a job; just enough to cause railroads to disinfect the hangings of a sleeping car but not enough to refuse to an indigent consumptive girl on her way to a sanatorium the charitable reduction which was given to other indigent persons; just enough to cause the city to build a sanatorium but not enough to induce the legislature to permit local prejudice to close county after county to the urgently needed sanatorium.

Dr. **Arnold** C. **Klebs** of Chicago said that he would like to see the paper printed in large letters and published everywhere. He thought that more definite work should be assigned to the various associations. State associations should have a definite place, and local associations ought to have their work, and the work should not be duplicated. He heartily endorsed every word of the paper.

Mr. **John** M. **Glenn** of Baltimore agreed that Mr. Devine's paper had covered thoroughly and in a suggestive way the general field of tuberculosis associations. Not enough stress had been laid upon the benefits that would accrue to future generations if they were saved from this dread disease. The first thing which the tuberculosis associations should do was to look to the education of the masses and this task required a great deal of patient hammering. Much could be done without money. He considered Mr. Folk's scheme of issuing stock a good one. Pamphlets prepared by medical officers and State Boards of Health could demonstrate the economic side of the question in the loss to the community in wages and in other ways.

Dr. J. M. **Wainwright** of Scranton, Pa., related his experience in Scranton. Seven men got together and called themselves a Board of Directors for the Study and Care of Consumptives, the object being to maintain sanataria and dispensaries, visiting nurses, etc., and to educate the people regarding this disease. Dr. Knopf of New York delivered a public lecture which created interest and aided in getting money to carry on the work. The legislators were reached through their family physicians and they finally succeeded in getting such legislation as they desired. He thought it important that local associations should have the cooperation of Boards of Health.

Dr. **George M. Kober** of Washington thought it ought to be obligatory for all local associations to be in close affiliation with the national associations. He suggested that the question of proper sewage should be considered by the local and state associations, a point that had not been sufficiently emphasized. In 1865 he had noted the relation between increase in the number of cases of tuberculosis and dampness of the soil and improper water supply. Tuberculosis was most fatal in damp and unsanitary houses. All education would prove futile unless we looked to the improvement of housing conditions.

Mr. **Christopher Easton** of Newport, R. I., thought it well to take up the economic side of the question, the cost to the community in dollars and cents. Unless this was done someone was sure to come along and tell us of the social waste. Many consumptives were unemployed because of their inability to engage in the struggle for existence.

Dr. **J. H. Lowman** of Cleveland, Ohio, said that the work in Cleveland had been on the lines laid down in the paper. Ten lectures were written for the workingmen and delivered for two years, and then a small league was organized, then a general tuberculosis dispensary, a tuberculosis charitable organization, etc. In the meantime they had laboratories for the examination of sputa and the sanatorium and hospital worked in harmony. The antituberculosis league was made up of the Young Men's Christian Association, Labor Unions and all that had anything to do with the uplifting of the poor.

Dr. **T. J. Jones** of Hampton Roads, Va., said that the death rate among the colored people was three times as great as among the white and they did not have the ability, education or money to aid them in resisting the disease. At Hampton Institute they had started a movement to combat this disease and had organized societies all over Virginia. Dr. Jones asked the moral and financial aid of the association.

Dr. **George M. Sternburg**, U. S. A., said that the death rate from tuberculosis among the colored people of Washington was exceedingly high. The death rate from this disease among the white population compared favorably with any city in the country. In the slums where the colored people lived the houses were unfit for habitation. The problem had been how to suitably house these people. One organization had been formed for the purpose of building sanitary houses and a company recently formed gave a flat of three rooms, every room light and properly ventilated, with hot and cold water in the bathroom, for seven dollars per month. They had raised $30,000 and built 20 houses, all of which were occupied. He thought that building proper homes was the fundamental thing in combating this plague.

Dr. **Coon** of Worcester, Mass., thought that much could be done in the prevention of tuberculosis during early life and in school days. One could give children right ideas about enlarging the chest capacity, breathing exercises, the right way to live, etc., which would enable them to ward off tuberculosis. Some days he made as many as seven addresses for the purpose of keeping up this instruction.

Dr. **Antonio Stella** of New York said that the prevalence of tuberculosis among the Italians in this country must be explained as its existence among the negro race was explained, the city life and all that it implied. The lectures given under the auspices of the Charity Organization Society had done much good. At first they were only attended by 10 to 15 persons, but this year there had been as many as 300 who attended these lectures in the public schools.

Dr. **Travis** of Chattanooga, Tenn., said that he was interested in the remarks made by Mr. Devine on account of the prevalence of tuberculosis among the colored population. The negro needed education as well as money, but the education should come first. He said that the negro living in the country very seldom had tuberculosis, but in the cities the disease was becoming more and more frequent.

Dr. **John S. Fulton** of Baltimore said that he was particularly interested in the problem of locality. He said that it had been brought out that the mortality in the city of Washington was 323 and this seemed to show reason for alarm. The total mortality among the whites was 138 and the average mortality about 297. To diminish the tuberculosis mortality in Washington it might be well to empty the departments of young people.

Dr. **S. A. Knopf** of New York said that he had recently had his first conference with prominent citizens of the negro race and they admitted that before liberation from slavery the mortality from tuberculosis was almost *nil*, while it was now excessive. They also admitted that this condition was due to bad housing and bad living. They kept late hours, being employed as waiters, hall-boys, etc., and living in a very unhygienic manner. He thought we could not do much for the negro without intelligent negro help. The intelligent negro should help in educating his own people. Whenever he was called on to lecture to school children he always gave them what he had on the prevention of tuberculosis alphabetically. We should remember that the scrofulous and tuberculous child might become a consumptive adult. He thought the Charity Organization Societies of the various States and cities were more suited than any other organization to take up this work.

Mr. **Edward T. Devine** of New York in closing the discussion said that the title of his paper might be interpreted as a discussion on the relative functions of national, State and local societies for the study and prevention of tuberculosis. He thought every committee should have some sort of national beginning. The national association should formulate rules for the local bodies to follow and local organizations should receive encouragement wherever found. There should be gathered together such information as Dr. Sternberg and Dr. Jones had given. The National Association should put this in such shape as to be useful to those who needed such information. In large States like New York, Illinois, or Pennsylvania there should be several divisions, each of which should work out its own local problems. Medical bodies should become united in framing symmetrical laws to govern their work in all national, State and local bodies and should cultivate such relationships as would enable them to work together in more harmony.

(To be continued.)

ASSOCIATION OF AMERICAN PHYSICIANS.

Twentieth Annual Meeting, Held in Washington, D. C., May 16 and 17, 1905.

(Special Report to the Medical Record.)

(Continued from page 796.)

WEDNESDAY, MAY 17—SECOND DAY.

Consideration of Proteid Diet with Special Reference to the Distribution of Amidonitrogen, Diaminonitrogen and Monaminonitrogen Therein.—Drs. **L. F. Barker.** and **B. A. Cohoe** of Chicago presented this paper which was read by Dr. Barker. The well-known variations in tolerance of the same individual for different kinds of proteid food, made it desirable to search for a cause in the chemical constitution of the foods themselves. Though studies of the nitrogen content and purin holdings in various articles of proteid diet had been undertaken, the distribution of the various forms of nitrogen had not hitherto been investigated. They had applied the method of Hausmann, as improved by Osborne and Harris and by Gumbel, for such analysis. The amidonitrogen, meloninnitrogen, diaminonitrogen, and monaminonitrogen in various cuts of beef, veal, and pork, in liver, in fish, and in chicken, had been determined and the paper dealt with the results of these studies. Charts were exhibited showing the aminoacids of the proteid molecule, many of which were already known as tyrosin and leucin in phosphorus poisoning. The study of albumin showed how it differed in composition. Eight aminoacids had been synthetically united in a chain and they believed that possibly in time, if they kept on the present work, they might ultimately be able to produce an artificial albumin. In fact, they believed that five years from now they would be able to produce synthetically every type of albumin now known. It should not be inferred from what was stated that this had anything to do with life itself. Albumin was built up of different numbers and kinds of building stones, so to speak; arginin, for instance, in some molecules represented 80 per cent., while in others 40 per cent., 20 per cent., and even 1.8 per cent., and there was both a quantitative as well as a qualitative difference. Egg or serum albumin contained 17 or 18 different varieties of these aminoacids. This gave them a clew to the study of proteid foods and they thought it was very important to find out the constitution of the individual albumins as found in meats, fish, etc. Hausmann had introduced the preliminary survey showing different kinds of bodies to be found in complex albumins and had been of great service to them in their own investigations, especially after having been improved on by Osborne, Harris, and Gumbel. Charts were presented showing the nitrogen distribution expressed in percentages of total nitrogen in veal cutlets, pork chops, sirloin, tenderloin, neck, etc., showing amidenitrogen, melandoidinnitrogen, diaminonitrogen and monaminonitrogen. So far they could say nothing regarding the practical value of their work. Chemical methods no doubt were to be of great help to them but chemistry would not solve everything. In gout aminoacids appeared in the urine and the presence of this acid might prove to be of greater importance than the presence of uric acid. Again in phosphorus poisoning leucin and tyrosin appeared in the urine and it was reasonable to suppose that other aminoacids might appear in the urine. The investigations showed that the distribution of these acids was greater than generally supposed.

Dr. Victor C. Vaughan of Ann Arbor, Mich., held that every cell, whether bacterial or a cell body, was a distinct chemical compound. He said that if one took a cellular substance and purified it and estimated the amount of amido, monamido and diamido acids you would get the same whether it was 1 per cent. or 5 per cent. acid. These cells were definite chemical molecules. Therefore, if the cell was to be so regarded, impairment of cell function due to the introduction of abnormal groups into the cell, an abnormal arrangement of the groups in the cell, etc., made it possible that man might sometime or other be able by his researches to make internal medicine thoroughly scientific.

The Chloride Exchanges in Three Cases of Chronic Nephritis with Reference to the Dechloridation Treatment.—Drs. O. A. J. Kelly and Charles A. Fife of Philadelphia presented this paper which was read by Dr. Kelly. Three cases of chronic nephritis were subjected to the most careful scrutiny as regarded the diet, special reference being made to the chloride intake and the chloride output. Bread made without salt, meals eaten without salt, etc., were given, and the relationship was studied between such chloride retention and edema, the effect upon the edema and the other phenomena of nephritis of an almost salt-free diet, and with the administration of sodium chloride. They concluded that as regarded the prognosis, sodium chloride was of value in indicating the severity of the lesions. In many cases of nephritis a salt-free diet was of value. The injection of saline solution, especially in cases of nephritis, as so often practiced to-day, was to be deprecated because of the harm which resulted.

Chloride Retention in Nephritis.—Dr. Joseph L. Miller of Chicago presented this paper which was read by Dr. Frank Billings. In cases of moderately severe nephritis associated with edema, the administration of sodium chloride might be followed by chloride retention and symptoms might develop which resembled uremia. There was a poor elimination of sodium chloride in nephritis. An increase in edema, increase in albumin, uremic symptoms, etc., followed the use of large amounts of sodium chloride. Edema was partly the result of lessened perspiration due to increased molecular concentration of body fluids (Kovesi). The results were given in two cases of acute and six of chronic parenchymatous nephritis; one case of secondary contracted kidney; one case myocarditis; and in four normal individuals.

Dr. Alfred Stengel of Philadelphia spoke of two cases reported by Dr. Kelly which he had had under observation and whose improvement he believed to be due to the general improvement. He also reported the case of a man, 36 years old, who had had an acute nephritis eight or ten years years ago, and repeated attacks of failing compensation of the kidneys since. This patient developed a high grade of arteriosclerosis and the highest blood pressure Dr. Stengel had ever seen. He had the usual periodical headaches and the blood pressure showed a systolic pressure of 280 mm. of mercury and 200 mm. during diastole. The patient said he had been an inordinate salt eater. After reducing the salt ingested he quickly began to improve; the improvement was remarkable not only on account of the headaches, but also in regard to the marked reduction of the blood pressure. Dr. Stengel thought that possibly the milk in nephritis might be so productive of good because of the lack of the chlorides.

Dr. F. P. Kinnicutt of New York said that during the past two years he had been using salt for its supposed diuretic effect and with good results.

Dr. D. L. Edsall of Philadelphia thought the administration of sodium chloride might be of limited diagnostic value even though it might be of prognostic value.

Dr. S. J. Meltzer of New York said he was under the impression that the giving of sodium chloride was simply a factor in the process of osmosis; a certain amount of salt was necessary in order that osmosis could take place. In diabetes there was sugar in the tissues and the fluids were attracted, giving rise to intense thirst. By washing out the stomach one got rid of a certain amount of chlorides and therefore one factor for osmosis was eliminated and improvement followed with reduction of the polyuria. If this was so he asked why the same should not hold good by giving salt-free food.

Dr. R. C. Cabot of Boston asked whether our present knowledge told us when we should discountenance the giving of excessive amounts of salt in a perfectly well person.

Dr. George M. Sternberg, U. S. A., said that a medical man of the army was so thoroughly convinced that the taking of so much salt produced certain troubles that he advised persons not to partake of it.

Dr. A. Jacobi of New York asked what the experience had been thus far of giving salt-free food to epileptics.

Dr. Joseph Collins of New York said that two years ago he took 25 epileptics who were under daily observation and the majority of whom had had various methods of cure tried. They were given a diet of salt-free food. There were 24 cases who showed during the two years a reduction of 38 per cent. in frequency and severity of their epileptic attacks, *i. e.*, a little more than 33 1-3 per cent. Recently he had taken five cases seen in dispensary work; four out of the five cases had their attacks diminished to 50 per cent. There seemed to be no doubt that salt-free diet was a very important element in the treatment of epilepsy. He believed a normal individual could take as much salt as he wished, so long as he had no kidney or vascular disease up to a certain time. After the kidneys contracted and the blood vessels became brittle, etc., the patient could not take sodium chloride in such large quantities.

Dr. James Tyson of Philadelphia referred to Dalton's textbook on Physiology and what was stated there regarding the condition of the cattle when deprived of their salt.

Dr. A. O. J. Kelly of Philadelphia said that the intake and output should be equal in normal individuals. Widal and Javalle had suggested giving cows food deprived of salt, in order to possibly obtain a milk that would be particularly valuable for nephritic cases.

The Toxicity of Bile.—Drs. S. J. Meltzer and William Salant of New York presented this communication, reporting briefly some results obtained in a series of experiments of the various toxic aspects of bile upon animals, especially frogs. It was demonstrated that bile contained two elements, one a tetanizing and the other a paralyzing element. They were antagonistic to each other. The symptoms produced should be grouped into those belonging to the motor sphere (convulsions and paralysis), the sensory sphere (pain and anesthesia), and conscious sphere (mania and coma). All three phases have either convulsions, or pain, or the exhibition of mania on one hand and, on the other, coma, paralysis, or anesthesia. An increase in the excitability on the one side or a depression of the other, might be produced by a number of substances as, for instance, strychnia to excite or morphine to depress. Yet no one substance produced exclusively one excitation; strychnine might depress as well as excite; to be normal there should be a balance, or a neutralization in one or the other direction, and upon this balancing depended life.

The Nature and Origin of Cholemia and Uremia.—Dr. S. J. Meltzer of New York reviewed the various theories of the nature and origin of cholemia and uremia and he presented his own theory, based partly upon the experiments reported in the foregoing paper.

Dr. James Ewing of New York, Dr. S. Solis Cohen of Philadelphia, and Dr. Carroll, U. S. A., discussed these papers.

Xanthelasma and Chronic Icterus.—Dr. T. B. Futcher of Baltimore read this paper, which was based upon the observations of three cases of multiple xanthomata in patients with chronic icterus, who were admitted to the medical wards of the Johns Hopkins Hospital, Dr. Osler's service. All were women, their ages ranging from 39 to 42 years. In two the jaundice was occasioned by gallstones, and in the third by hypertrophic cirrhosis of the liver. In one case, there was eventually spontaneous disappearance of the xanthomata. The causal relationship between the jaundice was discussed as well as the cutaneous and visceral distribution of the xanthomata. The histological appearance was described. Although the etiology was not understood, it was supposed to be due to some toxin developed in the liver and circulating in the blood.

Dr. A. Jacobi of New York asked regarding the yellow spots so often observed in the upper eyelid in women, and asked if they were the same as found in xanthelasma. He always thought they were due to a fatty degeneration, prematurely developed.

Dr. Futcher thought they were somewhat identical, although they were more of the fibrolipomatous type rather than a true xanthomata in connection with jaundice.

A Report of a Case of Lymphatic Leukemia in a Child of Three Years.—Drs. John Lovett Morse and Harry C. Low of Boston presented this paper, which was read by Dr. Morse. The duration of the disease was five months. The blood picture was suggestive, but not at all characteristic for four months. Lymph nodes, removed at the end of three months, suggested a sarcomatous growth, and did not justify the diagnosis of leukemia. A node, removed at the end of four and a half months, showed an enormous proliferation of the lymphoid cells and characteristic appearance of lymphatic hyperplasia. The chief peculiarities of the case were the atypical blood and lymph nodes at the early examinations. He believed this history should serve as a warning not to arrive at any definite diagnosis in such cases.

Dr. Forchheimer of Cincinnati recorded a case in which there was a great rapidity in development. A child of eight months suffered from a staphylococcus sore throat, which was followed by swelling of the lymphatics, parotids, etc., and six weeks later a blood count was made. It gave 8,200 leucocytes, of which 97.6 were lymphocytes; eight weeks later there were 88,800 leucocytes, of which 98 per cent. were small lymphocytes. A short time before the child died there were 151,000 leucocytes with 99.6 per cent of lymphocytes. The spleen was slightly enlarged, and all the glands in the body could be felt. No postmortem was obtainable. The child lived ten weeks.

Dr. L. F. Barker of Chicago, Dr. W. S. Thayer of Baltimore and Dr. William H. Welsh of Baltimore discussed the paper.

A Lantern Slide Exhibition Demonstrating the Stages of Calcareous Degeneration.—Drs. J. George Adami and Oskar Klotz of Montreal made this interesting demonstration.

Experimental Arteriosclerosis with Demonstration of Specimens.—Drs. Richard M. Pearce and E. MacD. Stanton of Albany presented this paper, which was read by Dr. Pearce. It comprises a study of the changes produced in the large vesels of the rabbit by repeated intravenous injections of adrenalin, with demonstration of the gross specimens and a description of the histological changes, together with a discussion of the manner in which adrenalin produced such changes. Rabbits received two or three minims of adrenalin at a dose, receiving the injection five or six times a day; after ten or twelve days no gross changes were to be noted, but histologically there appeared focal degenerations affecting the inner and muscular fibers. The next change occurred in the elastica, mechanical, no doubt, in nature. The fibres became swollen, elongated, and lost their twisted appearance, and later became fractured. After four or five weeks 20 or 25 drops a day could be given without notable effect. The condition found then was analogous to arteriosclerosis as found in man. The arteries could be cracked between the fingers and were filled with calcareous particles, irregular plaques of calcification. The lesion seemed to begin in the media with a compensating process in the intima. What caused the lesion he could not say.

Phlebosclerosis.—Dr. C. F. Martin of Montreal read this paper, in which he stated that cirrhosis of the veins had been recognized for some time, although there was but little reference to it in literature. The veins of the lower extremity were those most frequently involved, especially the internal and external sapheni. He presented a diagram showing the condition in 14 cases. One of the most interesting features was that it was most common in the young, the ages all being below 35 years. There was, too, an absence of arteriosclerosis. This was a very common affection, and in over 60 per cent. of the cases in adults they were able to detect it clinically. It was more commonly met with in the male. In the majority of the sections examined there were no evidences of inflammation, and he believed the condition might be regarded as functional from mechanical causes, such as a strain, exercise, etc., anything that resulted in lack of support.

Drs. William H. Welsh of Baltimore and S. J. Meltzer of New York discussed this paper.

Observations on Metabolism in a Case of Acute Leukemia and a Case of Purpura Hemorrhagica.—Dr. D. L. Edsall of Philadelphia read this paper. The case of leukemia showed remarkable tissue construction, and the same was true of purpura hemorrhagica. The conditions in the latter case indicated that hemorrhage was not an important feature in causing the remarkable nitrogen loss in either class of cases. There were also certain differences in the metabolism in the two cases, indicating differences in the character of the conditions producing the tissue loss, an additional evidence that hemorrhagic conditions were of varied nature.

The Influence of the X-Ray on Metabolism in Leukemia.—Drs. John H. Musser and D. L. Edsall of Philadelphia presented this communication, which was read by Dr. Edsall. Two cases were studied, one of which responded to the *x*-ray treatment by rapid improvement; the other was uninfluenced and was soon fatal, though there had previously been improvement on *x*-ray treatment. In the first case there was, immediately after starting the *x*-ray treatment, a remarkable increase in the excretion of nitrogen, phosphorus, uric acid and xanthin-bases; in the fatal case there was at first a slight rise, but the excretion soon fell back to the previous point or below it, and with the approach of death the excretion became very low. This seemed clear evidence that the *x*-ray acted not through a direct effect, but through an influence upon some body process, probably autolysis. It was stated that radium also increased autolysis. The *x*-ray undoubtedly at least temporarily profoundly influenced these cases, but might have a dangerous effect. In a case of pernicious anemia the use of the *x*-ray made the condition markedly worse. He believed that it was very necessary to determine the dosage of the *x*-ray and not to use it regardlessly, as many were now doing. It had been used on two severe cases of diabetes without effect. It had been used, too, in an unresolved pneumonia and with marked benefit.

Dr. L. F. Barker of Chicago was especially interested in the results Dr. Edsall had obtained and in the speed with which the reactions had occurred. It could not be largely a matter of catalysis. The introduction of the consideration of catalysis would be very helpful in work on metabolism.

Chronic Acetanilid Poisoning.—Dr. D. D. Stewart of Philadelphia made a report of a recently observed case, the symptoms and blood condition of which at first suggested pernicious anemia. The patient was discovered to have taken daily for several years considerable quantities of a secret nostrum, the chief ingredient of which was acetanilid. Rapid improvement followed the withdrawal of the drug.

A Brief Report on Recent Researches in the Writer's Laboratory on Bacterial Toxins and Immunity.—Dr. V. C. Vaughan of Ann Arbor read this paper. He said that when bacterial cellular substances were heated at 78° with a dilute solution of sodium hydrate in absolute alcohol, the cell substance was split into two portions. One portion was soluble in absolute alcohol and contained the poisonous group of the cell. The poisonous group had been studied, having been obtained from the colon, the typhoid and the anthrax bacillus and the micrococcus of pneumonia. A similar, if not identical, poisonous substance might be obtained in the same way from certain proteid bodies, such as egg albumen and peptone. Animals might be immunized with this toxic body. However, the immunity thus induced was not specific, or at least not markedly so. The part of the cell substance insoluble in alcohol was soluble in water, and with this a specific immunity could be obtained. This second portion also contained a hemolytic body. The kinds of immunity obtainable with the above-mentioned split products, also the nature of the hemolytic substance, was discussed.

Drs. William H. Welsh of Baltimore and S. J. Meltzer of New York discussed this paper.

Report of a Case of Acromegaly.—Dr. Charles L. Greene of St. Paul read a paper on this subject and reported a case, which had been associated with symptoms of myxedema. He reported the progressive changes in this case, which was under observation for a period of eight years. In 1901 the patient presented the usual symptoms of acromegaly (1) a condition of the hands, neck, and shoulders which were not to be distinguished from myxedema; (2) the predominating hyperthrophy of the upper jaw with marked separation of the teeth; (3) bilateral chronic synovitis of the knee joints. The first symptoms, noticed by the patient in 1896, consisted of progressive enlargement of the hands and feet, and changed facial outline and expression. The symptoms steadily progressed until 1901, when there was noticed an enlargement of the clavicles, scapulæ, and ribs, which progressed steadily up to the present time. During the last twelve months the patient had shown a decided stoop and evidences of progressive weakness, without pain or disturbances of special sense or of the general nervous system. The skin of the face and ears were much hypertrophied and thrown into deep furrows. The nose and eyelids were originally tumid, but much less so at the present time. The upper jaw had not increased in size since 1898. The larynx and cartilages, originally hypertrophied, showed no further change, and radiographs demonstrated the extent of the bony enlargement of the extremities. When originally seen and during the period of myxedematous manifestations the thyroid gland was enlarged, though soft. At the present time the myxedematous changes were entirely absent and the thyroid gland was apparently normal in size. First disappearance of the myxedema followed the persistent administration of thyroid tablets, showing a tendency to recurrence whenever they were discontinued. No treatment had been necessary during the past eighteen months. The following points of interest seemed to justify the report: (1) Coincidence of symptoms of myxedema and undoubted acromegaly, with enlargement of the thyroid gland; (2) disappearance of all symptoms of myxedema associated with the shrinkage of the enlarged thyroid and under the administration of the thyroid tablets; (3) the shifting of the site of abnormal bony growth; (4) the long period of observation.

The Nature of Cirrhosis of the Liver.—Dr. A. O. J. Kelly of Philadelphia said that a study of cirrhotic livers, with special reference to the changes in the parenchymatous tissue, suggested that cirrhosis of the liver was primarily a degenerative process involving the parenchyma, followed not only by hyperplastic changes in the connective tissue, but also by reparative alterations on the part of the parenchyma. In speaking of the size of the liver, he said that observations conducted at the German Hospital on from 110 to 115 cases in which a diagnosis of cirrhosis of the liver had been made, in but 40 per cent. of them the liver was enlarged.

Dr. Richard M. Pearce of Albany presented illustrations showing experimental work in cirrhosis produced in dogs.

Pathological Anatomy of Exophthalmic Goitre.—Dr. W. G. MacCallum of Baltimore said that in recent papers on this subjject it had been claimed that there were no specific and definite anatomical change in the thyroid, but there were changes such as had been brought out by Halsted, a compensatory hypertrophy of the thyroid, as shown in dogs. The changes were not always of equal intensity. The parathyroids had been found to be practically normal in nine cases in which he had been able to examine them. The parathyroids had nothing to do with exophthalmic goitre.

Election of Officers.—*President,* Dr. Frank Billings of Chicago; *Vice-President,* Dr. F. P. Kinnicutt of New York; *Secretary,* Dr. Henry Hun of Washington; *Recorder,* Dr. Solomon Solis Cohen of Philadelphia; *Counselor,* Dr. T. Mitchell Prudden of New York.

Elected to Membership.—Dr. A. B. MacCallum of Toronto, Dr. David Riesman of Philadelphia, Dr. Adolph Meyer of New York, Dr. J. L. Miller of Chicago, Dr. R. H. Babcock of Chicago, Dr. Thomas McCrae of Baltimore, and Dr. S. S. Adams of Washington.

Elected to Associate Membership.—Dr. J. D. Steele of Philadelphia, Dr. Joseph Sailer of Philadelphia, Dr. Joseph A. Capps of Chicago, Dr. Henry Christian of Boston, Dr. A. E. Taylor of San Francisco, Dr. L. A. Connor of New York, and Dr. Theodore Janeway of New York.

Health Insurance Sanatoria in Germany.—Some of the German health insurance companies have found it a paying investment to establish sanatoria for the care of their consumptive policy holders.

Philadelphia County Medical Society.

At a stated meeting, held April 26, Dr. W. S. **Newcomet** exhibited a group of cases, illustrating the therapeutic effects of the *x*-rays. Dr. **Carl Beck** of New York read, by invitation, a paper entitled "The *X*-Ray on the Diagnosis of Tuberculosis of the Bones and Joints." He pointed out the great utility of this method of clinical investigation and illustrated his remarks by numerous photographs and skiagrams. He also adverted briefly to methods for treating the disease comprehended by his paper. Surgical intervention is frequently necessary, sometimes as a primary procedure, at other times to remove the products of disease itself cured by *x*-ray or other treatment. Dr. G. E. **Pfahler** presented a communication entitled "The *X*-Ray in the Diagnosis of Pulmonary Tuberculosis." He stated that this means of recognizing the presence and the extent of tuberculous disease of the lungs is superior to every other, and is particularly valuable as a means of comparing the progress or retrogression of the lesions. Exposures need not occupy more than from five to twenty seconds, the patient meanwhile holding the breath in order that the diaphragm shall be kept at rest. A number of illustrative negatives were illuminated, showing the situation, the distribution and the character of the lesions in a way admittedly beyond demonstration by the ordinary means of physical diagnosis. Dr. W. S. **Newcomet** read a paper on "The *X*-Ray in the Treatment of Superficial Tuberculosis." He considered especially tuberculosis of the skin and the glands, and cited cases exhibiting the good results of the treatment. The expense of treatment can be diminished by utilizing a cabinet with four compartments, permitting that number of patients to be exposed to the tube at a single sitting. Dr. **Henry K. Pancoast** read a paper entitled "The *X*-Ray in the Treatment of Deep-Seated Tuberculosis." He reported several cases of laryngeal tuberculosis in which improvement attended *x*-ray treatment, and also a case of peritoneal tuberculosis in which a similar result was obtained. The discussion was participated in by Drs. W. L. Rodman, S. Solis-Cohen, Judson Daland, J. B. Shober, M. K. Kassabian, and S. Mason McCollin.

Chicago Medical Society.

At a regular meeting, held April 12, "Surgical Anesthesia" was discussed. Dr. H. D. **Peterson** spoke of ether or chloroform, methods of administration, dangers, and after-effects. He stated that the relative value of these two anesthetics depended upon the safety. Safety was measured by the action of the drug and experience of the anesthetist. Chloroform being more depressant and toxic was less safe than ether. Statistics had proven the death rate to be higher with chloroform than with ether. The choice of anesthetic was to be decided by the condition of the patient and experience of the administrator. There were few contraindications to ether, more to chloroform. Heart disease, shock, and prolonged operations were urged against chloroform. Chloroform was unsafe in the hands of the unskilled. The author recommended the closed method for ether, the open for chloroform. Each should be commenced by slow application. A minimum amount should be added after stage of surgical anesthesia was reached. As to the dangers, they were few if ether was used. Death from ether was usually due to inattention or carelessness of the anesthetist. Warning was always given. Chloroform was sudden in its action; little or no warning was given. Close watch of the patient was necessary when chloroform was used. Recovery varied with the dose given. A minimum dose was followed by the quickest recovery. The patient should be watched until conscious enough to clear his own throat of mucus. As to after-effects, vomiting was often prevented by allowing the inhalation of vapor of aromatics, vinegar or acetic acid. Salt solution per rectum or by hypodermoclysis aided in the rapid elimination of a general anesthetic. Dr. A. E. **Halstead** discussed "Spinal Anesthesia." The objections to the use of spinal cocainization that were usually made were stated as (1) that there were immediate and remote dangers, which were considerable; (2) that it was uncertain in its action, both as to producing surgical analgesia and as to its duration; (3) that attempts at introducing cocaine sometimes failed; (4) that unpleasant after-effects resulted. The technique employed by the author was that followed by Tuffier. The steps were mentioned. In operations upon the lower half of the body, when, from kidney, lung, or heart disease, a general anesthetic was dangerous, and where infiltration anesthesia or analgesia from neural injections was not possible, spinal analgesia could be employed. In strangulated hernia or intestinal obstruction from other causes, and perforations, where considerable time might be required, thus contraindicating the use of local anesthesia, it could be used. Spinal cocainization was an ideal method of securing analgesia, first, because the patient remaining conscious was not so likely to drown in fecal vomit; second, because the shock from the puncture was practically *nil*. In traumatic surgery of the lower extremities, the use of spinal cocainization blocked the reflexes and eliminated the great risk of shock. In amputations about the hip, when the shock from the operation was generally severe, and often fatal, after cocainization of the cord the amputation might be performed without any change in the pulse rate. In this class of operations if, for good reasons, unconsciousness was essential, as it sometimes was, a small amount of ether and chloroform might be administered to secure this end. The spinal cocainization insured the required analgesia. The author believed that spinal analgesia was contraindicated in all cases in hysterical women, and young children, and in the insane. It should be used only when its action could be explained to the patient, and thus cooperation be secured. He did not consider any ordinary heart lesion a contraindication to its use. Dr. **Weller Van Hook** discussed "Nitrous Oxide Anesthesia." No modern hospital was complete in its equipment without apparatus for administering nitrous oxide gas. Inasmuch as gas alone produced a lethal asphyxia in from three to five minutes, oxygen must be utilized when cyanosis became pronounced. The addition of about ten per cent. of pure oxygen made it possible to continue anesthesia with nitrous oxide gas a comparatively long time without much risk. Unfortunately the combination made necessary a complicated and bulky apparatus. Furthermore, the use of the two gases was rather difficult until the anesthetizer, by practice, had become expert. This difficulty rendered it next to impossible to entrust to hospital assistants, whose term of anesthetic service was brief, so complicated a duty. If, however, oxygen was admitted to the mask with air from time to time as it was needed, the apparatus demanded could be simplified to a practical point. The apparatus which the writer used for this purpose was the ordinary dental outfit, the face-piece being that of Harrington. The portability and convenience of the steel bottles containing the liquefied gas and the inhaling apparatus left but little to be desired in hospital practice. Instead of the 250-gallon bottles used in institutional work, a 100-gallon bottle, weighing approximately nine pounds, could be used in private practice. It was many years ago that the idea was conceived of using nitrous oxide to abolish consciousness, followed by ether to maintain that state. It was early discovered that if air was admitted to the mask after nitrous oxide anesthesia had been induced, the patient would recover consciousness to such a degree that the ether anesthesia could be inaugurated only with difficulty, the patient often struggling violently. The ideal way of changing from one to the other of these anesthetics was by gradually adding ether vapor to the inhaled gas. The writer had had made a simple cap to contain a piece of gauze saturated with ether, which could be applied to the nitrous oxide apparatus at the moment of making the change, so that no air would be admitted to the mask until after the patient had inhaled the desired amount of ether. With this apparatus the writer had had very satisfactory results.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 20, 1905:

	Cases	Deaths
Measles	769	10
Diphtheria and Croup	345	36
Scarlet Fever	201	13
Smallpox	1	1
Chickenpox	152	.....
Tuberculosis	410	155
Typhoid Fever	23	9
Cerebrospinal Meningitis	99	72
Typhus Fever	......	.....
Yellow Fever	......	.....
Cholera	......	.....
Totals	2,000	296

Sterilization of Cutting Instruments.—H. A. Royster draws a comparison between the cutlery of the older surgeons and those of the present day. He says that it is an open question whether the marked excellence of the earlier instruments was due to superior material and workmanship, or to less wear and better care. Probably both factors are concerned. In former times, operators being ignorant of the origin of sepsis, had instruments that would cut. All of their troubles came after operation, none before. With modern surgeons the reverse is true. The writer declares that all methods now in vogue for sterilizing instruments dull the edges of those intended for cutting purposes. The writer has recently sent to a number of operators in different parts of the country the following inquiries: (1) How do you sterilize your knives and scissors? (2) What method has the least effect in dulling their edges? The answers as to the scissors were practically unanimous. They are boiled along with the other instruments. Various answers were received in regard to the knives. A large proportion of surgeons, however, are abandoning the sterilization of knives by boiling, presumably because they find that it unfits them for use. The writer thinks that we are warranted in drawing the following conclusions: Knives can be safely sterilized by chemical and mechanical means without the use of heat in any form. The majority of American surgeons are using carbolic acid, or alcohol, or both. Immersion in 95 per cent. alcohol has the least, and boiling the most effect in dulling the edge of a knife.—*Annals of Gynecology and Pediatry.*

The Prevention of Apoplexy.—T. Clifford Allbutt says that although the very term "apoplexy" signifies a "stroke as if from the stars," nevertheless the conditions which give rise to it are the result of slow development. The event is surprising to the unwarned only. It signifies physical modifications of long duration and gradual progress. The writer believes that in a large number of cases of sanguineous apoplexy the kidneys are not granular; and if in some cases they are fibrous, there is nothing of the nature of chronic Bright's disease. The evidence of this statement is presented by the condition of the secreting structures of the tubes which show no foci, or traces of past foci, of degeneration or necrosis. The writer in this paper does not consider the cases associated with Bright's disease. In a case of apoplexy the brain appears healthy, the heart hypertrophied, and the arteries spoiled. The phenomena lie in the mechanism of the circulation. In a simple case the heart presents no primary changes. The changes are altogether secondary. The arteries are diseased—atheromatous or sclerosed. They have at last burst because they have sustained gradual injury. They have been subjected to the mean pressures of age and also to the augmenting mean pressures of a reluctant peripheral circulation. The cause of the embarrassed circulation must consist either in a narrowing of the calibres of the arteries over an extensive area or universally, or in an increase of viscosity with excessive friction in the blood itself. The writer believes that the prevention of apoplexy must lie first in the detection of a special tendency to a persistent mean rise. The writer urges that as a matter of routine every adult of the age of forty and upwards should have his blood pressures measured by the best instruments available. This routine should be repeated every five years till the age of sixty, when, if there be no great increase, the danger of apoplexy may be disregarded. If persistent rise of mean pressures is found in any person, the mode of life of the patient must be revised. Regular exercise, abstinence from alcohol, and a great reduction in the intake of food must be ordered. In these cases the regimen and the waters of certain spas, such as Harrogate, Carlsbad, or Marienbad, are invaluable. The readiness of response varies widely in different individuals. —*The Bristol Medico-Chirurgical Journal.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending May 20, 1905:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
District of Columbia, Washington	May 6–13	6	..
Florida, Jacksonville	May 6–13	12	..
Illinois, Chicago	May 6–13	33	1
Galesburg	May 6–13	1	..
Louisiana, New Orleans	Apr. 29–May 13	23	1
		Two cases imported.	
Massachusetts, Lowell	May 6–13	2	..
Quincy	Apr. 29–May 6	2	..
Michigan, Detroit	Apr. 29–May 13	5	1
Grand Rapids	May 6–13	15	..
Missouri, St. Louis	May 6–13	12	1
New Hampshire, Nashua	Apr. 29–May 13	5	..
New York, New York	May 6–13	6	1
Ohio, Cincinnati	Apr. 28–May 5	8	..
Pennsylvania, Lebanon	May 6–13	1	..
York	Apr. 29–May 13	29	..
Rhode Island, Providence	May 6–13	1	..
South Carolina, Charleston	Apr. 29–May 6	2	..
Greenville	Apr. 20–May 6	4	..
Tennessee, Memphis	Apr. 29–May 13	12	..
Nashville	May 6–13	2	..
Wisconsin, Milwaukee	Apr. 29–May 13	10	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Mar. 11–Apr. 8	3	..

SMALLPOX—FOREIGN.

Belgium, Ghent	Mar. 25–Apr. 1	..	1
China, Niuchwang	Apr. 8	(Present.)	
Shanghai	Mar. 11–Apr. 8	3 among foreigners.	14 deaths, natives.
Ecuador, Guayaquil	Apr. 18–25	..	3
Great Britain, Edinburgh	Apr. 15–22	1	..
Nottingham	Apr. 22–29	4	..
Southampton	Apr. 15–29	1	2
India, Bombay	Apr. 11–18	..	95
Calcutta	Apr. 8–15	..	14
Karachi	Apr. 9–16	5	3
Madras	Apr. 7–14	..	5
Italy, Ancona	Apr. 13–20	2	..
Caltagirone	Apr. 13–20	4	..
Catania, province	Apr. 13–20	23	..
Cosenza province	Apr. 13–20	3	..
Lecce province	Apr. 13–20	3	..
Messina	Apr. 13–20	3	..
Palermo	Apr. 15–22	6	1
Perugia province	Apr. 15–22	3	..
Japan, Tokyo	Apr. 8	3	..
Turkey, Constantinople	Apr. 16–23	..	3
West Indies, Grenada	Apr. 6–14	9	..

YELLOW FEVER.

Mexico, Tierra Blanca, State of Vera Cruz	Apr. 23–May 6	6	..
Panama, Colon	Jan. 23–Apr. 6	6	3
Panama	Jan. 1–Apr. 29	50	20

CHOLERA.

India, Calcutta	Apr. 8–15	..	38

PLAGUE—INSULAR.

Philippine Islands, Manila	Mar. 11–Apr. 8	8	7

PLAGUE—FOREIGN.

Africa, East London	Apr. 1–8	1	1
Australia, Brisbane	Apr. 1	1	..
New Castle	Apr. 3	2	..
China, Amoy	May 10	(Present.)	
Egypt, Alexandira	Apr. 1–8	1	..
Magagha	Apr. 1–8	1	1
Tukh	Apr. 1–15	4	4
India, General	Mar. 18–25	61,688	53,895
Bombay	Apr. 9–18	..	979
Calcutta	Apr. 8–15	..	762
Karachi	Apr. 9–16	191	182
Japan, Formosa	Apr. 10	19	6
Hiroshima	Apr. 12	..	1
Peru, Chiclayo	Apr. 9–16	6	5
Lambayeque	Apr. 9–16	1	..
Lima	Apr. 9–16	4	3
Chepen	Apr. 9–15	..	1
Mollendo	Apr. 9–16	7	5
Straits Settlements, Singapore	Mar. 25–Apr. 1	..	1

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Original Articles.

INFLAMMATORY DISEASE OF THE UTERINE ADNEXA AND ITS TREATMENT.*

By H. GRAD, M.D.,
NEW YORK.

In considering the subject of inflammatory diseases of the uterine adnexa, it may not be amiss to make brief mention of the anatomy of these organs. The Fallopian tubes are two musculomembranous tubes of variable caliber, springing from the upper angle of the fundus of the uterus, and extend outward along the upper edge of the broad ligaments. The tubes communicate with the uterine cavity by very narrow openings, they being largest at their inner ends, the ostium abdominale. The tubes are covered by peritoneum, except at their lower border, where the two layers of the peritoneum come in contact to make up the structure of the broad ligaments. This anatomical arrangement of the peritoneal investment of the Fallopian tubes is of great importance from the pathological point of view, as it explains pathological states of the broad ligament and parametrium, in which the initial infection was that of the tubes. The mucous membrane of the tubes is continuous with that of the uterus. This structure is thrown into numerous folds, especially towards the fimbriated extremities of the tubes. Some investigators have described glandular structures in the mucous membrane of the tube, while other apparently equally as competent investigators, deny the existence of such a glandular structure. The mucous membrane is lined with ciliated epithelium. The consensus of opinion of the best histologists of the present day, is that the mucous membrane of the Fallopian tube is a nonglandular structure. The ovaries are two globular organs, situated on the posterior surface of the broad ligament, and immediately beneath the inner opening of the Fallopian tube. It will be noticed that these organs have no direct external communication, yet by their situation, and especially, connected as they are with the oviducts by the tuboovarian ligaments, they are, necessarily by their very proximity, greatly subjected to deleterious influences coming from without.

It is not intended in this paper to speak of the pathological aspect of salpingitis, and to enumerate the various kinds of lesions of these organs. The object in view is to draw a clinical picture of the cases suffering with salpingitis.

Our present conception of the inflammatory lesions of the uterine adnexa has been of gradual evolution. The atmosphere of mysticism, so to say, in which these pathologic lesions have been shrouded, has gradually cleared somewhat, but we are yet far from knowing all that might be learned about this subject. True, we know that practically all inflammatory lesions of the uterine adnexa are of microbic origin, yet the precise steps of the mode of invasion of the infection, are by no means clear to the pathologist, and why the lesion varies so in different patients. In one patient, for example, a clearly-defined infection of the endometrium does not spread to the tube, while in another case the first evidence of a lesion in the pelvis is the presence of salpingitis. These patients will complain of pelvic discomfort and pain in the groins, where no history of a previous endometrial infection can be obtained; yet we know that the tubal lesions are clearly of microbic invasion. Has the initial infection of the endometrium been so mild as to have caused but little discomfort and escaped the notice of the patient? Then again, why do these lesions remain so chronic in the tube? Why cannot these structures rid themselves of the infection, as other tissues do? Pathologists claim that the nature of gonorrheal infection is such that the deeper structures of membranes are invaded and hence the chronicity of the infection. The chronicity of the lesion, however, is also frequent in infections with pyogenic germs. In cases where the initial infection is quite severe and virulent, the inflammatory reaction rapidly spreading through the uterus and appendages, with abundant pus formation, it is the rule that with the free evacuation of the pus, the symptoms quickly subside and a complete cure results, in a good percentage of cases. Not so, however, in cases where the infection is more insidious. A chronic invalidism of the victim seems the rule. The tubes and uterus appear powerless to rid themselves of the infection, while chronic invalidism, after drainage in the acute infections, is the exception. This is apt to hold good both for the gonorrheal and the pyogenic infection. A thorough evacuation of the purulent material in the acute cases many times results in a prompt cure, while in the more chronic cases nothing short of tubal resection or tubal ablation will suffice.

Investigations have shown that inflammatory diseases of the oviducts are mostly of gonorrheal origin; one pathologist claiming that 70 per cent., others that 47 per cent. of them are of the specific nature. The discrepancy in these figures probably lies in the fact that gonococci are cultivated with difficulty. While it is true that the vast number of cases of chronic salpingitis are of gonorrheal origin, the specific microbe may also be the factor in an acute pyosalpinx; the inflammatory process being just as acute as that initiated by the pyogenic germ. In illustration I shall cite a case coming under observation. A colleague officiated at an accouchement, the patient passing through a normal puerperium. Ten days later the husband of the patient, wandering away from the path of virtue, contracted a specific urethritis and presented himself for treatment. He was earnestly and persistently warned against marital relation with his young wife, but after a few weeks he could not resist the solicitations of his spouse. The result was that she contracted a urethritis and endometritis. The infection spread to the uterus, oviducts, ovaries, and pelvic peritoneum. The inflammatory reaction was of an unusually severe type and the virulence of the infection quite marked. In spite of vigorous therapeutic measures at once instituted, two masses appeared in the pelvis on either side of the uterus, with symptoms of profound sepsis. An incision into Douglas's pouch and a thorough evacuation of the pus resulted in a complete cure, followed in two years by a gestation and a normal puerperium. Gonococci could be demonstrated in the pus of the tubes as well as of the endometrium. The tissues in these acute cases rid themselves of the infection quite readily, as has been pointed out by pathologists, the reason being that the personal equation of the patient determines the result of these infections. Specific tissue resistance is the factor. Nor should it be forgotten that in acute processes, the substance called alexin which the modern studies of immunity have brought to light, is produced in quantities sufficient to cope with the infection, while the more insidious infections fail to call into activity these normal defences of the body. Tissue resistance is no doubt an important factor in all acute infections, and this holds good in salpingitis as well. The modern studies in hemolysis will doubtless bring to light important matters in this connection and then we shall have a clearer conception why the severity of the infection of the same species of germ differs so widely in different individuals, and even in the same individual at different times. It is, however, a fact that gonococci most frequently cause a chronic infection in the oviduct and less frequently an acute process; and whereas the acute infection of these structures on evacuation of the pus quickly subsides and is followed by a lasting cure, the insidious infections remain chronic with no tendency towards a cure.

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* Read in part before the Newark Medical Society, January 17, 1905, and before the Passaic Medical Society, February 9, 1905.

From a clinical point of view, it is practical to consider inflammatory diseases of the oviducts, as (1) the acute, (2) the chronic. In acute salpingitis the usual phenomena of acute inflammations will appear. The mucous membrane of the tube will become congested, round-cell infiltration will take place; the opening of the tubes may or may not become obliterated. If occlusion of the openings does occur, accumulation of purulent material will take place with the formation of palpable masses on one or both sides of the uterus. It is not infrequent to find, in acute affections of the tubes, that one tube is the seat of a large collection of pus, an acute abscess, while the other oviduct shows only a catarrhal salpingitis. This is true of gonorrheal as well as of pyogenic infection. Even in acute salpingitis, although the initial inflammatory reaction is confined to the mucous membrane, it is surprising how intact the tubal epithelium remains. This is of interest from a therapeutic point of view. It may explain why apparently complete cure can result in acute salpingitis after a thorough evacuation of the pus, as was the result in the case cited above. In this case both tubes were the seat of large collections of pus; both tubes were incised, and apparently regeneration of the integrity of both oviducts took place. If the ostium abdominale of the oviduct, the seat of an acute inflammation, closes and the uterine end remains open, the pus may drain off through the uterine canal. A cure of the process may then result; but this is rare; usually such a case will merge into one of chronic salpingitis. If the ostium abdominale does not close, pus may find its way to the pelvic peritoneum, but a localized peritonitis may also result, even if the fimbriated opening of the tube becomes closed. Indeed, salpingitis is always accompanied by peritonitis. If the inflammatory process in the oviducts is purulent the peritonitis will also be of the same character. Serum and pus may collect between the coils of intestines, giving rise to the so-called intraperitoneal abscesses. These abscesses may be single or multiple. They may be located in any part of the pelvis. On account of the increased weight of the inflamed tubes, they gravitate to Douglas's pouch, hence this dependent portion of the pelvis often becomes the seat of the abscess. Into such an abscess one or both tubes may empty, or an ovary may participate in forming some part of the wall of the abscess.

In the pyogenic infections a general peritonitis may have its starting point in the oviduct, while rarely will this be the case with gonorrheal infection. In the event of the tubal openings closing by inflammatory adhesions, the infection may spread through the walls of the tube and pus may escape into the peritoneum through a perforation, or the infection may spread into the layers of the broad ligament. In both events a pelvic abscess will result, but in the former instance we have the abscess in the peritoneum, while, in the latter event, the pus collection is practically extraperitoneal. Clinically, it is impossible to differentiate these two kinds of abscesses before operation. The extraperitoneal collection of pus, usually are the result of infections coming from the cervix and body of the uterus, as in puerperal infections and those following abortion; or the point of inoculation may be a wound in the vagina. It is from these various sources of infection that the old-time pelvic cellulitis results. This process is essentially at first a lymphangitis and finally a pelvic abscess. A puerperal infection, or one following abortion, may also cause salpingitis, the infection spreading by continuity of tissue, and the infective microorganism or their toxines, reaching the peritoneum by way of a patent ostium or a perforation. Both kinds of abscesses may co-exist in the same patient—particularly, if the infection is of puerperal origin. If we exclude those pelvic abscesses resulting from infection of the cervix and vagina and those following abortion, or puerperal state, we shall find that the other pelvic abscesses are of the intraperitoneal type. While it is perfectly true that microbic invasion of a part of tissue and the resulting inflammation and pus collection may occur in three different ways, by continuity of tissue; by the lymphatic channels; and through the blood stream, and pelvic infection is no exception to these three modes of invasion, yet it is an equally stubborn fact that pus collections of the pelvis in the majority of cases, are of tubal origin. In the acute infections of the oviducts, the infective agent may reach the ovary through the escaped purulent material, by way of the patent ostium, and thus an ovarian abscess result, or else the infected ovary by becoming adherent to the tube by inflammatory products, may give rise to the tuboovarian abscess. The ovary may also become implicated in the inflammatory process—the infective agent having reached the organ through the lymphatic system, or the infection may reach the organ through perforation of the tube. That it is possible for the ovary to escape becoming implicated, when inflammatory reaction of the oviducts occurs, must be admitted, but under ordinary conditions, the ovary also suffers in all severe infections of the tubes. In the acute process, however, when the fimbriated openings of the tubes soon close and the infection is confined by the walls of the organ, the ovaries may escape implication. Then again, no germs may reach the ovaries and yet toxins absorbed by the lymphatics may find their way to the organs and cause inflammatory reaction in them.

In the acute as well as in the chronic cases of salpingitis, it is not always possible to differentiate the nature of the infection. In acute gonorrheal salpingitis, when the specific germ can be microscopically demonstrated, the differentiation of the infection is, of course, established, but it must not be overlooked that although no gonococci are demonstrable in the secretions of the uterus and vagina, the inflammatory process in the oviducts may be of gonorrheal origin. The case may be one of those in which the gonorrheal infection has remained dormant in the tubes, the gonococci having disappeared from the endometrium, vagina and even urinary organs. If foci of infection are visible in the external genitalia or in the presence of a puerperal state, or history of abortion, we may assume that the infection is of pyogenic origin. The practical utility of a differentiation of the kind of infection in acute salpingitis may be of some moment; because we know that the gonorrheal infections frequently remain limited to the tubes and may not call for immediate and vigorous therapeutic measures. One may proscrastinate until the virulence of the infection has expended itself. This is, of course, speaking in general terms—for after all, in the presence of an acute inflammatory process, many factors other than those of the nature of the infection have to be taken into consideration—such as the condition of the patient and the degree of the systemic reaction, etc. We must treat the patient and not the disease. Nor must the fact be overlooked that in acute salpingitis arising after the infection has remained dormant in the tube, tissue resistance is at a low ebb, and only vigorous therapeutic measures will insure successful combat with the infection. The infection having burst into virulence because of lowered tissue resistance, the surgeon must step in to assist the patient in her struggle to overcome the infection. Free drainage is the keynote in the treatment of these acute processes.

An acute salpingitis may finally merge into a chronic process, or the inflammatory reaction may never have had an acute stage, the initial infection having been a comparatively mild one. It may not have been more than the acute onset of a catarrhal process. Systemic reaction may have been entirely absent in these cases, and as a rule great pain and much discomfort are totally lacking. Even intelligent and well-informed patients cannot tell the probable date of the initial infection, so insidious seems the process. The stage of chronic salpingitis having been reached, the patient essentially enters upon the path of invalidism. In some patients the process of chronic salpingitis may cause but slight and transitory disturbance, while in others it will give rise to positive suffering and lasting incapacity. In cases in which the process causes slight disturbance, the patient enjoys long periods of absolute health, and is conscious of only an occasional pelvic discomfort or a painful menstrual period. In these cases pregnancies even occur, followed by a normal puerperium. To all intents and purposes, these patients are well and healthy, except that the oviducts, harboring this mild infection, may become the seat of an acute process with all the dire results of such an outburst of virulence of the infection. It is an interesting query as to how many of these mild cases of salpingitis subsequently become the victims of ectopic gestation. Indeed, it is an established fact that ectopic gestation occurs quite frequently after a variable period of sterility, and this is just what happens in many of these cases. In many instances, marriage is followed by the birth of a child, then comes a variable period of invalidism and sterility, and finally the misfortunes of the victim are capped by a tubal pregnancy. Of course, not every case of tubal pregnancy is the result of salpingitis, but that inflammatory processes in the oviducts do invite such misplaced gestation, cannot be gainsaid. In these mild cases of salpingitis the diagnosis is not readily established, so few are the subjective and objective symptoms. Bimanual examination may not give us enough information to justify a diagnosis of salpingitis. While these mild cases are sufficiently numerous to make the matter of importance to the physician, the vast majority of cases of oviduct infections, of the chronic type, do not fare so fortunately. The victim's condition varies from mild invalidism to total incapacity. The patient is of little use to her family, and her suffering is burdensome to herself. The repeated outbreaks of pain and pelvic peritonitis, the constant backache, the inability to walk and do even light housework, make these patients victims of discouragement. True, the majority of these cases of chronic purulent salpingitis have periods of well being and comparative comfort, yet on the whole, the sum of their suffering is quite considerable, and they are really never entirely well. These patients may not present themselves for examination until years have elapsed since the initial infection, and, indeed, it may be years before subjective symptoms arise to compel them to seek advice. The absorption of purulent material into the circulation, extending over a long period of time finally tells on the constitution. General health is impaired, slight exertion is accompanied by fatigue which passes off slowly. The digestive tract is disturbed and constipation becomes troublesome. They are constantly tired, become irritable and sleepless, suffering with cephalalgia and backache. In those cases of chronic salpingitis in which absorption of purulent material is absent, a constitutional breakdown may also take place on account of the resulting anemia due to the constant loss of blood. These blood losses may be due to metrorrhagia, and to too frequent menstrual periods. It is not uncommon in chronic salpingitis for the menses to extend over weeks, only to reappear after a cessation of 8 or 10 days. Nor is it uncommon for metrorrhagia to be the only symptom of chronic salpingitis, and it may be the cause of constitutional breakdown in this condition.

Metrorrhagia, while significant as a symptom of chronic salpingitis, is also of interest from a diagnostic point of view. Cases with such histories may readily be mistaken for those of ectopic gestations, and vice versa. In chronic salpingitis, as well as in ectopic gestation, we may have metrorrhagia. In both there may be menstrual delays, and palpable masses in the pelvis on one or both sides of the uterus. True, in ectopic gestation there may be a history of sudden attacks of pain as a result of rupture of the gestation sack, but in chronic salpingitis the repeated attacks of pain, due to localized peritonitis, may simulate these. With a given case at hand one cannot be too careful in making a differential diagnosis of these two conditions. Fortunately, both lesions call for the same therapeutic measures and the differential diagnosis is, after all, not so important, speaking clinically. A case illustrative of the difficulties encountered in the differential diagnosis of these two conditions, came under observation, the history being as follows: The patient in the procreative period of life, was taken with sudden abdominal pain soon after retiring, after a hearty meal. Acute indigestion was diagnosticated by the attending physician. The next day, excepting for a slight soreness, she was as well as ever. A second attack of pain occurred the following night, similar in nature to the previous one. I saw the patient in consultation soon after the second attack and diagnosticated an ectopic gestation, because of the disturbance of menstrual history, the tender uterus and a mass in the pelvis to the right of that organ. The alarm of the patient's family grew to such an extent as a result of this diagnosis, that two more consultants were called in. One of them agreed to the diagnosis of ectopic pregnancy, while the second one very justly raised the question of chronic salpingitis. The timely expulsion of a uterine decidua, which always forms in ectopic gestation, decided the question, and an abdominal section confirmed the diagnosis of ruptured tubal pregnancy.

It is still problematical to know to what extent the constitutional breakdown of patients suffering with chronic salpingitis is due to the gonotoxins absorbed. As far back as 1887 Charcot observed deleterious influences of the gonococcus on the nervous system. Since then numerous investigations have confirmed that observation. It is well known to-day that gonotoxins may cause alterations in any tissue of the body—the nervous system not excluded.

As mentioned before, salpingitis is always accompanied by peritonitis, which may be very mild or very severe. It is almost universally of localized type, though in the virulent infections of the oviduct a general inflammation may follow. The accompanying peritonitis introduces a new factor in the process, namely, adhesion of the oviducts to the intestines, omentum, pelvic peritoneum, broad ligament, ovaries, uterus, and bladder, as well as the rectum. Indeed, any pelvic tissues or organs may become matted together by inflammatory adhesions in the course of salpingitis. The matting together of parts and organs is a conservative process on the part of nature, to limit the infection and shut it out of the general peritoneal cavity. Adhesive peritonitis may thus bind the tube to any part of the pelvic wall or contents. In a recent case of total ablation for double tubal disease, it was a curious sight to see the two tubes adherent to the fundus of the uterus, outlining clearly the figure eight like a coiffure. On top of the inflamed tubes numerous coils of intestine were adherent, with the omentum tucked in here and there. This patient experienced an unusual amount of pain and had been an invalid for two years, much of this time being spent in bed. The tortuosity of the tubes with adhesions is the characteristic appearance of the pathologic lesions. It happens thus that in the acute process the pus collections may be found between the coils of intestines and the purulent material may break into the intestine, bladder, rectum, or uterus, and thus escape externally. In the chronic condition, especially those initiated by the gonococcus, the inflammatory process is confined to the oviducts alone, but with numerous adhesions to the ovaries and any pelvic tissue or organ—one or all. Indeed, the pelvic cavity may become shut off entirely from the general peritoneal cavity.

The symptoms of salpingitis vary according to the stage of the disease, the severity of the inflammation and the virulence of the infection. In the acute cases we first have the symptoms of a localized peritonitis. There are present systemic reaction, prostration, pain in the pelvis and lower part of abdomen. The patient lies in bed in a position that insures the greatest degree of immobilization of the pelvic organs. This position is that of dorsal decubitus, with the knees drawn up. Respiration is costal, and the facial expression is anxious. The abdominal muscles become stiff, but not as boardlike as in pathologic processes of the abdominal organs. The recti muscles become boardlike only when the general peritoneal cavity becomes invaded. Tympanitis, however, becomes evident quite frequently in inflammatory diseases of the pelvis. Constipation is often encountered, although diarrhea may exist at the outset of the disease. Not alone are there pains in the pelvis and lower part of the abdomen, but the patient may complain of pains radiating down the thighs or confined to the small of the back, and quite severe in character. Urination may be quite painful and retention of urine is common. The gastrointestinal tract may be disturbed and at the onset of the disease the nausea and vomiting may be quite troublesome and persistent. As more and more of the peritoneal surface becomes invaded the symptoms increase, tympanitis becomes more marked, and the suffering of the patient augmented. It is not infrequent to find that the pain in these cases, which is essentially that of a peritonitis, is distinctly of a paroxysmal type. During the height of the paroxysm the patient may cry out, so great is her suffering. The paroxysm soon subsides, only to repeat itself at short intervals. The objective symptoms may be quite vague at the onset of the disease, in the acute cases, yet palpation will elicit sufficient symptoms to justify the diagnosis. The lower part of the abdomen is quite sensitive to the touch, particularly when pressure is exerted over the region of the uterus. The recti muscles are stiff and boardlike as well as the other abdominal muscles. Vaginal palpation will reveal an immovable, or only slightly movable, uterus, with exquisite tenderness to the sides of that organ. Masses may or may not be felt in the pelvis. The appendages may not be enlarged to a sufficient degree to be palpable, or the inability to palpate them may arise from the stiffness and unyielding nature of both the abdominal muscles and vagina. Indeed, it may be necessary to administer an anesthetic to clear up the diagnosis. Under anesthesia the abdominal muscles relax and palpation must of necessity be more satisfactory. Pathological masses are then more easily detected, less force is necessary in the examination, hence traumatism of tissues is prevented. The acute process in the oviduct may last for a variable period of time. The virulent types of infection may call for surgical intervention, in from four to ten days following the infection. In the less virulent infections the systemic reaction will be milder and the localized peritonitis less marked, the virulence of the organism may expend itself to a greater or lesser degree and under therapeutic measures subside, and the established inflammation merge into a chronic process, resulting in a chronic salpingitis. The symptoms of this condition may extend over periods of many years. The patients are not very ill, but they are not quite well. There is present more or less a sense of pelvic uneasiness, and inability to stand on the feet for any length of time, backache, constipation, and vaginal discharge are frequent complaints. Impaired digestion, insomnia, and headaches may be mild or quite troublesome in these cases. Dysmenorrhea and prolonged menses may burden these patients painfully and undermine their constitution to no small extent. Indeed in some cases metrorrhagia—which may be the only symptom, may so undermine the patient's health as to force her to seek treatment. Nor is it uncommon in these cases to have interference with the functions of the bladder and rectum. Micturition and defecation are painful, and shooting pains down the thighs and through the pelvis may be noteworthy and distressing symptoms in these pathologic processes. Patients even with the milder grades of chronic salpingitis have days of suffering during each month, if not positively incapacitated. Many of these patients with chronic salpingitis, accompanied by metrorrhagia, undergo repeated currettings, but with little or no benefit. Nothing short of ablation or resection of the tubes seems to be of lasting benefit to them. Quite characteristic in these cases of chronic salpingitis are the repeated outbreaks of localized peritonitis. The patient is taken down with sudden pains in the abdomen, backache, headache, fever, nausea and prostration. The lower part of the abdomen becomes sensitive and palpation of the pelvic contents very painful. These acute exacerbations may confine the patient to bed for a few days, to as many weeks. The exciting cause of these acute outbreaks may be a slight exposure, a menstrual period, fatigue, overwork, coition, and many times no cause can be found. These acute exacerbations may simulate acute abdominal lesions, and in the absence of a familiarity with the patient's previous condition, a differential diagnosis becomes indeed very difficult. In acute exacerbations when the pain is localized to the right of the median line the condition may be mistaken for appendicitis. In appendicitis, however, muscular resistance over the right lower quadrant of the abdomen is greater and a bimanual examination will point to the pelvic pathology. In rare cases, however, both conditions may coexist.

It is usually the acute outbreaks that force these patients to seek enlightenment about their condition, and clamor for relief. When chronic salpingitis is once initiated, the resulting symptoms vary from those of mild to constant suffering. Between these two extremes there are all possible gradations. The majority of cases, however, have symptoms referable to the pelvic region, the nature of which may vary very greatly, even in the same patient. The patient may be quite well one day and sick the next, with vague symptoms—headache, backache, general feeling of depression, nervousness. These symptoms gradually disappear, and in their wake follows another set of an entirely different nature. These may now comprise pelvic pains, profuse menstruation, chills and fever, which may or may not be accompanied by prostration. The general health becomes disturbed, digestion impaired, accompanied by anemia. The pale face, the constant feeling of fatigue, constipation, sleeplessness, lack of appetite, loss of ambition, pelvic distress, aching limbs, leuchorrhea, and backache, make up a train of symptoms in a very large number of the cases of chronic salpingitis.

The treatment of salpingitis resolves itself into palliative and operative. The palliative treatment occupies an important position in the therapeutics of this condition. The natural termination of these lesions is in resolution and cure. The virulence of the infection diminishes, the products of inflammation are carried off by the natural channels, and a restoration *ad integrum* is possible in a very large number of cases. Hence procrastination in operative measures, and judicious persistence in general treatment is to be strongly urged. In the acute cases and the acute exacerbation of the chronic types, the patient is to be put to bed to insure mental and physical repose. Hot applications to the lower part of the abdomen and hot douchings will feel grateful to the patient. The condition of the bowels should be attended to and the diet limited to wholesome and easily digested foods. Anodynes should be administered, in sufficient quantities to relieve pain and insure nerve calmness, while the existing insomnia may call for appropriate hypnotics. Aside from these, the system should not be burdened with medicines, as these inflammatory processes cannot be influenced by drugs. Purging should be avoided, but free catharsis is to be encouraged. Sexual excitement is to be prohibited, absolutely. Stimulants of every kind are to be interdicted. Counter irritation to the abdomen may afford temporary relief from pain, but, of course, it could not influence the lesion in the tube. Tincture of iodine applied to the cervix and vagina can hardly be expected to accomplish much in the relief of pain. It is much better to relieve pain by going directly at it and to administer enough anodyne, either morphine or codeine, to control the suffering. Nothing is to be gained by allowing the patient to suffer for hours and days, yet one should be careful in cases of acute peritonitis not to mask dangerous symptoms by hypodermics of morphine. The opiates used in these very acute cases not alone insures nerve calmness, but act beneficially on the concomitant peritonitis, perhaps by inhibiting the peristaltic action of the intestines. In olden times, before the pathology of peritonitis was known, opium was the sheet-anchor in the treatment of this lesion. The clinical observations of those days no doubt showed the favorable results obtained with this drug. Having placed the patient in bed and having brought about a state of mental and physical rest, relieved suffering, properly attended to diet and bowels, and having procured sleep and comfort for the patient, we may now wait for developments. Daily examination of the patient will be necessary to be familiar with the progress of the affection and to detect pathological changes as they arise from time to time during the process of the disease.

Local treatment may or may not be necessary in these cases. If the salpingitis is of gonorrheal origin, and if active inflammatory processes of the external genitalia are still in evidence, these local lesions should, of course, receive appropriate treatment. First of all, strict cleanliness is necessary. This is accomplished by frequent douchings of hot water, medicated or not. I prefer Pot. permanganate solution for the purpose. The solution is made of varying strength, depending on the stage of the disease. In the acute stages a milder solution, while in the chronic stage a stronger solution is used. These douchings and irrigations are carried out in a systematic way. If a urethritis is present the lesion receives treatment at the same time. The patient is placed on a douche pan and the vulva thoroughly exposed. If the urethra is infected, the irrigation is begun there. If the inflammation of the part is at its height, the urethra is cocainized first. A little adrenalin chloride added to the cocaine will enhance the anesthetic effect of the drug. Having cleansed the urethra, the vulva and vagina are next douched—care being exercised not to inflict injury to the congested mucous membrane of these parts. Even if the uterine cavity harbors an active infection, no attempt should be made to treat the cavity topically, except under one condition, and that is when the uterus contains retained secundines. Under such condition the uterine cavity should of course be curetted, with tact and gentleness, to avoid unnecessary traumatism of an already much inflamed organ. If the uterus harbors foreign tissue material, the cervix will be partially open and very little divulsion will be necessary for the introduction of a small sized curette. Even with a small instrument, these uterine cavities will admit a thorough cleansing, and a dangerous wide dilation of the cervix in these cases is unnecessary. The existent vulvovaginal abscesses should be opened and treated judiciously. If the infection is of pyogenic origin the points of inoculation when discovered should be dealt with in an appropriate surgical manner. Antiseptic applications and irrigations, with liberation of pus and absolute cleanliness, are the keynote in the treatment of the various lesions of the urethra, vulva, vagina, and cervix.

If under palliative treatment the infection does not have a tendency to subside, and if symptoms of sepsis arise, operative intervention is called for. In the presence of an active inflammatory reaction in the pelvic organs, with concomitant peritonitis, and in the face of a virulent infection, operative intervention is a matter of serious consideration. A factor is introduced in the acute cases that is not encountered in the chronic types of salpingitis. This factor is that arising during the operative act—the possible contamination of the not yet invaded tissues with virulent germs, and the possibility of inviting a fatal sepsis. The safest course to pursue is to incise by way of the vagina and drain until the symptoms of sepsis are under control and the virulence of the infection diminished. When this state has been reached, radical operations may be undertaken with comparative impunity, and with considerable hope of obtaining a complete cure. So alarming is the mortality of radical operation during the acute exacerbations, that it is a questionable procedure. It is but seldom the case that the symptoms of sepsis cannot be kept in abeyance by incision and drainage. An incision of Douglas's cul-de-sac and evacuation of pus will usually bring about a cessation of symptoms with improvement of the patient's condition. In performing posterior section for pus, all inflammatory masses that are to be felt in the pelvis should be broken up, so as to liberate pent up purulent materials. Particularly, should the tubes be sought for and incised, if practicable, or punctured if they cannot be brought within reach for incision. Pelvic abscesses should be drained with gauze packings or drainage tubes. Abscesses situated in the broad ligaments may call for thorough drainage, and appropriate external abdominal incisions may be necessary for that purpose. True pelvic abscesses, however, particularly those arising during puerperal sepsis, may also be so situated as to call for external incision for the liberation of their contents. As a rule, however, true pelvic abscesses can be evacuated by means of a posterior vaginal incision. This vaginal incision should be ample, as these incisions have a tendency to heal up rapidly, and in doing so may defeat the object in view, of providing an outlet for the pus. After the evacuation of the pus the patient's condition will be such as to call for most careful therapeutic efforts on the part of her physician. Good nursing, careful dieting, supportive and hygienic measures are called for in the treatment of these septic cases. Medicinal measures as a rule are of little avail, yet what little benefit is to be derived from drugs that tend to support the constitution is to be strongly recommended. Alcoholic stimulants, in my opinion, should be avoided. Alcohol may be an excellent food material, yet it will be more advisable to nourish the patient with foods of a more natural origin than alcohol. If the collections of pus in the pelvis are not evacuated surgically, nature may accomplish this in four different ways. The pus may become encysted and remain so for an indefinite period of time. It may be discharged through the uterus. The abscess cavity may perforate into the intestine, bladder, rectum, or into the peritoneal cavity, or the pus may become absorbed by the natural channels.

With the virulence of the germs causing the infection diminished, the inflammatory processes in the uterine adnexa subsides. The peritonitis stops and the patient's condition may progress to cure, or, what is more frequently the case, they may remain chronic invalids if left to themselves. It is in these cases where treatment by operation brings about cures that nature has failed to accomplish unaided. The surgical treatment of these cases has, fortunately, become intimately blended with what at the present day has become known as "conservative gynecological operations." The routine removal of the adnexa *en masse* has given way to the removal of one or more parts of these organs that have become hopelessly crippled by disease. This conservatism has of course introduced an important problem, that of knowing what to leave and what to remove of the damaged uterine adnexa. It is the problem of bold or timid conservatism. The boldly conservative will satisfy himself with simply liberating the tubes, ovaries, and uterus from their beds of adhesion, liberate intestinal coils and omentum from their false positions, and remove such organs or parts of them as he finds hopelessly diseased; while the timidly conservative will only leave behind organs that appear to be normal beyond a doubt. Both of these workers may give abundant proof to maintain their contentions, for in this field of surgery there is abundant room for both positions. At times it becomes most difficult, during an operation, to judge correctly which road to take. This matter of conservatism, however, becomes simplified when the surgeon has before him the wishes and desires of his patient, as regards sacrifice of her organs, or the willingness to risk another operation, in the event that the bold conservatism has erred, and left behind parts or organs whose extirpation would have served better. If this matter is placed before patients of child-bearing periods, their decision will usually assist the surgeon in deciding what will be best for this particular patient. Each case is a law unto itself. The social condition of the patient is a matter of considerable importance. The patient in easy circumstances will take more readily the risk of a second operation, should this be necessary, than her sister in less fortunate circumstances. Then again, the desire for offspring is by no means a criterion in this matter. She who has children may be willing to sacrifice both adnexa in the event that the slightest risk should exist for a second operation, while the one without issue may beg for the retention of her tubes and ovaries at almost all hazards. Conservative operations on the uterine adnexa, aside from the question of reproduction, take into consideration two matters of vital importance to the patient's wellbeing. One is the menstrual function, and the other the internal secretions of the ovaries and the purpose they serve in the female economy. Menstruation is so intimately connected with her nature that its sudden cessation brings most unpleasant sequelæ. Artificial menopause has symptoms in its wake that are at times exceedingly distressing to the patient and frequently most profoundly react on her physical and mental state. If all the disagreeable, nervous phenomena can be removed by conservatism on the ovarian tissue during operation, the procedure calls for ready adoption by the physician, for it is the glory of his therapeutics not alone to remove diseased structures from the body, but to leave the human economy in as natural a state as possible. A further reason why removal *en masse* of the uterine adnexa is to be deprecated is the fact that it is foreign to modern surgery to remove tissues or organs that are not pathological, and that may become normal at a future time. While nothing definite is as yet known about the chemistry of the mysterious ovarian secretions, clinical facts point strongly to their existence and their usefulness in the human organism. Chemistry shows that the so-named "Spermin" is found in the thymus and thyroid glands, as well as the ovaries, spleen, and testes. Physiological chemistry shows further that this substance is an active oxidizing agent and may have some such a function in the animal economy to keep the physiological balance true. It is in the interest of the preservation of the three functions of the ovary; namely, ovulation, menstruation, and secretion, that conservative surgery on these organs is so important. Even in patients that have passed the climacteric period, where two of the functions of the ovary, ovulation and menstruation, are negligible matters, the third function may still be of importance, for it has not been shown that internal secretion of the ovary ceases with the cessation of the other functions. As regards conservatism on the tubes and uterus, it needs only to be mentioned that these organs are occupied with the performance of but two functions: menstruation and pregnancy. Therefore, in a patient past the procreative period, conservatism on these organs does not hold so important a place. However, even in patients in this age laparotomized for diseased adnexa, the removal of the uterus, unless absolutely necessary, should not be undertaken, without due regard to the condition of the patient at the time of the operation, as hysterectomy is accompanied by more shock than the more simple operation of salpingectomy. If the uterus is diseased it should of course be removed, because infected uteri are as much of a menace to life and health as diseased adnexa, and in sparing the organ one might not spare the patient.

Conservatism in operations on the uterine adnexa embraces the liberation of these organs from false positions and adhesions; the removal of hopelessly diseased parts; the evacuation of purulent material and cleansing, and the proper and judicious drainage that may be instituted with the hope of an ultimate recovery of the infected tissues. Nothing but the hopelessly diseased parts of these organs should be removed, and with a uterus not too much damaged by disease, even the boldest conservatism on the appendages is permissible. Enough cases are on record showing the excellent, immediate and remote results of such bold conservative operations to justify the most sanguine expectations. In chronic salpingitis, even purulent collections in the tube may be ignored. Such tubes may regain their anatomic and physiologic integrity after the evacuation of the pus, and need not be removed *in toto*. Experience has demonstrated that these purulent collections are practically sterile. By liberating them from adhesions, evacuating their pus contents and cleansing them, they may so far recover themselves as to functionate again. Cases are on record where pregnancy followed the removal of a hopelessly diseased tube on one side and the cleansing and resection of the opposite one. Surely in these cases the resected tubes have given enough evidence of their ability to again perform their function of carrying the ovum to the uterus; in fact, the highest kind of evidence of return of function. Parts of the oviduct may be removed, new openings established by stitching the mucous membrane to the peritoneum, tortuosities remedied by liberating adhesions or exsecting nodules from the tubes. Tubes with many of these nodules, however, had better be extirpated, as these lesions frequently prove on examination to be of tubercular infection. If the whole tube is to be removed, the organ can be liberated from its mesosalpinx and the uterine end excised from the uterus by a few well-directed incisions. The rent in the uterus is then closed and the mesosalpinx approximated with a running suture of fine catgut. The integrity of the broad ligament need not be interfered with, nor shortened, as is the case when the adnexa are tied off *en masse*. If both tubes and ovaries are so hopelessly damaged by disease that their total ablation is essential, it becomes a question of some importance whether the uterus should be removed or not. Hysterectomy is an additional operative risk and should not be incurred unnecessarily. If the uterus is enlarged, congested, and particularly if there is reason to believe that it is infected, it should be removed, because such an organ will hinder the recovery of the patient. An infected uterus left behind after salpingo-oophorectomy is frequently the cause of continued ill-health, and necessitates secondary operations for its removal. It is at times quite difficult, during the operation, to make the proper discrimination as to which organ to leave, or which to sacrifice. Hysterectomy is also called for when the uterus harbors neoplasms.

While conservative operative endeavors should be the guiding spirit in chronic affections of the uterine adnexa, in the acute cases total ablation will more often be called for. Resection of tubes and ovaries in subacute or acute cases enhances the risks of peritoneal contamination, and invites sepsis. In these cases panhysterectomy with judicious provision for drainage by the vagina will crown the endeavor with success in many cases that otherwise would be lost, Many uteri in the presence of adnexal disease have long ago regained their normal state, particularly if the uterine ends of the tubes have become obliterated and no infection reaches the endometrium from the oviduct. Therefore, the retention of this organ, even though ovulation and menstruation have stopped, is indifferent to the patient. If this is true, why burden the chances of a laparotomized patient with the additional risk of a hysterectomy, a risk that exists in the removal of even a normal organ? Again, even uteri that do harbor infection by virtue of the endometrium being bathed with infective material coming from patent infected oviducts, may in time regain their normal condition when the tubes are ablated, and the source of infection removed.

In considering the technique of salpingo-oophorectomy or salpingo-oophorotomy it is not alone necessary to have recourse to a thorough familiarity with the anatomy of the pelvis and its contents, but that the sense of sight and touch of the operator should be harmoniously exercised. The axiom to see what one does and to do what one sees, applies in the surgery of no region of the body more emphatically than in operations on the uterine adnexa. In diseased states of the contents of the female pelvis, the distortion of organs and tissues may be startling and bewildering. Organs whose normal situation is that to the right of the median line, may be found on the left side, or *vice versa*. Coils of intestines that normally are loose in the pelvis may now be found bound down by well organized bands of adhesion. The rectum and uterus may intimately blend and the sigmoid flexure of the colon may roof the fundus and bladder. Ureters may be drawn out of their normal position, and blood vessels may take atypical courses. Such a complicated state necessarily calls for acute identifying powers on the part of the operator, and hence sight and touch are called into activity. The first consideration in the technique of the operation is to obtain a good view of the pelvis. In abdominal operations this calls for a free median incision. With the patient in Trendelenburg position and with the retracted abdominal wall of a free median incision a good view of the pelvis is commanded, and the most important landmark located. This landmark is the body of the uterus. If coils of intestines, sigmoid flexure, rectum and omentum hide this landmark, these structures should first be separated and dealt with *secundem artem*. In separating adherent coils of intestines, the lines of cleavage should be sought for in liberating these adherent structures. Coils of intestines damaged in the process of their enucleation from adhesions should be repaired at once, with properly placed sutures. Immediate attention to these damages will save time and insure certainty in their repair. Once these loops of intestines slip the fingers their repair may be forgotten and difficulty may be encountered in their subsequent identification. Adherent omental tags should be liberated and the bleeding points of severed parts secured and tied. These bleeding points, if ignored, are not alone of danger to the patient, but hinder the operation by inundating the field with blood and interfering with vision. The intestines liberated from their false position, and damages properly repaired, are further protected from injury and possible contamination by properly placed abdominal pads. The intestine out of the way and tucked in with gauze, the field of operation is now in full view and control. If infectious material should escape during the course of the ablation of the adnexa the gauze pads will absorb it, and soiling of the peritoneum be more or less prevented. The body of the uterus having been properly located, and the fundus liberated from adhesions the organ may be grasped with a volsella forceps for security and control. The identification of the adnexa is now less difficult, and with the uterus under control their liberation from adhesions more easily accomplished. The freed tubes and ovaries are inspected with the view of practicing conservatism on them or condemning them to resection. The tubes may be probed to discover their patency or occlusion; they may be cleansed and washed, pus may be evacuated, or they may be resected in part or *in toto*. The ovaries may be dealt with in a similar manner. Adhesions may be severed, pus evacuated, cysts punctured and resection practiced in part and in whole.

After extensive enucleation, considerable oozing and bleeding may be encountered. These points of hemorrhage should be diligently sought for and controlled, if necessary with a needle and ligature. Oozing that cannot be controlled by pressure and hot pads should be covered over with peritoneum, if possible. Sometimes tags of adhesions will bleed quite readily and may be controlled by compression with clamps. Even extensive raw surfaces may be covered with peritoneum by exercising patience and some ingenuity. If much soiling of peritoneum has occurred and if there is reason to fear virulence of the infection, drainage should be provided for through the vagina, or the operator may only deem it necessary to irrigate the peritoneal cavity. Before closing the abdomen the pelvis should be dried and once more thoroughly inspected, not to overlook bleeding points and pathological masses.

An article on the treatment of inflammatory lesions of the uterine adnexa would hardly be complete without reference being made to the conservative surgery that may be practiced on the tubes and ovaries, through the anterior vaginal incision, so ably and persistently advocated by Dr. J. Riddle Goff of New York. In a very large number of cases of adnexal diseases the anterior vaginal incision will admit an incredible degree of access to these lesions. Through such an incision oviducts may be liberated from adhesions, resected or exsected, with considerable ease. The same may be said of the ovaries. They may be removed through these incisions or conservatism practiced on them at will. Not alone the uterine adnexa but frequently the appendix can be demonstrated and dealt with surgically through this incision. This considerable accessibility to the contents of the pelvis is obtained by making two incisions, one at right angle to the other, like the lines of a capital letter T. A horizontal transverse incision is first made in the anterior wall of the vagina, along the cervicovaginal junction. At the center of this incision a vertical line of incision joins it, which is carried along the anterior wall of the vagina in the median line, if necessary, up to the lower border of the pubic arch. Before making the vertical incision, the bladder is separated from the vaginal wall, cervix and uterus. By thoroughly separating the bladder from the vagina there will be little danger of wounding that organ. Nevertheless, in making the vertical incision in this operation, care should be exercised not to injure the bladder wall. The peritoneal cavity having been entered, the fundus of the uterus is drawn forward and its posterior surface brought into view, and the liberation of the adnexa accomplished with considerable ease. If they can be freed sufficiently the ovary and tubes may now be delivered into the vagina and dealt with in accordance with the operator's wishes. When the operation on the delivered adnexa is finished, the organs are returned into the pelvis and their fellow structures similarly dealt with. While a good per cent. of cases of adnexal lesions can be dealt with by this incision, a very large number of cases will demand abdominal section for their cure.

115 EAST 116TH STREET.

SOME OPHTHALMIC SUGGESTIONS.*

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THE scope of this paper is indicated by its title, the suggestions being the outcome of observations made and experiences gained in the practical treatment of diseases of the eye.

The sensational exploitation by the monthly magazines and the daily newspapers of their so-called medical discoveries, which were old and discarded ideas when the science of medicine was young, is responsible in many instances for misconceptions relative to medical matters, involuntarily assimilated both by patient and physician.

These self-styled scientific articles are published again and again, and their repeated reiteration makes so deep an impression on the minds of readers that finally an indiscriminate acceptance is brought about much in the same way as a lie oft repeated will pass current for the truth. This is singularly so in medicine, since denial is never made. No matter how incongruous or how inaccurate—from a medical standpoint—may be the argument in a non-professional publication, physicians hesitate even to notice these falsities because of the usual and natural repugnance against the discussion of medical subjects in the lay press.

Thus erroneous assertions are accepted as demonstrated facts, not only by that class of superficial readers in whose shallow and imaginative minds fact and fancy play a loose hide and seek, but also by cautious and discriminating readers who are deceived by the plausibility and apparent plainness of the statements. It goes almost without saying that these accounts often contain a germ of truth, some little information, and they thus exemplify the rule that in medicine as in the everyday walks of life, a little knowledge is a dangerous thing. The popular definition and explanation of vision are somewhat involved and address themselves to the reader's understanding or rather to his misunderstanding as part of that mysticism which has ever played an important rôle in medicine from the early dawn of civilization, when the priesthood dominated and directed this science, down to the present day when so many bacteriologists play pranks with facts and microorganisms. It has thus come to pass that every statement in regard to the eye itself or to the function of sight, no matter how absurd it may be, is accepted with a ready credence that is as ludicrous as it is astonishing.

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The eye occupies so exposed a position that changes in its appearance may be observed easily, which fact has been advantageously used by the self-prescribing laity, who, fortified by an assumed semblance of knowledge, do not hesitate to claim the ability to differentiate diseases of the eye and to direct treatment for their cure. In doing so, advice is often given that would be farcical were it not utterly wrong and in some cases distinctly criminal.

The senseless outcry against the wearing of glasses by the young is a favorite theme. These misguided critics express wonder that "so many children are wearing glasses, for in their time it was not so, only old people wore spectacles," and from inner consciousness, that most inaccurate of mentors, they evolve reply: "It must be for style," they say, or "the oculist felt that he had to order something," or "it was a fad," etc. It is just these *ex parte* statements, originating in dense ignorance, but accepted as truths by those equally ignorant, that so often interfere with the recognition of visual defects. The common and more than common remark, "if you put on glasses, you will always have to wear them, so do not wear them at all," is as trite as it is misleading, since it is responsible for great physical suffering, its observance being the cause of many a failure in life's work, and the wrecking of what under other circumstances would have been a successful career. It one be halt, he requires crutches to help him over rough places and for comfort and safety will always require a crutch; so if vision be defective, glasses to overcome the faulty condition are urgently and continuously required. Glasses are for imperfect sight just what crutches are for limping gait, and both are demanded just as long as the blemish remains. To lay down a law that the young should never wear glasses is a false dogma that cannot be too emphatically censured, for the records of every oculist exhibit scores of young pupils, dismissed by teacher and parent as hopelessly stupid, who, through the medium of properly adjusted glasses, have emerged from the gloomy midnight of mental torpor into the bright noonday of intellectual activity.

Whence has arisen the heresy that squint in children should go untreated, "as they will outgrow it," is hard to discover. And yet this fallacy has become almost an orthodox belief to physician, parent, nurse, and fond grandmother. No advice could be more mischievous or fraught with greater peril to the deviating eye. A squinting eye is a disabled eye, which soon ceases to be used, and if this disuse be allowed to continue, it eventuates in a permanently undeveloped eye valueless as a visual organ. It is the moral duty of the physician to prevent loss of function of any organ of the human body, and neglect to preserve the action of such organ is reprehensible. It is unfortunate that the popular and generally accepted belief should be that treatment of squint in children is undertaken solely for cosmetic effect, but no opinion could be more erroneous. To obviate loss of function is the impelling and controlling cause, and not to improve the good looks of the child. This false idea prevails probably because in the adult, cosmetic benefit is, in the majority of cases, the object aimed at, but distinction must be made between the result secured in childhood and that obtained in maturer years.

It is generally conceded that the distinctive feature of squint in children is a defect in image fusion. Light reflex and fixation reflex are both present from early infancy, and attempts at binocular fusion come on early in life, probably by the sixth or eighth month.

Experiments have shown that when a prism of moderate strength is held before one eye of a child ten to sixteen months of age, an attempt is made, at once, to get rid of the diplopia by moving the head or by closing one eye, thus showing that the faculty of binocular fusion is fully developed at that age. In squint, defect in image fusion is accompanied by a recognizable amblyopia in the deviating eye as well as some muscular imbalance; but this latter is now regarded as a result rather than as an element in the causation of strabismus. Squint in the majority of cases comes on before the third year and treatment should be inaugurated just as soon as the condition is observed. It is astonishing how rapidly under proper treatment, a squinting eye of feeble receptive power will develop into a useful member. Objective methods in examination have become so perfected that oculists are now able to determine the visual fault accurately and to institute treatment adequate to overcome the defect. No child except an infant in arms is too young for non-operative treatment, and this should be commenced at the earliest possible period and fully and insistently carried out. This treatment consists first, in correction of the refractive error; second, in compelling the use of the squinting eye, and lastly, in regular exercise of the fusion faculty. If this treatment be regularly and rigorously used, from 70 to 80 per cent. of the cases of squint under seven years of age will be cured.

By far more damage to eyesight is done by the self-fitting of glasses than by any other so-called help. The term self-fitted is used advisedly, for at department stores, opticians' shops, and refractionists' parlors, the applicant fits his own eyes. The term refractionist is so generally and so loosely employed that it requires definition. The last edition of Dunglinson's Dictionary is the only book in which the word was found. A refractionist is "one who discovers and endeavors to correct errors of refraction in the eye." Observation compels me to modify this to, "One who endeavors to discover errors of refraction in the eye in order to sell glasses therefor." A single visit to any of the establishments where glasses are "fitted without charge," will demonstrate that glasses are self-fitted and without the help of the man who charges for the glasses. The victims, and there is usually a row of them, stand at a long counter, or occasionally one may sit down at a small table, and glass after glass is tried on until one is found that fits. This is then paid for—which is the chief consideration—and the patient departs. Now where is any science, skill, or experience manifest? What has seemed best has been accepted as correct without further examination or verification. Not 20 per cent. of such eyes are accurately or adequately corrected as to the refraction error, and sooner or later it is discovered that serious damage has been done. One broad rule cannot be too strongly urged, and this is that glasses should never be ordered without an ophthalmoscopic examination of the eye ground having been made prior to the prescribing of the glasses. To this rule there is no exception. Failure to make such an examination ranks with the omission of a physical examination when symptoms of pulmonary trouble are noticed. What physician would treat a sick man for pneumonia, because he has had a chill and has a hacking cough, and yet because a patient says that he cannot see as well now as in the past, he is told to go and get a pair of glasses. This statement is made to emphasize the fact that there is a widespread belief that anyone can fit glasses. This idea on the part of the laity, and of many in the profession as well, arises, in my opinion, from two causes—in the first place from the description in the lay press of methods of self-fitting in glasses in the form of reading advertisements which appear in the guise of scientific articles; and in the second from the indifferent manner in which this subject is treated at the junior medical schools together with a failure there to lay especial stress upon the necessity for thorough and painstaking examination of the eyeball and its appendages. This is said with great reluctance, but is due to the writer's experience with picked graduates of the large medical schools, who have been house officers in the hospitals to which he holds visiting relations.* It must also be confessed that some oculists have erred in this particular. Occasionally it has been my experience to be informed by patients that although their eyesight had been examined previously both by prominent oculists and by opticians, the methods had been the same, at no time had an ophthalmoscopic examination been made.

The misfortune as regards the so-called refractionist is that he does not know; therefore he cannot comprehend his limitations. A six weeks' course at some spectacle maker's warehouse or, as is more often the case, the purchase of a cheap supply of glasses for fitting eyes is his sole qualification. Prodigious indeed must be the brain that can acquaint itself with every ocular disturbance and disease in so brief a period, and reckless in the extreme a man must be to consent to differentiate conditions of the eye with so meager and so incomplete a preparation. Mistakes are, therefore, sure to happen, and a very brief outline of a few cases observed in my private practice will serve in illustration of several types in which improper glasses were given by so-called refractionists.

A young man 25 years old, clerk, writing all day, complained of pain in the eyes. A weak minus cylinder given by a refractionist relieved the pain for a week or so, after which the pain returned. My examination showed distant sight to be 20/20 or normal. Ability to read was good, a low degree of hyperopic astigmatism was found to be present, and trial of a weak convex cylinder brought out the remark: "It doesn't seem as if I had on any glasses, just using my own eyes." He has used this same glass for a number of years and the pain has not returned. Now if that optician had had any knowledge whatever of refraction work, he would have known that with sight for distant objects equal to normal, there could be no manifest near-sighted astigmatism; but as the complaint included a statement that small objects had to be held nearer to the eye than formerly, and, in reading, the book must also be near to the eyes, the optician jumped to the conclusion that this was a case of myopia, and sold the applicant a weak minus cylinder because he said that it fitted his eyes. No attempt was made to verify his guess by use of ophthalmoscope, ophthalmometer, or skiascope, nothing but the acceptance of a glass held before the eye for a brief moment. Mistakes of this character are of so frequent occurrence that scarcely a week passes but I have one or more experiences identical with the above.

A not unusual blunder on the part of the self-fitting spectacle seller is failure to recognize muscular insufficiency coexisting with error of refraction. In this condition, the near or far-sighted defect is corrected, usually over-corrected, and the undetectable muscular imbalance goes on to the lasting detriment of the innocent sufferer. The involuntary strain required to clear the blurred image produces headache and a mild brain fag evidenced by a mental apathy, which is misinterpreted to be laziness or stupidity.

A different type of cases and one that owes disaster to sight to self-fitting, is chronic primary or simple glaucoma. This disease, as is well known, is often insidious in its onset, and advances by very slow degrees. Under proper treatment when discovered in its incipiency, its progress may be retarded for years and occasionally to the end. The symptom most frequently noticed—in my experience—is distinctively subjective, a little dimness of sight with reduction of reading power, which is always ascribed to advancing years. The danger arising from failure to distinguish simple glaucoma from presbyopia is strikingly shown in a comparison of the histories of two groups of cases taken from my records. In both groups the symptoms were purely subjective, and for this reason a comparison is instituted, as it would be manifestly unfair to place in juxtaposition cases in which symptoms were not identical. The first group consists of three cases with similar histories. Inability to read clearly and some reduction of sight for objects at a distance. Fitted to glasses by opticians, in three months stronger glasses were required, another increase in two months, again increased in two months. Then the usual objective symptoms occurred followed by regular treatment and iridectomy to relieve the pain, recognition of light being the only visual function retained. The second group consists of nine cases who came for glasses "to read and write with, as they could not see to do these things as well as when they were younger." In these cases, glasses were prescribed for near work only. The examination showed presbyopia, no symptoms of any other trouble being discoverable. The further history of these cases is: In one case sight for distant objects was reduced from 20/20 in December to 20/200 in the following March. Full contraction of the pupil under the influence of eserine brought the sight up to 20/50 in two hours, and in three days, the sight under eserine instillations returned to normal or 20/20. In four cases distant vision of 20/200 returned to normal or 20/20 after five days' use of eserine. In three cases with a distant vision of 20/70, normal sight for distant objects was restored in four days under the use of eserine, and in one case a distant vision of 20/50 returned to normal after 24 hours' use of eserine. These patients still retain their restored sight.

In view of these results, it certainly is a just conclusion that even if the first group had not been permanently benefited, early treatment would certainly have delayed for a time the disastrous result. At the present time I have under my care a number of cases of chronic primary glaucoma in which no material advance has been made for periods ranging from four to six years, and my records show that several cases have been under observation and treatment for ten years without appreciable damage to sight occurring, good vision being retained to the end of life.

It is evident that whoever fitted the eyes of the three patients in the first group must have been ignorant of the first principles of refraction work, for when they appeared at the end of the three months and much stronger glasses were required, but one of two conclusions could be tenable. Either the fitter had made a mistake and given too weak a glass, or something had happened to the eye. When the third visit was made two months later, the optician should have known that disease existed, declined to give the stronger glass and insisted that an oculist be consulted. He should have known that presbyopia pure and simple does not advance with such lightning like rapidity as to call for an increase in the strength of the glasses from 1½ D to 6 D in the short space of five months. That certainly is crowding "old sight" a little hard. Instead of advising the applicants properly, glasses were supplied—at the usual price—and irremediable blindness resulted.

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*In the discussion that followed the reading of this paper, it was said that lecturers at the colleges recommended ophthalmoscopic examinations in cases of refractive errors. Further investigation shows that while this advice is given, it is honored in the breach. Recent graduates assure me that during practical instruction in the fitting of glasses, the opthalmoscope is hardly ever used. So rarely indeed is this the case that until their attention was called thereto by my questions they had forgotten that this instrument had any use except in obscure and doubtful diseases of the eye and brain.

The duties of oculist and optician cannot be combined in the one person, for the function of each is distinct and separate. The oculist's work is to *examine* the eyes and when the nature of the deviation from health has been determined, measures to overcome the defect are to be ordered. An optician's business is to sell glasses, which is of necessity commercial. In this age of frenzied finance and get-rich-quick schemes, might not this spirit prove too strong and the business part of the work impel him to sell glasses where the services and knowledge of a specialist were required rather than the use of glasses? It is immaterial to an oculist whether he prescribes glasses or not; but is distinctively material to an optician to sell glasses, his means of livelihood often depending largely upon the extent of these sales, and in his zeal to increase his business, the temptation to accept any improvement of sight by glasses might prove irresistible. The relation of the optician to the oculist is identical with that existing between the pharmacist and the physician; the former in each case preparing according to instructions the prescriptions of those skilled in the treatment of physical imperfections.

In conclusion, the opinions expressed are offered as suggestions to medical men and are not to be taken in any sense as a criticism of the practice of medicine. They are presented as a reminder only, in truth as an additional "lest we forget."

Relative to the self-fitting of glasses, the opinions expressed are offered as an emphatic protest against the methods employed by so-called refractionists and opticians and these opinions rest upon the strongest foundation, namely, proven fact. Now facts are stubborn, unanswerable things, and these facts are confirmed a hundred, yes, more is the pity, thousands of times, by the experiences and records of oculists in active practice.

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THE HEART AND CIRCULATION IN THE PROGNOSIS AND MANAGEMENT OF PULMONARY TUBERCULOSIS.*

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The relation of the heart and circulation to the course of chronic pulmonary tuberculosis is a factor both in the prognosis and management of such cases which is not generally accorded the attention and study which its importance demands. Even in the earlier stages of the disease the obstruction to the lesser circulation not infrequently exerts influences upon the heart of far-reaching significance, and quite rightly in this connection many authorities look upon a rapid pulse in an early stage as a very unfavorable prognostic indication. Upon this symptom, with or without attacks of tachycardia, Brehmer based his theory of a relatively small heart as standing in etiologic relation to the occurrence of phthisis. In this he was no doubt influenced by the findings of Laennec,[1] who showed this relation, and also by Louis,[2] who claimed to have found the heart relatively small in 109 of 112 cases. Brehmer was a life-long advocate of this theory, having first proposed it in his Doctor's Dissertation in 1853, and having further elaborated it in his subsequent work on chronic consumption[3] and its etiology.[4]

This theory, which is now practically abandoned, was also supported by Rokitkansky,[5] who, like Beneke,[6] considered the small heart a congenital hypoplasia and, despite much opposition, it remained dominant until about a decade ago, when Crook[7] still recognized it and stated that in 77 per cent. of autopsies of consumptives the heart was smaller than normal. Since that time the view that the apparent smallness of the heart as observed after death from phthisis is rather an effect than a cause of the disease has gained constant recognition. Laennec[1] had already suggested this in his time. Potain,[8] who often found a small heart attributes it to general malnutrition. Reuter,[9] in his study of the subject, in 1884 showed that the relation was by no means so common as was generally believed. He found from autopsies at the pathologic institute in Munich, small hearts in men in only 29 per cent. and in women in 56 per cent., while the hearts were larger than normal in 40.2 per cent. of the men and in 20 per cent. of the women. Lebert[10] called attention to the actual occurrence of hypertrophy in 1874, and among others, Herard, Cornil and Hanot[11] in 1888 again remarked the clinical phenomena of a weak and dilated or an hypertrophied right ventricle, ascribing these conditions to the increased resistance in the pulmonary circulation by reason of structural change in the lungs, Portal[12] having shown the presence of enlargement and dilatation of the right ventricle a century before. West[13] also refers the small heart found post-mortem to the general emaciation, and recognizes the occurrence of hypertrophy of the right ventricle in the course of phthisis. On the whole, we find that at an earlier period in the last century most authors were inclined to look upon a small heart as a cause of phthisis. Others saw in its presence after death only a result of general wasting and muscular atrophy, while in the further course of the study enlargement, especially of the right ventricle, with or without evident dilatation, attracted attention, and the relation of the latter to obstruction in the pulmonary circulation became more and more recognized.

Clinically the rapid and weak pulse and attacks of tachycardia were frequently considered diagnostic, and many authors have likewise recognized their unfavorable prognostic import. Sir James Clark,[14] for instance, speaks of a rapid pulse as strongly corroborating the suspicion of the existence of pulmonary tuberculosis, without, however, attempting an elucidation of the cause, which even at the present time is still looked upon as due to a naturally small heart. The autopsy findings of some of the authors referred to, and especially those of Reuter,[9] offer to Bohland[15] the most rational explanation for the occurrence of tachycardia in the course of phthisis. Other explanations for this symptom have been sought in attending anemia, digestive disturbances, and fever. Burckhardt[16] attaches no particular significance to it, and thinks that little can be learned from the observation of the pulse in the early stage. According to him, the frequency of the pulse corresponds to the advances of the disease, becoming increased in the second and permanently rapid in the last stage. Herard, Cornil, and Hanot[17] mention the occurrence of tachycardia as entirely independent of fever, and they, as many others, believe in a relation of reflex irritation of the pneumogastric. Cornet[18] admits among other causes neuritis of the pneumogastric to be an occasional one, ascribing, however, the greatest influence to toxins of the tubercle bacillus and of other pathogenic bacteria which weaken the heart and cause vasomotor excitability, thus lowering the blood pressure, which Marfan[19] found below normal in 97 of 100 cases of phthisis. Faisan[20] also accepts the toxin theory, though in some cases he recognizes as a cause compression of the vagus by enlarged bronchial glands. The same views are held by A. Fraenkel.[21]

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The toxin theory, which is always convenient for accounting for phenomena which we cannot readily explain, is made the most of by Patton,[22] according to whom there exists in phthisis a veritable toxemia of the heart muscle, which accounts not only for a rapid and weak pulse, faintness, dizziness, dyspnea, gastric disturbances, imperceptible heart impulse, possibly signs of dilatation and weak first heart sound, but also for a relatively intensified second sound. In the latter effect the toxins, so much blamed for weakening the heart, appear to have a redeeming feature, in that they strengthen it as well.

While thus opinions are still at variance as to the cause, there is quite a uniformity of conviction as to the prognostic significance of tachycardia, especially when it occurs in an advanced stage of the disease. Rühle[23] and also Heitler[24] have dwelt upon it at length, and recent authors recur to it whenever writing of the symptomatology of phthisis. Loomis,[25] Cornet,[26] Campbell,[27] and others consider a rapid heart action of unfavorable import in the early stage also, and Campbell attaches the greatest importance to the observation of the pulse. Likewise does Sterling,[28] who showed the comparatively less favorable course in patients with a rapid pulse although still in an early stage. Schütz,[29] who studied the subject at a sanitarium for consumptives, found even evidence of slight dilatation in an early stage of the disease, as shown by accurate physical examination as well as by clinical symptoms. Bohland,[15] however, holds that simple tachycardia may exist for a long time without detrimental results, and that it often remains a sequela after the patient has recovered. Only its persistent presence or a high degree of tachyardia is in his opinion of serious consequence.

Among clinicians there is a general accord in viewing a persistently rapid pulse or attacks of palpitation with considerable misgiving, regardless of the supposed causes, which doubtless can be various. In clinical study I have not been able by physical examination to demonstrate a strikingly small heart during the life of the patient. Neither can I accept the theory of reflex irritation of the pneumogastric which, if present, should rather cause a slow than a rapid heart action, while the toxin theory I consider entirely speculative and as having no support whatever. I am the more inclined to disregard it, since tachycardia is frequently present without fever or other symptoms which one would expect from such intoxication, and is absent in many other instances in which fever and other symptoms would naturally justify the assumption of such a relation. In the advanced stages, secondary anemia would no doubt aid in the production of tachycardia and in isolated cases of young anemic individuals and chlorotic girls it is reasonable to presume that the anemia is a causal factor even in the early periods of tuberculous disease.

When, however, we investigate the frequency of this symptom in forms of tuberculosis, other than pulmonary, we find that there is rarely if ever any mention of it, whereas in the pulmonary affection its occurrence has attracted uniform attention. This fact alone would justify us to seek a relation between the lungs and the heart not only for the occurrence of hypertrophy of the right ventricle or for its dilatation which is generally recognized, but also for the earlier manifestations of cardiac insufficiency before structural changes in the heart muscle are as yet present. The difference here is only one of degree, and in either case the local processes in the lungs appear to me to stand in intimate relation.

The time of the appearance of cardiac symptoms may be influenced by various contributory conditions of which the small heart, when present, is undoubtedly one. In addition to or apart from it the local processes in the lungs can also have an influence in an early stage, even when physical signs are absent and when it may happen that the eruption of tubercles occurs chiefly along the course of small blood vessels and capillaries over considerable areas, and when this process is attended by obliterating arteritis. In the advanced stage, with progressive emaciation and atrophy of the muscular structures, tachycardia is readily accounted for both by the presence of increased obstruction in the lesser circulation and by the lack of power of the heart to compensate it. Under all circumstances my clinical study of the subject has convinced me that the occurrence of simple tachycardia or its combination with hypertrophic or degenerative changes in the heart muscle is further influenced by external causes in any stage of the disease, through and by which the heart is called upon for increased effort. I refer here more particularly to physical labor and exercise, the causal relations of which have been overlooked by most writers on the subject. Even clinical observers rarely base the regulation of exercise in phthisis upon other considerations than the influence which it has upon fever. On the contrary, patients without fever who are still in good nutrition are commonly advised to exercise and are often permitted to indulge in sports, mountain climbing, horseback riding, etc., without a thought of the effect of physical exertion upon the heart and without the slightest control of its influence upon the cardiac functions as expressed by the frequency and quality of the pulse. This is the more strange since it is well known that overexertion can be followed by acute or chronic heart strain in persons who are in good health and are free from pulmonary obstruction. For this fact Frye and Krehl[30] have supplied experimental proof. Schott,[31] in a more recent experimental study of the subject, found in healthy men that so long as muscular exercise did not induce decided shortness of breath the heart maintained its normal position and was not disturbed in its function. When, however, decided shortness of breath was induced by the exercise, its continuance for a few minutes longer caused demonstrable displacement of the right border of the heart to the right and of the apex beat toward the axilla, while the blood pressure fell from 10 to 20 m.m. Hg. With suspension of exercise these effects gradually disappeared, but in some instances not until after two hours. Schott has also related a number of clinical cases from his practice in which acute dilatation after more or less severe physical exertion occurred in healthy individuals. Still more recently Masing[32] has contributed a study of the subject, in which he also shows the relation of increased pulse rate and heart strain to muscular exercise, with coincident fall of the blood pressure, and my father called attention to the necessity of controlling the pulse in the regulation of exercise in phthisis as long ago as 1889.[33]

In order to show the relation of physical overexertion as one of the factors contributory to the more ready occurrence of failing heart action in the course of phthisis, as well as for a basis for the consideration of the prognosis and therapy of tachycardia, I have made an additional study of the clinical material of the Winyah Sanitarium, included in a recent report of 261 cases of pulmonary tuberculosis treated during the last two years. Excluding the cases with evidence of more or less dilatation already existing, 2 cases of chronic pericarditis, and likewise 13 other cases in which the advanced stage of the disease and emaciation could alone account for the presence of persistent tachycardia, there remain 60 cases in which the cardiac function was disturbed in a greater or less degree. In 25 of these the pulse rate was not only persistently 20 to 30 beats above the normal, but its rapidity was markedly out of proportion to the general condition of the patient, the local changes in the lungs, and to such degree of fever as existed. In 23 other cases tachycardia became evident only in response to slighter degrees of physical exertion or to psychical influences, or to both, while in 12 cases it was paroxysmal, occurring without apparent exciting cause, sometimes when the patient was at rest, or sometimes when awakening from sleep. According to the statements of these 60 patients, overexertion had been a contributing factor in 35 cases, or in 58.3 per cent. Twenty-nine of them had taken excessive physical exercise prior to their admission to the Institution, and this they had done, as a rule, with a view of increasing their strength in their efforts to overcome the disease. All of these patients had at various times, by their exercise, induced decided shortness of breath and marked fatigue, while in a number of them palpitations of the heart had occurred under physical strain for the first time. Three other patients had followed athletic sports before and for some time after the occurrence of symptoms on the part of the lungs; another was a professional athlete, while one claimed to have induced palpitations for the first time by running and another by lifting a heavy trunk. As to the other 25 cases, tachycardial attacks appeared to have followed pregnancy and labor in one. They occurred after hemoptysis in 3, in connection with indigestion in 8, followed prolonged periods of fever in 7, and seemed to stand in relation to psychical influences in 2. In the remaining 7 no definite cause could be assigned.

If the statements of these patients have all been reliable, it appears that physical overexertion was the immediate cause of heart strain in more than half of the cases studied, and it follows that if they had been properly controlled the occurrence of this unfavorable complication could have been prevented.

Of the prognostic import of tachycardia in the course of phthisis, the therapeutic results in the 261 cases above referred to are highly indicative. For the entire number the records of the institution show 153 apparent recoveries, or 58.6 per cent., and 37 radical improvements, or 14.2 per cent., making in all 72.8 per cent. of satisfactory results. However, in 173 cases in which the circulation was not at fault in any respect, the results were much better, there being 133 cases apparently cured, or 76.9 per cent., and 27 cases greatly improved, or 15.6 per cent., with a total of 92.5 per cent. of satisfactory results. On the other hand, in 88 cases with tachycardia, in which are included those in which more or less dilatation of the right ventricle had occurred, one case of pulmonary stenosis and two of chronic pericarditis, there were only 20 recoveries, or 22.7 per cent., and 10 radical improvements, or 11.4 per cent., *i.e.* a total of only 34.1 per cent. of good results.

It might be suggested that these striking differences depend not simply upon the presence or absence of tachycardia, but rather upon the advanced stage of the local pulmonary disease in the cases with tachycardia, as compared with those without it. That this is not true, however, becomes evident from a classification of the 261 cases, according to Turban's method, which is based chiefly upon the amount of pulmonary tissue involved. According to this classification, I find that the cases would appear by stages respectively as follows:

Turban's Classification in Stages of Phthisis.

88 cases with tachycardia:
First stage, 21 = 24.0 per cent.
Second " 33 = 37.3 " "
Third " 34 = 38.7 " "

173 cases without tachycardia:
First stage, 36 = 20.8 per cent.
Second " 71 = 41.0 " "
Third " 66 = 38.2 " "

Thus in 21 cases tachycardia was already a symptom at a period when the local lung affection had not as yet made serious advances, a finding which accords with that of Roth,[34] who reports symptoms of palpitation in 111 of 500 cases of pulmonary tuberculosis in an early stage.

In the treatment of tachycardia in the course of phthisis, whether functional or already attended with degenerative changes in the heart muscle, all writers are agreed that avoidance of cardiac strain is the first condition to be complied with. Rest, therefore, as the therapeutic indication, implies a recognition of the detrimental effects upon the heart and circulation of physical overexertion, and likewise of the value of its prevention. But the prevention of heart strain is only possible through the observance of the frequency and quality of the pulse, especially before and after exercise, and likewise in the regulation of exercise the information thus attainable is absolutely indispensable. Without underestimating the value of controlling the temperature also, I may say that as the choice of two evils, I should prefer that a patient with a normal heart action should take some exercise, although his temperature was moderately elevated, than that another with normal temperature should do so if the exercise is followed by tachycardial attacks.

I have already stated that the control of the pulse in its relation to exercise in the management of phthisis is practically ignored, and this appears to be the case even in many special sanatoria for tuberculous patients. At all events but rarely is reference made to its importance. Thus Mackenzie,[35] in a paper recently read before the Harverian Society at London, stated that the pulse rate is of much less importance than the control of the temperature in the regulation of rest and exercise.

In the treatment of individual cases physical examination of the heart often affords valuable indications, while it also frequently aids in the earlier recognition of instances of heart strain, in which tachycardia appears only upon physical exertion, and in which at rest the pulse rate is not unduly rapid. I refer to cases in which the second pulmonary sound is heard as decidedly weaker in the second left interspace, near the sternum, than the combined aortic and pulmonary sounds as heard to the right; also to those in which there is a marked accentuation of the second pulmonary sound associated with decided epigastric pulsation, and in which, when the patient is at rest, no undue frequency of the pulse is observed. I believe that my experience justifies me in stating that the majority of such cases will show an inordinately rapid pulse in relation to moderate physical exercise, the one class suffering from deficiency in power of the right ventricle, while in the other the heart labors, even at rest, under excessive strain. In such cases the suspicion should at once arise that uncontrolled exercise is liable to be followed by injury, and for this reason exercise should be regulated by observations of the pulse, and kept within safe limits at all times, even though the patient is still well nourished and is practically free from fever.

Patients in whom tachycardia is a constant symptom while at rest should be kept in a recumbent position, even though no evidence of dilatation is present, and it goes without saying that the more nearly absolute the rest, the greater are the prospects of overcoming this symptom. The disregard of this indication will sooner or later lead to disaster, either on the part of the heart directly, or by the advent of advancing destructive changes in the lungs sufficiently often that recovery or radical improvement will constitute a rare exception. When once the symptom of constant tachycardia has been overcome, properly supervised exercise, combined with general hygienic management, becomes a curative measure for patients with a weak second pulmonary sound, except in those cases in which, by rapid progress of the disease in the lungs and advancing obstruction in the pulmonary circulation, an unfavorable course is conditioned.

In cases in which the right ventricle is laboring under tension, and tachycardia is not a symptom when at rest, exercise cautiously regulated to prevent any undue strain is rather calculated to prevent degeneration of the heart muscle and to favor the occurrence of hypertrophy, if not already present. But in these cases also the heart is liable to yield to strain under the most careful management, when intercurrent pulmonary inflammations, extension of the tuberculous disease in the lungs, pleural effusions or marked fever of long duration supervenes.

In addition to rest or limited exercise, as indicated in the individual case, the diet should be given especial attention. In many instances I have observed attacks of tachycardia to follow the ingestion of large meals or unsuitable food. The amount of food taken at a time should, therefore, be small, and the intervals of feeding more frequent. Albuminous foods should predominate in the diet, and articles liable to cause fermentation should be avoided. Daily evacuation from the bowels should be secured. Such patients should be brought into the open air whenever possible, and in cases in which the maintenance of the recumbent position is essential, the patient may be transferred to a cot without rising, and carried thereon to an open piazza, or the bed may be brought near to an open window.

To favor the cutaneous circulation, cold rubs in suitable cases may be employed and massage may be resorted to. In distressing attacks of palpitation an ice bag applied over the heart frequently affords relief. Alcoholics and tobacco are strictly to be prohibited. The usual cardiac tonics are only occasionally of benefit, and often appear to do harm by deranging the digestive organs.

The general treatment of actual or suspected dilatation must be carried out upon the same principles. In addition to the measures which have been mentioned, digitalis should be administered. In dilatation it appears to do more good, but it rarely proves as effective as in cases in which there is no obstruction in the pulmonary circulation. In instances in which the power of the heart fails rapidly or suddenly, diffusible stimulants may be employed with a view of prolonging life. Indirectly, all measures which otherwise tend to arrest the progress of the disease in the lungs, or favorably to influence its symptoms, and especially the fever, or which tend to reduce the obstruction of the pulmonary circulation, will, of course, prove of benefit as regards the heart and circulation.

In conclusion, I wish to call attention to the analogy between the relation of the heart and circulation to the local disease in the lung in acute pneumonia and in chronic pulmonary tuberculosis. According to my conception, this relation differs chiefly therein, that the pulmonary obstruction develops rapidly in the one and more slowly in the other. By reason of this difference much more can be done to conserve or increase the power of the heart in phthisis than is possible in acute pneumonia. In both affections the condition of the heart and circulation has a great influence upon the prognosis, and often determines the outcome of the disease. If I am correct in this deduction, it follows that close observation of the circulation in the course of phthisis is imperative, and we must regard as a signal of danger a weak second pulmonary sound, just as every careful physician does the advent of this phenomenon in cases of acute pneumonia.

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THE RELATION OF ETHMOIDAL INFLAMMATION TO ASTHMA.

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ASTHMA is a name given to paroxysmal difficult breathing. The disease is inflammation of the mucous membrane in the ethmoid cells. An irritation of branches of the trigeminus or olfactory nerves causes an altered activity in the medulla, that is to say, in the center of respiration. The result in the bronchial tubes is a vasomotor disturbance or contraction of muscles, or both. Chronic bronchitis, or emphysema, or a dilated right side of the heart, are not asthma. They are sequels to asthma of severity and long standing.

The disease occurs at all ages; its beginning is most often in early childhood and youth, and less frequently in advanced years. It is not commonly recognized in the earlier ages.

The confusion in regard to asthma has been very great. When one author claims sixty per cent. of cases cured and twenty per cent. more much improved, by the use of the galvano-cautery upon the nasal septum, and others get good results by removing obstructions to free nasal breathing, while the general belief is, perhaps, that diseases of the nose play little or no part, there is great need of a better understanding or of some reasonable hypothesis.

I wish to defend my hypothesis or working theory. All forms of hayfever and kindred diseases I should class as one with asthma. It would commonly be accepted that nasal polyps may be a cause of asthma and that their removal may cure the disease. The result is not always obtained because the inflammation of the ethmoid cells, *which has caused the polyps,* may or may not have been cured by their removal. When the septum has been cauterized in the neighborhood of the ethmoidal turbinate, which is the procedure of Francis, that is attended by such brilliant results, a feature of the ethmoidal inflammation has been treated. The perpendicular plate of the ethmoid bone, which is the upper part of the nasal septum, is a part of the ethmoid cells and an inflammation of the region is a very common sign of general ethmoidal inflammation, though it has never been so described.

Many diseases of the nose may be indirect causes of ethmoidal inflammation, and thus of asthma. In the child the pharyngeal tonsil is the most frequent cause of repeated inflammations of the nasal mucous membrane. The removal of the tonsil restores the nose to health and cures the asthma. Nasal obstruction is the commonest cause in the adult. Removal of this condition may cure the asthma.

When breathing is free through each nostril, and no polyps and no pus are found in the nose, is it therefore free from disease? By no means. A chronic inflammation may be present which becomes acute from the most varied causes. That is the usual "taking cold." These varied factors are the contributory causes of asthma. Errors of nutrition, errors of diet, gout, obesity, lymphatism, impure air and poor circulation are such causes. To these add direct irritants to the nasal mucous membrane, such as various pollens, emanations from animals, dust, smoke, and many others in the cases of the sufferers from periodic asthma.

The question of heredity has been always one of the puzzling things in connection with asthma. But as much as external features in a family are found in resemblance one to another, so much, or even more, are found resemblances in structure of noses and throats with the tendency to the same diseases. Not only that, but the members of a family will generally suffer from the same eruptive diseases, whooping-cough and influenza, which especially cause diseases in the nose and throat. The diseased conditions that have been mentioned as contributory causes of asthma: gout, obesity, lymphatism, and even errors of diet, are inherited. As with deafness, tendencies thereto are inherited. The influence of the emotions, fear, fright, anger; and of the imagination, as when artificial flowers have produced an attack of periodic asthma, have been among the mysteries of asthma. If the emotions can arrest digestion, or stop the heart, or precipitate an attack of gout, it is not difficult to conceive how they may cause an attack of asthma in a sufferer from it. They do not cause the disease. The sudden onset of an attack of asthma, most frequently in the night, is explainable by the influence of the digestion and of atmospheric changes upon the diseased nasal mucous membrane.

The same conditions to all appearances may exist in the ethmoid region without asthma. It is equally true of many diseases in which the etiology is considered certain. Thirteen years of special work in nose and throat diseases, and a personal acquaintance with the disease, confirm my theory.

The treatment of asthma is the treatment of the contributory causes as well as of its anatomical cause. And, unfortunately, it must be that of intractable sequels to the disease as well. A great need is to prevent asthma. Two diseases which cause a predisposition to it are whooping-cough and grippe, or specific influenza. Both particularly cause inflammation of the ethmoid cells and leave the region more prone to recurrent inflammation.

Slight degrees of asthma are very common. It is oppression in breathing, air-hunger, *disturbed sleep* from this cause, *sneezing,* which require attention before wheezing, and sonorous and sibillant râles are present.

The inflammation of the mucous membrane in the ethmoid cells may be cured easily and quickly, and asthma disappear as if by magic, or it may be long and difficult and taxing to resources and patience. If a gouty condition or alcohol, for examples, are contributory causes, the local treatment may fail until those factors are eliminated. Prevent the recurring inflammations and shorten their duration, that is, prevent taking "colds," and treat "colds." The digestive tract is the clue to very many. Overdressing indoors is another. One weight of underwear for all the year is to be recommended.

The treatment of the ethmoidal inflammation is to be conceived as that of an inflamed mucous membrane in a structure somewhat resembling a honeycomb. It is not to be conceived as something to remove or to treat with heavy hands. I cannot see that the galvano-cautery has any place in the treatment. It is dangerous in this region, and while the swelling of the membrane which Francis cauterizes is a barometer in asthma, it is only a part of the more general ethmoidal inflammation.

It is sometimes necessary to remove the anterior end of the ethmoidal turbinate. This, it should be remembered, is a part of the ethmoid cells. We sometimes find one or two ployps lying like peas in a pod within the shell of bone. The bone throughout the ethmoid cells is often reduced to the thinness of paper by pressure within them. The usual treatment is to nurse the inflammation into a state of health. Restore the function of the region, a part of which is the drainage of frontal, maxillary, and sphenoidal sinuses. Puncture the cells when it seems necessary, to convert two or more into one. It is not drainage nor the making of space for the ethmoidal turbinate that should be the end in view, but the control of chronic inflammation.

40 EAST FIFTY-EIGHTH STREET.

A DIFFICULT DIAGNOSIS IN A CASE OF ABDOMINAL PREGNANCY.

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Our textbooks are filled with explicit directions for the diagnosis of abdominal pregnancy, and still we fail. It is simply out of the question to discover a fetus, outside of the uterus, every time it should happen to be there. All we can hope to know is that there is a disturbing element in the patient's abdomen which makes her feel unnatural. This unnatural feeling should be especially heeded by the physician and after all normal conditions (ordinary pregnancy), are excluded, he should hasten to discover the cause. We should not procrastinate, but have the abdomen opened at once when all speculation will be out of the question, and the proper treatment can be administered early. Prompt diagnosis and operation must be performed to have the proper results in these cases. It is a mistake to delay in opening the abdomen. Simple abdominal section kills practically nobody and throws much light on obscure abdominal maladies. The maxim "he who hesitates is lost," fits exactly in these conditions.

The report of the following case will show the fitness of my remarks:

Mrs. B., admitted September 12, 1904. Occupation, housewife; aged 37 years. Family history negative. The patient has had the ordinary diseases of childhood with perfect recovery. She began menstruating at the age of 13. Previous to an operation five years ago (curettage), her periods lasted one week; now they last only five days, and are usually profuse, but accompanied by no pain of any moment. The patient has had a leucorrheal discharge ever since her marriage. The bowels are usually constipated, and she suffers with retention of urine at times. She was married fifteen years ago, and has given birth to five children, the oldest being 14 years old, the youngest, 2 years old; one died in infancy. The labors were usually difficult. Instruments were used in the first, third, and last confinements.

The patient menstruated last in November, 1903. She had most probable signs of pregnancy. She says that she felt life about the sixth month. At the time her pregnancy should terminate naturally, she experienced distinct labor pains. The family physician was called and remained with her most all the night. Her labor pains ceased, and after these no pains were felt. This occurred one month ago.

The patient entered the hospital walking, September 12, 1904. The temperature was 101° F., pulse 96 (signs of infection). On examination per vaginam, the os uteri could be palpated only with great difficulty; it seemed soft and patulous, and was situated high up, almost on a level with the symphysis pubis. The uterus seemed to be drawn backward and upward to a remarkable degree. In the cul-de-sac was felt a mass which seemed to be the head of a child. The abdomen was enlarged, presenting the ordinary appearance of that of the pregnant woman. A very large mass could be felt, but the fetal heart sounds could not be elicited. The mass simulated the characteristic feeling of an ovarian cyst. The breasts were enlarged.

Operation on September 13, 1904. An incision was made in a median line about 5 inches long. The umbilicus was at the center of the incision. On opening the peritoneum, the uterus was found to be but very slightly enlarged, and pushed well up in the abdomen by a very large mass filled with fluid. This (the amniotic sac), occupied the whole pelvic cavity, including the cul-de-sac, and was attached to the right Fallopian tube. There were numerous adhesions between the transverse colon and the mass. The mass was also very adherent to the posterior surface of the uterus. After isolating this mass from the intestines and the uterus, the right Fallopian tube was ligated and the sac and tube were removed. Hemorrhage was profuse from many bleeding points of adhesion. These bleeding points were closed by ligature and the uterus suspended to the abdominal wall. A drain of iodoform gauze was placed through the cul-de-sac into the vagina and the abdomen was closed. The mass removed weighed nine pounds, and contained a full-term dead fetus and the placenta. The fetus alone weighed six pounds. The patient suffered severely from shock during the operation, and one quart of physiological salt solution was injected subcutaneously, four ounces of whiskey being given hypodermically. The patient was then put to bed in the Fowler position, and was given a saline enema every two hours. Strychnine and whiskey were given hypodermically when needed. At 8 P. M., eight hours after the operation, the temperature was 102°, pulse 120.

September 14, 8 A. M., temperature 101°, pulse 102. Bowels have moved twice. At 8 P. M., temperature 100°, pulse 102.

September 16, 8 A. M., temperature 99.2°, pulse 88. Patient slept well, but there is some distention of the abdomen. Drainage was removed, as all discharges had ceased. 8 P. M., temperature, 102°, pulse 104.

September 17, 8 A. M., temperature 100.2°, pulse 112. Bowels are moving every two hours, the abdomen is distended, and the patient is vomiting. 8 P. M., temperature 100.4°, pulse 120.

September 18, 8 A. M., temperature 102°, pulse 130. Bowels moving, patient vomiting. 8 P. M., temperature 100°, pulse 120.

September 19, 8 A. M., temperature 103.4°, pulse 130. The bowels are moving and gas is being expelled. 8 P. M., temperature 103°, pulse 134.

September 20, 8 A. M., temperature 103.6°, pulse 160. Patient is vomiting very often. 5 P. M., temperature 106.4°, pulse 160. 5:40 P. M., the patient died.

As will be observed from the history of this case, the fetus was dead and fast disorganizing. The skin was peeling off the body, showing that the child had been dead some time. The patient's temperature on admission would show that she was absorbing septic material. Valuable time was lost before she reached the surgeon's hands. I firmly believe had she been operated upon before infection had begun, and when she had a normal temperature and pulse, she would have recovered. This case is certainly a valuable lesson.

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A CASE OF HEROINE HABIT.

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Much has been written and said concerning heroine as a perfectly safe anodyne and hypnotic, lacking the objectionable features of opium and morphine. Cases of heroine habit are, as yet, comparatively rare, but they are apt to increase in number unless we are more cautious in its prolonged administration, especially to neurotic individuals, *e. g.* as a hypnotic, or as an anodyne in chronic coughs, neuralgias, pains of rheumatism, recurring headaches, etc. It has been urged as a substitute for morphine in the treatment of morphine habit; but to me this suggestion seems fallacious, as heroine is itself an opium derivative, viz., the diacetyl of morphine, and the habit it may itself induce is really an opium habit. The condition brought about by the prolonged use of heroine as a habit, in the case to be described, was similar to the condition I have seen in many cases of opium habit, but less severe in degree; and the abstinence symptoms induced by the withdrawal of the heroine resembled those in the morphine habitué when morphine is withdrawn. The symptoms in the morphine consumer may be more profound on account of its greater action in impairing excretion and thus inducing possible autotoxemia.

Insanity, independent of the drug psychoses, is very rarely produced by opium (or its derivatives) *per se*—more rarely than by cocaine. The case described below was not in an insane woman, although she sought asylum treatment.

The patient was an educated and refined married woman 29 years of age. She was of neurotic heredity and disposition. Her mother had epilepsy, two paternal uncles were inebriates, and her father used morphine for a year and a half for the pain of rectal cancer. She herself contracted the morphine habit ten years prior to admission, but was cured of it, and never resumed it afterwards. She was operated on for appendicitis a year and a half prior to admission and heroine was administered hypodermically afterwards for pain. The effect of the drug, she claimed, was extremely pleasant and exhilarating. She ascertained the name of it, and having been assured by the physician, she said, that it was perfectly harmless, and that habit could not be formed, she continued its use, on the sly, when it was no longer needed, taking, she stated, from 2½ to 4 grains *per diem*, hypodermically, in divided doses. After a time it began to affect her health. She became thin, neurasthenic, and debilitated, her digestion was disordered, and she claimed she could not sleep, eat, or do anything without a daily resort to the drug. After taking it, she always felt as if she "could do anything," she said.

On admission she weighed 50 pounds less than normally, and was anorexic and neurasthenic; she had dilated pupils, slightly coated tongue, normal temperature, and pulse of 100. Urine contained excess of phosphates and had sp. gr, 1030. There was a systolic murmur of the heart.

Heroine was immediately dithdrawn. The patient was insomnious and developed a diarrhea with intense colicky pains and was with difficulty persuaded to remain. The pains were partially relieved by chloroform and ginger internally. The third day after admission heroine gr. 1-20 was administered with salol, twice, and the same dose given that night with a mild hypnotic. The pains ceased with the first dose of heroine, gr. 1-20, and did not again recur. Patient slept only an hour that night. The next night she was given a hypnotic, and slept three hours. She sat up on the fourth day, read and conversed cheerfully, and did not again display any irritability or distress of mind, and said she had no further desire for the drug. A mild hypnotic was continued each night until the tenth, when she began to sleep normally, and on the thirteenth day after admission she insisted on her discharge, although she was still neurasthenic, as indicated by some remaining tremors of eyelids, hands, and tongue, and had not as yet regained much weight.

The treatment in this case was symptomatic, sustaining, and tonic with eliminative baths, massage, etc. Residence in a country house, with a nurse, was urged, and I learned subsequently that the advice was followed. I saw the patient six months after discharge and found a handsome, healthy-looking woman, and was told by the husband that there had been no recurrence thus far of even a desire for the drug.

In future, if I have another case, I shall not withdraw the drug at once, but give a very minute dose p.r.n. for a time, to prevent, if possible, some of the abstinence symptoms, *e. g.* the distressing abdominal pains and the insomnia.

CACTUS GRANDIFLORUS.

By FINLEY ELLINGWOOD, M.D.,
CHICAGO, ILL.

For many years digitalis has been accepted as the classic heart remedy, but there is another which is but little known to the profession at large, which is in every way superior to digitalis, and that remedy is cactus grandiflorus. This agent, the night blooming cereus, is native to the West India Islands and Mexico. The medicine is prepared from the stems and the flowers.

In its administration a small dose will often accomplish all the desired results, and observers unite in the statement that large doses are in no way better than those of from two to five minims of the fluid extract. The remedy exercises a direct influence over the sympathetic nervous system. It restores normal action to the heart, by acting directly upon the cardiac plexus, regulating the functional activity of the heart. It certainly improves the nutrition of the heart to a very perceptible extent, and we have noticed the entire removal of progressive murmurs after its continued use. It increases the contractile power and energy of the heart muscle, through the cardiac ganglia and accelerator nerves. It increases the musculomotor energy of the heart, elevates arterial tension, increases the height and force of the pulse wave. It is the heart tonic, *par excellence,* as it produces stimulation from actually increased nerve tone, through improved nutrition of the entire nervous and muscular structure of the heart. It produces no irritation of the heart muscle like strophanthus, or gastric irritation like digitalis, nor is its action cumulative.

When the following indications for its administration are present, it will act promptly and with great satisfaction to the prescriber: When there is an irregular pulse, due to feebleness of the heart's action, with dyspnea, weight and oppression in the chest, or when there is violence with irregularity of the heart's action, which depends upon atonicity or enervation, and especially when there is a sensation of constriction, as of a band around the heart or around the chest, this agent is indicated.

In cases of progressive valvular inefficiency, when the heart muscle is enfeebled, or when there is mitral or aortic regurgitation, from any cause, with atonicity, this remedy should be prescribed, and persisted in. It is also valuable in functional irregularity of the heart, especially if due to gastric irritation. It soothes irritability of the stomach and imparts tone and improves the function of digestion, in marked contrast to digitalis.

The following precautionary statement, however, should be made: When there is violent heart action or persistent palpitation from increased tonicity, or in the presence of a temporary exaltation of nervous or muscular tone, this agent is contraindicated. It will certainly aggravate the conditions present. Atonicity is the keynote of its administration.

The writer's experience with this remedy years ago caused him to come to the conclusion that the agent exercised a special sedative influence when with irritable, irregular, and feeble pulse there was an elevation of temperature. He was subsequently convinced of this fact by further observation, and lately finds excellent confirmation of his conclusions in the opinion of Rubini of Naples, who claims that it is almost the counterpart of aconite in its action, differing in that it increases the strength and tone of the nerve centers instead of paralyzing them, as large doses of the latter agent do.

Given a condition in which there is a rapid and feeble pulse, a weak heart, and weak and exhausted nervous system, cactus in small doses, frequently repeated, is a true sedative.

Because of its influence in improving the nutrition of an enfeebled heart, and through this influence in restoring the normal functional operations of the heart, the agent is specific in certain cases of subnormal temperature. In many cases in which its influence has been carefully observed, it has operated more directly, more quickly, and more satisfactorily than strychnine or digitalis, and its influence has been permanent.

Given in endocarditis or pericarditis, when these disorders are the sequelæ of exhausting disease, the results of cactus are most gratifying. It will relieve the bloated condition of the countenance, the dyspnea, and general distress, and will control the rapid, feeble, or fluttering action of the heart. In vulvular incompetency, due to muscular weakness, as a result of pneumonia, typhoid fever, or other severe and prostrating diseases, as well as in the feebleness of the heart's action in protracted convalescence, it serves the double purpose of a heart tonic and nerve tonic.

In that now quite common heart disorder, which results from the excessive use of cigarettes, we certainly have no agent that can be relied upon for promptness, efficiency, and permanency of action that will in any way compare with cactus. Any combination of heart tonics that we may be inclined to make will not compare with the action of this single remedy.

The Therapeutic Value of Relaxing Climates.—Leonard Williams declares that the practice of climatotherapy and the principles which underlie it are greatly neglected. He calls attention to the disadvantages of prescribing a "bracing climate" in many cases. The combination of meteorological factors which constitute a bracing climate consist of high altitude, dryness, and rarefaction of the atmosphere, free exposure to sun and wind, and moderate rainfall. If the humidity is low there will be great and sudden variations of temperature; if the humidity is high, the variations are slight and gradual, but the climate is no longer bracing. A climate cannot be dry and equable at the same time. A bracing climate is characterized by extremes, and its physiological effect is one of stimulation. That which is a stimulant in normal states is apt to become an irritant in abnormal states. The meteorological factors which combine to produce the typical relaxing climate are moderate, if any, elevation, moderate exposure to wind, full exposure to sun, and a high humidity, with its consequent equability of temperature. Such a climate is possessed of a very much wider therapeutic range than that whose subjective effects are agreeable. Few invalids of the chronic type bear stimulation well. Some invalids of the subacute type bear it well and some do not. But sufferers from chronic pulmonary troubles, from chronic renal troubles, from chronic heart disease, and chronic nervous disease, all demand a sedative rather than a stimulating regimen. There is no type of climate which is per se suitable to pulmonary tuberculosis. Each patient must be treated according to the stage and type of the complaint, and his individual characteristics must always be considered. Emphysema enjoys considerable subjective amelioration in a relaxing climate. There is no class of cases in which more satisfaction is to be derived from the advice of a suitable climate than those of chronic nephritis. The great essentials are warmth and equability. For these cases Madeira and the Canary Isles offer great advantages. In a bracing climate chronic nephritis patients are peculiarly liable to cardiac troubles and cerebral hemorrhage. Bracing conditions tend to raise the blood pressure, while relaxing conditions reduce it. For such reasons bracing climates are definitely contraindicated in all chronic diseases of the heart. In the treatment of the degenerative processes which affect the central nervous system bracing climates have no place. Tabes, disseminated sclerosis, and primary lateral sclerosis are favorably influenced by a warm, relaxing climate. In cases of neurasthenia and hysteria, temperamental conditions largely determine the choice of climate. Other therapeutic aids, such as baths and waters, should be considered in relation to climate. The writer concludes with a plea for a truer and fuller estimate of the therapeutic powers of relaxing climates.—*The Edinburgh Medical Journal.*

Endemic Enlargement of the Os Calcis; Prevalence in Formosa.—James L. Maxwell, in discussing this disease, states that it is rare, as he has seen only six cases in all in Formosa. He gives the essential features of this affection as follows: Slight enlargement of the posterior third of the os calcis; the enlargement, though slight, is quite unmistakable; constant pain of a dull nature, increased by pressure and by movement; its occurrence in young males. All of the writer's cases have been in boys from 20 to 25 years of age. There was no history of syphilis in any case. Five of these six cases were afflicted in both feet. The drugs used seemed to offer no relief, and there is little tendency to spontaneous cure as far as the writer has observed. He operated on two of the cases. In one he divided the periosteum freely, but this treatment did not appear to offer much relief. In the other case, which was the severest he had seen, he cut down, as before, from the other side of the heel and drove a ¼-inch trephine, through the bone to the inside, removing the disc separated. There was wonderful relief from this operation. The pain disappeared from the heel, and when the wound was quite healed the writer operated upon the second foot in the same way. The result was not quite so striking in this second operation, but it afforded the patient great relief nevertheless. The patient, who had been practically incapacitated from work by pain and difficulty in walking, gradually regained the power to walk about with complete comfort. He was then lost sight of. The writer states that the patient's themselves could never suggest any cause for the onset of the pain, which they were never able to date exactly, as it seemed to come on very gradually.—*The Journal of Tropical Medicine.*

The Choice of Operative Method for the Removal of the Hypertrophied Prostate.—L. S. Pilcher analyzes the literature and statistics of the subject as exploited in recent years He finds that as modifying the perfection of results we may have impotence, urinary incontinence, epididymitis, orchitis, fistulæ, and urethral stricture. He then discusses each one of these sequelæ in detail, considers the indications and contraindications for operation, and takes up the treatment of the patient preliminary to operation. His choice is, as a rule, for that method of operating in which a free transversely curved incision is made through the perineum through which the prostate is fully exposed, followed by systemic incision into the substance and subsequent enucleations largely under the guidance of the eye. The general ends to be striven for are to remove the obstruction without undue prolongation of manipulation, with as little loss of blood as possible, and with a minimum amount of injury to the urethra, bladder, rectum, and ejaculatory ducts. Thereby we lessen mortality and consequent infirmities.—*Annals of Surgery.*

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TYPHOID FEVER IN NEW YORK.

THE New York City Department of Health, during the past year, has been conducting an investigation to determine if possible some of the factors in the causation of typhoid fever in the Borough of Manhattan. To each physician who reported a case of the disease a circular letter was sent, which included among other things the following questions: 1. Was the patient an occasional or habitual consumer of raw milk? 2. Was the patient an habitual consumer of raw oysters? 3. Was the patient out of the city within four weeks of the onset of the attack? 4. Was the patient directly exposed to infection from another case of typhoid fever? When cases were reported by institutions inspectors were sent to obtain the same data. The total number of cases reported was 1,786, as against 2,334 the previous year.

Of these 1,786 cases 464 were not found at the addresses given, were ascertained not to be cases of typhoid fever, or insufficient data were obtained. As the reports from the remaining 1,322 were received, each case was plotted upon a large map of the borough by means of different colored tacks, which indicated not only the location of the case, but also the most probable source or sources of infection according to the information received. The map is very interesting in itself to the student of communicable diseases, and the facts learned may prove of considerable value in determining the cause of typhoid fever in this city.

In 351 cases, or 26.4 per cent., it was impossible to determine any definite source of infection, *i. e.* the patients were not consumers of raw milk or oysters, had not been out of the city within four weeks, and had not been exposed directly to infection. In 210 cases, or 15.8 per cent., the only apparent source of infection was in the fact that they had been out of the city and might have drank contaminated water. The history of 378 patients, or 28.6 per cent., showed that they were consumers of raw milk. The reports of 203 cases, or 15.3 per cent., showed that they had not only been out of the city within four weeks, but were also consumers of raw milk. The habitual consumers of raw oysters alone were only 22, or 1.7 per cent., while 44, or 3.3 per cent., were consumers of both raw oysters and raw milk. Direct exposure was considered to be the probable cause in 39 cases, or 2.9 per cent., while 14, or about 1 per cent., were directly exposed outside the city, and 61, or 4.6 per cent., were not only direcly exposed to infection, but were also consumers of raw milk.

These figures should comfort the oyster eaters, for only 66, or 5 per cent., of these patients were consumers of raw oysters, and of these 44 were also consumers of raw milk. Milk drinkers, on the other hand, cannot derive as much comfort, for in 686 cases, or 51.7 per cent., raw milk had been a part of the dietary. While it would not be fair to assume that infected milk was the cause of the disease in all these cases (for in 308 there were also other possible sources of infection), yet the fact remains that more than half of those affected were milk drinkers. Moreover, the distribution of the cases presents some very interesting features. A glance at the map shows a very apparent grouping of cases about centers, and this is particularly true where the probable cause of infection was milk, the natural inference being that the milk was obtained from the same source.

Certain localities and streets were particularly exempt. Fifth avenue from Washington Square to 120th street showed only four cases. This section is occupied by private houses, hotels and boarding houses of the first class, and most of the milk consumed is probably obtained from the best and most carefully inspected dairies, and the sanitary conditions are superior to those in many other localities of the city. In contrast, it was found that 359 cases, or more than 27 per cent., occurred below Fourteenth street, and the most of those on the lower East Side, where a greater part of the milk is obtained from groceries.

The theory that local conditions are a factor to be considered was strengthened by the apparent immunity of certain sections, while in adjoining sections the disease was prevalent. Thus between Madison and Lenox avenues, from 124th to 130th streets, there were only four cases, while from 131st to 135th streets, between the same avenues, there were 21 cases. The avenues appeared to be singularly free from the disease, the majority of the cases being located on the narrow cross streets, and a very large proportion of these were located near the center of the blocks. These facts would seem to indicate that an abundance of fresh air, light, and sunshine are important factors in the prevention of typhoid fever, at least in the city.

The fact that in 351 cases of typhoid fever occurring in New York in 1904 no definite probable source of infection could be obtained, suggests the query whether the water supply of the city is up to the standard which ought to prevail, and whether a proper filtration plant ought not to be established. The installation of such plants in foreign cities has been followed by a marked decrease in the number of cases of typhoid fever, and the protective value of filtration has been abundantly demonstrated by comparative statistics in Philadelphia, where the supply of a portion of the city is filtered, while that of the remaining section is not.

THE MORTALITY FROM CANCER.

BY the aid of medical science it has been possible to check if not eliminate, in some instances, certain of the dread scourges of mankind, but prophylaxis, as applied to the subject of cancerous diseases, has not met with any marked success. The mortality still remains high, and it seems as if methods of prevention had been more or less sacrificed to means of operative and other treatment. It is, of course, necessary that a more intimate knowledge of the etiology of the condition should be formulated before preventive measures can be instituted, but in this direction, progress has been doubtful, and we still await the word of the discoverer. The importance of the subject, from the social and commercial viewpoints, is shown by the interest which the life insurance companies have taken in the matter. In one of the largest of the German companies, which includes in its membership persons in all walks of life, the number of deaths from cancer during the fifteen years from 1885-1899, is reported to have been 7,081, or over ten per cent. of the total mortality.

P. Juliusberger presents a very careful study of these statistics in a recent number of the *Zeitschrift für Krebsforschung.* As the profession and laity have both become convinced that cancer is on the increase, this was one of the first points investigated. By comparing the number of deaths in three successive periods of five years each, a gradual but well-marked increase in the number was noted, from 3.7 per cent. to 8 per cent. in men and 11.4 per cent. to 12.9 per cent. in women. The second point in the investigation concerned the susceptibility of the two sexes, many claiming that a larger number of females are being constantly attacked, and it was found that the percentage of deaths was considerably greater among the women than among the men, those in the higher walks of life, moreover, being more often afflicted than the working women. The writer's figures also support the theory that heredity is an important factor in the production of the disease, from 1.8 per cent. to 3 per cent. of the total number of persons who died, having had near relatives afflicted with the disease. This figure is in all probability much too small, as there are numerous difficulties in the way of securing trustworthy histories. It has also been asserted that the increase in the disease is an apparent one, that the average term of life has become lengthened, and that as cancer is essentially associated with advanced years, the number of cases has only seemingly increased. The statistics under consideration show that 50 years is the most favorable time for the development of cancer, although 70 years may be looked upon as the limit, and that after this period there is a marked diminution in the number of fatal cases. The fact that people live a greater number of years than formerly does not therefore effect the question, but it is evident that at the present, death seems to take away patients suffering from cancerous disease, at least a decade earlier on the average than heretofore. In these statistics, gastric cancers were found to be the most frequent, almost 45 per cent.; then in succession those of the liver, intestines, esophagus, etc., those of the lips and nose being least often fatal. This investigation presents comparatively little upon which to base any theories as to the etiology of these malignant neoplasms, although from the purely statistical standpoint, the author's figures seem to point to heredity as an important factor.

THE RELATION OF ALCOHOL TO INSANITY.

THERE can be little question that the excessive use of alcoholic stimulants is the bane of every civilized country. Despite the fact that undue addiction to alcoholic beverages is now recognized as the most important factor in racial degeneration, and that strenuous efforts are being put forth to stem the tide of drunkenness, but little headway has as yet been made towards this end. In Europe, with the possible exception of Great Britain, the alcoholic habit shows no signs of decrease, while in the United States more alcohol in various forms is consumed than ever before. The most effective means of abating the drink evil is by educating the people to a knowledge of the dire results accruing therefrom. Articles from recognized authorities which prove that drink is responsible for many forms of disease are valuable with this object in view. In an article in the *Post-Graduate* for May, Dr. Joseph Collins states that the intemperate use of alcohol is directly or indirectly the commonest cause of insanity. In fact, it is so nearly the sole cause that if alcohol could be stamped out for a century insanity would undoubtedly shrink in prevalence 75 per cent. This statement includes the assumption that alcohol is the most potent cause of poverty; that syphilis, from which a well defined form of insanity—general paresis—flows, has a direct relation to alcoholic intoxication; and that disharmonies of somatic and psychical development during the formative stages of the individual (*i. e.* pathological heredity) are more directly traceable to abuse of spirituous liquors than to any and all other causes. The writer points out, however, that it is not so much the amount of alcohol that a person consumes as it is the individual who consumes it that stands in causal relationship to insanity. The personal equation must always be considered in studying the effects of drink. Among the forms of insanity directly traceable to the abuse of alcohol are Korsakoff's psychosis, confusional insanity, pseudoparanoia, acute alcoholic mania, and pseudoparesis.

THE SMOKE QUESTION VIEWED FROM A NATIONAL STANDPOINT.

IN an address with this title, delivered before the Woman's Club of Cincinnati, and published in the *St. Louis Medical Review* of May 6, Dr. C. A. L. Reed reviews the subject from a financial, sanitary, moral, and ethical point of view, and narrates how Cincinnati has endeavored to solve the smoke problem. He states that in Cincinnati the possibility of smoke prevention has been practically demonstrated in steam generating plants that produce no smoke. However, these establishments, beyond demonstrating the possibility of doing away with the smoke evil, are too few in number to alter the general situation. The writer cites New York and Philadelphia in America, and Paris, Brussels, and Dresden in Europe as conspicuous examples of municipalities which have overcome the smoke difficulty. He lays down the following propositions as necessary to the solution of the smoke problem: 1. The development of an enlightened and quickened public sentiment on the subject. 2. A careful determination of all economic facts and an equitable adjustment of all conflicting interests involved in the controversy. 3. The determination and demonstration of all principles, practices, plans, and appliances for practical smoke prevention. 4. The formulation of a standard law which, with modifications to meet local conditions, can be adopted by all cities, and which will, therefore, result in the practically uniform regulation of the evil all over the country. In order to carry out these objects successfully, Dr. Reed suggests that a national antismoke convention be called in the near future.

A TIME LIMIT FOR PAPERS.

THE American Gynecological Society instituted a new ruling at the recent meeting at Niagara Falls, which seemed to be an improvement over the usual method of conducting the work of such bodies. These rules were that no abstracts should be read at the meeting unless the original paper was in the hands of the secretary, that abstracts or subjects announced by the Council would be limited to eight minutes, other abstracts to twelve minutes, and that no paper was expected to be read in full unless it could be read in the time mentioned. Under this rule only the prominent and important points of the papers were presented, time was not wasted with unnecessary details, and the gain gave more opportunity for general discussion. As the subjects were announced beforehand, it was possible for many who attended the meeting to be prepared to discuss them intelligently. While the time limit of eight minutes may seem very short, it is quite sufficient to give the pith of the work of any one man if the material is properly condensed. The fact that many more may take part in the discussion awakens a greater interest in the meeting not only on the part of those who discuss the papers, but also among those who come merely to listen, for they have the advantage of learning of the experience of a larger number of men on the questions brought up. Then, too, the reading of very lengthy papers is apt to be wofully tedious to a greater part of the audience unless the subject is presented in a masterly manner. On the whole, the plan seems to offer so many advantages that it would be worth while to make a trial of it more generally, as the tendency on these occasions is notoriously to too much prolixity.

LUPUS CARCINOMA.

THE development of cancer in areas which have been the seat of lupus is of sufficiently frequent occurrence to attract attention. Norman Walker has discussed the question (*Scottish Medical and Surgical Journal*) from its pathological side. He thinks the carcinoma may originate in the equivalent of Cohnheim's buried epithelioma; portions of the proliferated epithelioma in the lupus process, having been cut off in the course of healing and cicatrization, become "cell rests" which subsequently undergo malignant degeneration. If this theory holds it is suggested that the curettage might cause portions of epidermis to be broken off and snared in the forming cicatrix and be responsible for subsequent malignancy. The cancer in lupus is papillomatous and does not involve lymph nodes, while that following *x*-ray treatment succeeds to a hyperkeratosis and rapidly involves gland structure.

Reaction of Colon Bacillus Toxin.—The action of the intracellular poison of the colon bacillus, the extraction and characteristics of which were described by Dr. Wheeler, has been studied by V. C. Vaughan, Jr. His conclusions are in substance as follows: 1. The colon bacillus produces a powerful poison when grown on artificial media. 2. It is intracellular in character and contained in both the living and the dead bacterial cells. 3. It can be separated from the other constituents of the cell only by chemically breaking up the latter. 4. The peritonitis occurring after intraperitoneal inoculation with the colon bacillus is due to the presence of the poison in a combined and not in a free state. 5. This intracellular poison causes a marked fall in body temperature. The poison of the colon bacillus apparently causes death by paralysis of respiration. 7. The intracellular poison is an essential group of the bacillus, and can be built up synthetically on proteid free media. 8. It is the poison causing death in animals inoculated with cultures of the living colon bacillus.—*Journal of the American Medical Association.*

News of the Week.

An Association of Laboratory Workers.—A new society called the Harvey Society, consisting of laboratory workers in New York City, has recently been established under the patronage of the New York Academy of Medicine. Its purpose is the diffusion of scientific knowledge in selected chapters of anatomy, physiology, bacteriology, pathology, pharmacology, and physiological and pathological chemistry, by the means of public lectures by men who are workers in the subjects presented. Each lecture is intended to represent the state of modern knowledge concerning the topic treated, and at the same time will be adapted for presentation before an audience consisting of that portion of the general medical profession who are interested in the scientific side of medicine. It is hoped that through these lectures the common interests of research workers and the medical profession may be profitably cultivated. The fulfillment of the purpose of the society has been entrusted to the hands of the following committee: Graham Lusk, *President;* Simon Flexner, *Vice-President;* George B. Wallace, *Secretary;* Frederic S. Lee, *Treasurer;* and Christian A. Herter, S. J. Meltzer, and E. K. Dunham. The membership of the society will consist of two classes, active and associate members. Active members will be laboratory workers in the medical sciences residing in New York. Associate members will be such persons as may be in sympathy with the objects of the society and reside in New York. The first course of lectures will be given on Saturday evenings during the winter of 1905-6 at the Academy of Medicine.

A Dinner in Honor of Dr. Emmet.—A dinner was given at Delmonico's on Monday evening of this week in honor of Dr. Thomas Addis Emmet on the occasion of his seventy-seventh birthday. About 125 of his medical friends were present. Dr. Emmet was escorted to the dinner by Archbishop Farley, who pronounced the blessing and also made a brief speech. Dr. E. C. Dudley of Chicago made the address of introduction. Others who spoke were Dr. W. M. Polk, Dr. W. H. Baker of Boston, Dr. S. C. Gordon of Portland, Me., Dr. George T. Harrison, and Dr. F. J. Quinlan.

Dinner Given to Dr. Barker.—Dr. L. F. Barker, who was formerly head of the Department of Anatomy at the University of Chicago, and who goes to the Johns Hopkins University as Professor of Medicine, was given a farewell dinner by the faculty of the University of Chicago, May 27. Toasts were responded to by Drs. Frank Billings, Hugh T. Patrick, and others.

Chicago's Mortality.—During the week ended May 20, there was one solitary death from typhoid fever in Chicago, in a population of nearly two millions—a fact worthy of record. Pneumonia is still struggling for leadership—70 deaths reported during the week, as compared with 58 from consumption. There have, however, been 703 fewer pneumonia deaths this season than last, while there have been 97 more from consumption. The ratio of pneumonia deaths to deaths from all cases is 13 per cent. less, and of consumption 17 per cent. higher than last season. A study of Chicago's decreasing mortality during the last ten years, as compared with the immediately preceding decade, corroborates the assertion that the most striking decreases are among diseases over which sanitary administration and preventive medicine have greatest and most direct control.

A Lowered Death Rate for New York City.—According to the figures of the Department of Health, the death rate for last week was 17.11 per thousand. The rate for the corresponding week in 1904 was 20.62. The lowest death rate for one year that has ever been reached since the records have been kept by the Board of Health was 18.18 per thousand in 1893. If the present decreased rate continues, it is hoped to equal or better this record for the present year.

Plague in India.—The plague epidemic in India is continuing with unabated violence. For the week ending April 22 the mortality was nearly 55,000, or about 3,000 more than the figures for the preceding week. The mortality in the present year promises to exceed the records which stand as follows: Total deaths for 1901, 273,679; 1902, 577,427; 1903, 851,263; 1904, 1,022,299; and 1905, up to April 22, 630,968. It is doubtful if the figures tell the whole truth, and detailed figures show that the disease has spread throughout the country.

Yellow Fever on the Isthmus.—The latest reports indicate that the authorities at Panama have succeeded in getting the yellow fever situation well under control. A despatch from Col. W. C. Gorgas, received at Washington on May 24, stated that the last case had appeared on May 12, and that at the time of writing there was none on the Isthmus.

The Germ of Cerebrospinal Meningitis.—We do not often borrow items of scientific interest from the secular press, for we usually find just as good in the medical journals, but the following special despatch to the *Minneapolis Tribune* of May 14 is of such importance that we cannot refuse it space. The correspondent of the journal mentioned telegraphs from Rhinelander, Wis., that a physician of the place has startled the scientific world by isolating the bacilli of cerebrospinal meningitis. "Dr. W. E. Jurdan, of this city," as the correspondent announces, "has now on exhibition in his microscopical laboratory (in the blood serum), in a test-tube, a culture of this most dreaded of all bacilli. Before a meeting of some of the leading physicians of the State yesterday the doctor exhibited under a most powerful lens, assisted by a large piece of radium, a full-grown specimen of this terrible germ. It was given out after the lecture that the germ is very similar to the trichina found in pork, and does its deadly work on similar lines, except that it attacks only the spinal cord. The germ is provided with two knife-like horns and bores with a sort of gyrating motion through the vertebra until it reaches the spinal marrow. Full particulars of the discovery will be cabled to Paris and Berlin, as the doctor has had much correspondence with the French and German scientists on the subject. The doctor is very reticent and modest concerning his great discovery."

Opposition to the City Tuberculosis Sanatorium.—The residents of the town of Bloomingburg, Sullivan County, are up in arms against the establishment there of a sanatorium for the tuberculous of New York City. At a recent hearing before the Bloomingburg town board, Drs. Darlington and Biggs spoke in favor of the project, and many residents against it. The board reserved decision.

A Physician's Claim for Services Reduced.—The Probate Court in Chicago recently denied a claim of $100,000 made by a physician against the estate of one of his former patients. The Court declared that the physician took advantage of the close relation that existed between him and his late patient, and that any agreement which she made to give him $100,000 was void. Such an agreement, if there was any, the court held, was gained in violation of the confidential relation. By the Court's decree the physician got only $10,000.

A Special Train to Portland.—A party of physicians and their families who will attend the meeting of the American Medical Association, has been organized by Dr. Wiggin of this city. The excursionists will leave New York and Philadelphia on June 24, in a special train, including dining car, which will be retained during the entire trip. The party will visit the Yellowstone Park and other places of interest on the way west and will return via California, arriving in New York probably on the morning of August 3. The party will be limited to 125 persons. The party, so far as at present constituted, is composed chiefly of residents of New York, New Jersey, Pennsylvania, and the New England States. Those wishing to join the excursion are requested to communicate with Dr. Frederick Holme Wiggin, 55 West 36th Street, New York City.

Dr. John B. Murphy has accepted the Professorship of Surgery at Rush Medical College, having resigned his position as Professor of Surgery and Clinical Surgery at the Northwestern University Medical School.

Proposed City Hospital for Consumptives.—Specications for a new tuberculosis hospital on North Brother Island are now being drawn, and an appropriation has already been made by the city for its construction. The estimated cost is about $110,000. It will be used for the reception of cases in the early stages of the disease. The building will be about 114 feet long by 70 wide, and three stories in height. On the first floor will be the administration offices in the center, on each end being two large wards, 68 by 26 feet. The second floor will contain two similar wards at the ends, the central portion being occupied by toilets, storerooms, etc. On the third and top floor. The solarium floor will have two porches, one the sides of which can be opened, permitting the patients to be virtually out of doors. The central portion of this floor contains the kitchens and dining rooms. On the first and second floor will be four large porches, one on each side of the building on each floor. The solarium floor will have two porches, one at each end. There are already about seventy consumptive patients at Riverside Hospital, and the new hospital will accommodate at least eighty more. It will stand at the southwest corner of the island.

A Pure Milk Bill.—Governor Higgins of this State has signed a bill amending the agricultural law which requires owners or operators of milk stations for the sale of milk or the shipping of milk to cities to procure licenses from the State Commissioner of Agriculture. The applicant must file an affidavit declaring that he will not participate in or permit adulteration of milk at his station.

Dr. Samuel W. Bandler of this city has been appointed adjunct professor of gynecology in the Post-Graduate Medical School and Hospital.

The Maine Medical Association will hold its fifty-third annual meeting in Portland on Wednesday, Thursday, and Friday, June 7, 8, and 9, under the presidency of Dr. F. L. Dixon of Lewiston. The corresponding secretary is Dr. A. H. Sturtevant of Augusta.

The Ohio State Medical Association, at its annual meeting in Columbus last month, elected the following officers: *President,* Dr. Thomas C. Martin of Cleveland; *First Vice-President,* Dr. B. H. Dean of Lebanon; *Second Vice-President,* Dr. W. B. Hedges of Delaware; *Third Vice-President,* Dr. John A. Dickson of Ahstabula County; *Fourth Vice-President,* Dr. D. R. Silver of Sidney. The next annual meeting will be held in Canton in June, 1906. A resolution was passed that all papers read at an annual meeting should become the exclusive property of the Association.

The Bronx Valley Sewer.—Governor Higgins has signed the bill creating a commission of one member each from Yonkers, Mount Vernon, and White Plains to provide for the construction of a $2,000,000 trunk sewer through the Bronx Valley, emptying into the Hudson, to prevent the pollution of the streams of Westchester County. The sewer is to be seventeen miles long, and will be the largest public improvement ever attempted in Westchester County. It will drain the entire territory from White Plains to Mount Vernon, including the Seventh Ward of Yonkers, and then, passing under the city of Yonkers by means of a tunnel, have its outlet in the Hudson River at the lower boundary line of the city of Yonkers.

Cincinnati Academy of Medicine.—At a meeting held May 15 a paper was read by Dr. William Gillespie, entitled "Maternal Diet with the Object of Lessening Bony Development in the Fetus." The writer did not think that a restricted maternal diet could materially affect the fetus, and even if it did he condemned the practice, giving it as his opinion that it was at least partly due to the poor bony development that premature labors were so difficult.

A Painting of Four of the Johns Hopkins Medical Faculty.—It is stated that Drs. Welch, Halstead, Kelly, and Osler will meet in London toward the end of this month, and will sit for a group portrait to be painted by Mr. John S. Sargent. The idea originated with Miss Mary E. Garrett of Baltimore, who will bear the expense of the painting.

Smallpox in Illinois.—An outbreak of smallpox has been reported at Arcola, Illinois, and an inspector of the State Board of Health has been sent there to see that proper precautions are taken to prevent the spread of the disease.

Chicago Pediatric Society.—At the annual meeting of this society held May 23, the following officers were elected for the ensuing year: *President,* Dr. Samuel J. Walker, reelected; *Vice-President,* Dr. Frank S. Churchill; *Secretary-Treasurer,* Dr. Emma Moore; *Trustee* for three years, Dr. I. A. Abt, reelected.

Illinois State Medical Society.—At the closing session of the fifty-fifth annual meeting of this society, Springfield was selected as the next place of meeting. The following officers were elected for the ensuing year: *President,* Dr. H. C. Mitchell, Carbondale; *First Vice-President,* Dr. W. K. Newcomb, Champaign; *Second Vice-President,* Dr. W. M. Marcy, Peoria; *Secretary,* Dr. E. W. Weiss, Ottawa; *Treasurer,* Dr. E. J. Brown, Decatur.

New Hampshire Medical Society.—The one hundred and fourteenth annual meeting of this society was held in Concord, and the following officers were elected: *President,* Dr. Ferdinand A. Stillings of Concord; *Vice-President,* Dr. Ira J. Prouty of Keene; *Treasurer,* Dr. D. M. Currier of Newport; *Secretary,* Dr. Granville P. Conn of Concord; *Assistant Secretary,* Dr. Loren A. Sanders of Concord.

Dartmouth Medical Alumni.—At the annual meeting of this association, recently held, the following officers were elected: *President,* Dr. Ezra Mitchell of Lancaster; *Vice-Presidents,* Drs. W. A. McGrath of Loudon and R. V. Baketel of Manchester; *Secretary and Treasurer,* Dr. H. N. Kingsford of Hanover.

The New Hampshire Association of Military Surgeons recently held its annual meeting in Concord and elected officers as follows: *President,* Dr. Ezra Mitchell of Lancaster; *Vice-President,* Dr. George Cook of Concord; *Secretary,* Dr. G. P. Conn of Concord; *Treasurer,* Dr. F. A. Stillings of Concord.

An Edict Against Beards.—It is reported that at the investigation of its secretary, Dr. J. F. Kennedy of Des Moines, the Iowa State Board of Health has requested physicians of that State to refrain from the wearing of beards on account of the possibility for the dissemination of infection otherwise afforded.

Marshall Hall Prize Awarded.—This prize, given by the Royal Medical Society every five years for the most brilliant discovery in connection with the nervous system, has been awarded to Dr. Henry Head, Fellow of the Society, and physician to the London Hospital. In the course of his studies on the nature of the sensory impulse, Dr. Head had some of the nerves of his own arm divided and made observations during the period of regeneration. The information obtained is embodied in an address recently delivered by Dr. Head, and is said to mark a very distinct advance in our knowledge of the sensory nerves.

Mosquito Extermination.—The New York Health Department has taken up in earnest the work of exterminating the mosquitos on Staten Island (Richmond Borough). Dr. A. H. Doty has been appointed to direct the work, and $10,000 have been appropriated for the purpose by the Board of Estimate.

Suggested Improvements in the Care of the Insane.—In the twelfth annual report of the New York State Charities Aid Association a number of important changes are urged upon the authorities. Among these are a plan for boarding out the harmless insane, improvements in the present unsatisfactory methods of deporting the alien insane, the employment of a dietist at every hospital for the insane, the early construction of the proposed reception hospital in New York and the construction of a new hospital between New York and Poughkeepsie.

Alpha Omega Alpha Society Banquet.—The annual meeting of this honorary medical organization was held at the Great Northern Hotel, Chicago, May 26. Prof. William E. Quine, Dean of the College of Physicians and Surgeons, made the principal speech, choosing as his title, "The Ideals and Practices of the Medical Profession." Other speakers were: Profs. W. S. Hall, Bayard Holmes, and S. W. Williston. The toastmaster was Prof. Joseph B. De Lee.

Obituary Notes.—Dr. HENRY P. STEARNS of Hartford, Conn., died on May 27 at the age of seventy-seven years. He was a graduate of the Yale Medical School in 1855, and was the first surgeon commissioned for a volunteer regiment in the Civil War. He was on General Grant's staff, and became a lieutenant-colonel. He was for many years superintendent of the Hartford Retreat for the Insane.

Dr. DAVID G. PROCTOR of Thompson, Ohio, died May 15, at the age of seventy-seven years. He was born in the same village in which he died, and was graduated in medicine from the Jefferson Medical College in 1855.

Dr. JOHN SMITHWICK of Sharon, Mass., died May 21. He was born in Boston and was graduated from the Albany Medical College in the class of 1869.

Dr. HENRICUS WALLACE WESTLAKE of Los Angeles, Cal., died May 15 of abscess of the lung. He was born in Canada and was a graduate of the University of the Victoria College, Cobourg (now affiliated with Toronto University) in 1887. Soon after graduation he removed to Los Angeles.

Dr. HENRY BRIGGS of Grand Junction, Tenn., died May 16, at the age of eighty years. He was a graduate of the Memphis Medical College in the class of 1849.

Dr. William M. Line of Aberdeen, S. D., died suddenly on May 10, at the age of eighty-two years. He was a graduate of the Jefferson Medical College in the class of 1851, and had practised at Aberdeen for seventeen years.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

TROPICAL MEDICINE: MR. CHAMBERLAIN AT THE BANQUET—GYNECOLOGICAL SOCIETY'S DEBATE ON SURGERY OF CANCER OF THE UTERUS—ANTIVIVOS AGAIN—A PROPOSAL TO GOVERN NURSES—EXTRAVAGANCE OF THE COUNTY COUNCIL—ITEMS.

London, May 12, 1905.

Tropical medicine received another powerful impulse on Wednesday from Mr. Joseph Chamberlain, who presided at a festival banquet on behalf of the London school which, as you know, owes its origin to him. Since its opening five years ago 500 doctors have been equipped for work in the tropics by a course of study in it. More money is needed and the committee ask for £1,000 to repay debt, make further provision for the teaching staff, and subsidize research. Liverpool has set an example to the metropolis in this, and in the course of a telling speech Mr. Chamberlain asked, why cannot London emulate a provincial city? He had no jealousy in the matter and he wished that in every institution like this they could have a man as energetic as Sir Alfred Jones. He also paid a special tribute to Sir P. Manson and Major Ronald Ross. Sir R. Moore announced subscriptions amounting to over £9,000, and I hear that in the two days that have since elapsed the amount has been carried beyond £10,000.

The Gynecological Society invited Prof. C. Jacobs of Brussels to come and state his views on surgical intervention in cancer of the uterus. The professor accepted and read a paper at the April meeting, first thanking the society for electing him into their membership and promising to promote scientific relations between the British and Belgian Gynecological Societies. He said there were two essential objects in surgical treatment, viz., total removal of the infected organs and of the neighboring lymphatic territory. Operations must be as wide as possible from the site of infection, and the sooner undertaken the less the chance of extension. Early diagnosis and prompt action afforded the best chance. In 13 cases of supravaginal amputation 12 recurred within a year, the other one 15 months later. In 81 cases of vaginal hysterectomy there was an immediate mortality of 1.2 per cent.; four years later not one of the patients was alive. In 95 cases of abdominal hysterectomy his immediate mortality was 6.3 per cent., and recurrence took place in all the others within six years. In both varieties of cancer of the cervix infection took place through the lymphatics, therefore all glands of the parametrium and cellular tissue must be removed; glands were invaded beyond the limits visible to the naked eye, and the invasion of tissues far from the primary growth could be demonstrated. He would say cancer did not recur but continued; it would not reappear if completely removed. Actual results seemed to show that either cure is impossible or that operations are not perfect. Cancer of the cervix being primarily a local infection propagated by lymphatics, he advocated abdominal hysterectomy. Prof. Jacobs reported five inoperable cases which after injections of Doyen's serum improved enough to permit of surgical intervention.

Professor Taylor said the point which seemed to him forcibly brought out by Prof. Jacobs was the considerable distance from the point of invasion at which deposits were found. Surgeons were all agreed that early operations were decidedly best. As experience grew, he thought all operations for cancer less satisfactory than they ought to be. Whether the extended proceeding proposed would be an advance had yet to be proved.

Mr. Bowernan Jesset contributed some accounts of his experience, which extended to 180 cases removed by the vaginal method (which he preferred) except two or three of the combined operation. When the sacral or lumbar glands were involved, the method was of minor import.

Miss Anderson, M.D., thought it interesting to hear that Prof. Jacobs preferred the abdominal to the vaginal route, although the latter was so generally selected at the present time.

Dr. Lawrie hoped to hear more about Doyen's serum.

Dr. G. Elder attributed the results of Prof. Jacobs to operative dexterity, as few others had such a low mortality from the abdominal operation. Patients subjected to the vaginal operation recovered more evenly and had less shock.

Dr. T. Wilson thought the results of these extensive abdominal operations no better than those of the vaginal method. In cervical cancer one got 25 to 30 per cent. of cures after five years in cases operated on early enough.

Dr. F. J. McCann opposed these extensive operations. They were not analogous to those on the breast, as in them one could remove glands and intervening tissues. But in the uterus the proximity of the bladder, rectum, and ureters would limit extension. In cervix cases the vaginal was the preferable route because extensive local removal could be better done by it. For some time he had removed considerable portions of the anterior and posterior walls with the cervix. In cancer of the body of the uterus, if not too large, the vaginal route could be adopted; otherwise the abdominal might be tried. Some held that the glands were nearly always affected, but if so we should hardly get the results we do.

Dr. Helme preferred the experience of Prof. Jacobs to statistics and thought it was common sense that the wider the operation the better the patient's chance.

Dr. Arthur Giles thought English opinion at present unfavorable to extensive operations. So far recurrences did not seem less frequent, and Prof. Jacobs' statement as to the early involvement of glands might fill them with doubt as to the possibility of complete operations.

Dr. C. Martin was by no means tempted to go in for the extensive plan, as the results shown that evening were as bad as the older method.

Miss Blake mentioned that she had removed one to two inches of tissue with the cervix, but the cases were too recent to report.

Dr. Macnaughton Jones thought Prof. Jacobs had demonstrated the certainty of lymphatic invasion and the difficulty of assigning limits to it. He had had to make 700 sections of a gland from one of his cases before demonstrating its carcinomatous nature. Five or six years must elapse before speaking of cure.

Prof. Jacobs in reply referred to the difference in results of abdominal hysterectomies for fibroids, twenty years ago and now, as an encouragement to abandon the vaginal operation for the one he had described.

The anti-vivisectionists held their annual meeting on Wednesday. Of course, Mr. Stephen Coleridge was in full force and told his audience that "the vivisector who inflicted agonies untold on the animal was committing a wicked act no matter what lofty motives he professed." He then attempted to show by statistics culled from the registration returns that some diseases had increased of late years and therefore "the best thing for the human race was for the vivisector to let us alone."

Lord Llangattock occupied the chair, supported by a Bishop, an Earl, and some ladies and clergymen. His lordship declared his unfaltering faith that to torture animals was immoral and the most lofty motives could not justify immoral acts. He offered no explanation of his own conduct, though he has been publicly accused of torturing his pheasants, leaving scores of them wounded, to die in agony after every battue.

Strong opposition has been organized to a proposal to incorporate under the limited liability acts a trading society for education and registering nurses. It seems a cool proposal for a stock exchange venture to ask for registration to be committed to it. A deputation to the Board of Trade was received on the 5th inst., when Sir Victor Horsley, Dr. Langley Browne, Dr. J. H. Galton, Sir J. Crichton-Browne, Dr. Swanzy, Vice-President, R.C.S.I., and others spoke on the matter and showed that there was no objection to registration itself, but on the monstrous suggestion to entrust it to a lay body of traders. The education, training, and registration of nurses was a matter first of all for the medical profession, and if any others were consulted it should be nurses themselves. The general medical council had not been consulted, nor had the hospitals or licensing bodies.

The unbridled extravagance of the London County Council has placed such heavy burdens on ratepayers that they are awakening from their apathy and watching with deep interest the revolt against the education rate started at East Ham. The county council has incurred a debt on London which would suffice a small kingdom. It is now wanting to spend some three to four millions on more tramways, though those it has acquired have not proved profitable and may perhaps be superseded by motor-omnibuses. Further, the council wants to spend about £2,000,000 on building a fine county hall for its meetings and staff accommodation. The party which has the upper hand in the council seems to be without conscience in piling up the debt. Another scheme it has is to establish a series of receiving houses for pauper lunatics. The scheme is uncalled for, as the work it proposes to do is being done—and well done. Why, then, incur another million in building these receiving houses? This is worse than useless, for, as Dr. Toogood has pointed out, it will inflict an injury on the temporarily insane by branding them as lunatics, whereas, under the present plan, they are only regarded as patients going to the infirmary for a time. The council's scheme would revolutionize previous lunacy legislation, the essential point of which is that the authority which first receives and certifies should not be the same as that which has the power of indefinite detention. Thus the council would abolish the safeguard of the poor lunatic, to extend its own grandiose schemes of building and controlling. There is, however, some hope that parliament will at length refuse to entertain the proposals for additional powers which the council is continually demanding, for the legislature is beginning to recognize that in establishing this body it has gone far to raise up a rival to its own authority. It is perhaps well that at this moment the education committee of the council has roused the ratepayers by a proposal to pull down and rebuild in a more costly manner nearly one hundred elementary schools, most of which are in very serviceable condition.

The British doctors who have gone to France to visit their French confrères are being received with every attention and profuse hospitality.

A question in Parliament suggests that laymen might sit on the General Medical Council. Does some layman aspire to such distinction or possess an axe in need of grinding?

The question of fixity of tenure for medical officers of health has been taken up by some of the best newspapers, so that perhaps Dr. Bond's case may be of service to his brethren.

OUR PARIS LETTER.

(From Our Special Correspondent.)

PROPOSED VISIT OF ENGLISH PHYSICIANS—INTERNATIONAL CONGRESS OF TUBERCULOSIS—GELATIN IN ANEURYSM—SYPHILIS AND GENERAL PARALYSIS—TREATMENT OF PROLAPSE OF THE UTERUS—SCOPOLAMINE ANESTHESIA—CALCULOUS ANURIA—LOCAL ACTION OF ANTIDIPHTHERITIC SERUM—PHLEGMATIA ALBA DOLENS OF FOUR EXTREMITIES—SURGICAL OPERATIONS ON THE INSANE.

Paris, April 30, 1905.

There is much interest displayed in the reception to be held for the English physicians in Paris, and every day new names are added to the list of the entertainment committee. The list of guests includes a large number of physicians and surgeons from London and other parts of England, as well as from Scotland and Ireland. There are already 152 names, representing the élite of the English medical profession. The programme is arranged. Twenty-six women will accompany the visitors. They will be received by a committee of French women appointed for this purpose. The reception will begin on Wednesday, May 10, and will be concluded on May 13. It promises to be a most brilliant affair. On Wednesday evening the English physicians will be received at the Sorbonne by the Rector of the University of Paris and by M. Casimir-Périer, president of the Association of "Amis de l'Université." On Thursday afternoon the visitors will be received at the Faculté. From there they will go to the Assistance Publique and to the Hôtel de Ville. In the evening they are invited to dine by MM. Bouchard and Lucas-Championnière. The dinner will be followed by a reception at the home of Professor Bouchard. On Friday afternoon there will be an excursion to Chantilly, with lunch. In the evening the guests will be entertained at the Automobile Club with music and other forms of entertainment. The most celebrated artists will participate at this time. The last day will be marked by a visit to the Pasteur Institute. In the evening there will be a farewell banquet at the Grand Hotel, to which the English ambassador will have a special invitation. The guests will visit the hospitals in groups, choosing the special ones in which they are interested.

The Official Journal has recently passed a law offering to the minister of the interior the extraordinary credit of 100,000 francs for the aid of the International Congress of Tuberculosis, which will convene in Paris from October 2 to 7, 1905, at the Grand-Palais on the Champs-Elysées, under the distinguished patronage of M. Loubet, president of the French Republic, and under the honorary presidency of MM. Casimir-Périer and Léon Bourgeois, under the effective presidency of Dr. Hérard of the Academy of Medicine. The congress is divided into four sections and has formed 25 regional committees. Thirty-three foreign nations have organized their national committees, and they are all now working for the success of the congress. A great deal of remarkable scientific work is being done in the first three sections in relation to tuberculosis considered as a social disease. The committee of organization believes that it can now count on a reception for the congress by the president of the Republic, a reception at the Hôtel de Ville by the Municipality of Paris, a soirée by the president of the congress, a reception under the presidency of M. Loubet, at the opening of the Grand-Palais, a farewell reception in the large amphitheater of the Sorbonne, a banquet and a soirée. There will be trips in groups by special trains to the principal French institutions: the sanatoriums, marine hospitals, and so on. There will be organized at the Grand-Palais a scientific museum, which will remain open to the public during the entire month of October. The Tuberculosis Exposition will comprise four sections: Scientific (Museum), social, historical, and industrial.

Professor Dentu presented at the Academy of Medicine an account of a patient afflicted with a traumatic aneurysm of the tibioperoneal trunk, or the posterior tibial at its origin, which was cured after seven subcutaneous injections of a 2 per cent. gelatinized serum, given in a dose of 200 c.c. at each injection.

Professor Joffroy took up again the much-discussed question of the relations between syphilis and general paralysis. He declared at the Academy of Medicine that syphilis is one malady and that general paralysis is another; the latter can have its origin in syphilis, but it does not always depend upon syphilis. In the experience of Krafft-Ebing, in which he tried without success to inoculate general paralytics with syphilis, there was lacking the demonstration of the virulence of the material used, for healthy subjects. Joffroy declared that he was convinced that specific medication was of no more value in general paralysis from the prophylactic point of view than from the curative point of view.

M. Raymond, in resuming the discussion of this interesting subject, declared that the preponderating influence of syphilis as a factor, direct or indirect, of general paralysis, was well shown in the discussion called forth by the communication of Professor Fournier. Excepting M. Lancereaux, all of the speakers have agreed that syphilis dominates the etiology of this affection, and among all of the forms of diffuse meningo-encephalitis, that due to this malady takes the first rank.

At the Surgical Society, M. Chaput demonstrated the immediate perfect results which anterior myorrhaphy of the levators of the anus had given him in the treatment of genital prolapse in the woman, according to the proceeding of Groves (1905), completed by the posterior suture of Pierre Delbet.

Professor Terrier presented an interesting observation showing the benefits obtained in urinary surgery by the employment of scopolamine for general anesthesia. In a patient suffering from unilateral pyelonephritis with very sensitive bladder, vain efforts had been made to determine the condition of the opposite kidney by practising endovesical separation of the urine. But no separator could be endured, so extreme was the pain caused by it in the bladder. Anesthesia was then induced by scopolamine and the separator of Luys was then easily introduced without pain and left in place for as long a time as was necessary to establish a clear diagnosis.

Apropos of pulsatile arterial tumors in the parotid region, M. Tuffier reported a case in which the tumor, inextirpable on account of its close connections with the facial nerve, had been treated by electropuncture. M. Tuffier reported, besides, an observation on calculous anuria in one kidney. This report was presented to the society by M. Guibal of Beziers. Nephrotomy was performed and the cure was complete. An interesting point about the case was the ascites and hydrothorax observed in the patient. M. Tuffier thinks that it was a case of anuria by retention, the calculi in the ureter having been pushed into the bladder at the time of catheterization of the ureter, which was done at the time of operation by M. Guibal.

At the Hospitals Medical Society, M. Dopter insisted on the fact that antidiphtheritic serum has a local action. He has employed Martin's pastilles, which are composed of antimicrobic antidiphtheritic serum in compressed form, in 72 patients suffering from diphtheritic angina, in order to hasten the disappearance of Löffler's bacilli from the throats of these patients. The bacilli disappeared. There were no recurrences. At another meeting this society gave its attention to the treatment of pernicious anemia by medullary opotherapy. In one case only has the result been favorable. This was a case of the pernicious type, with marked myeloid reaction.

At the Society of Obstetrics, Gynecology, and Pediatrics, M. Pinard, at the meeting of April 10, reported, with all of the details, an interesting case of phlegmatia alba dolens of the four extremities, followed by multiple arthritis, in a woman 35 years old, III-para. This septicemia began on the thirty-first day and terminated on the sixty-third day. M. Pinard thought that the infection was due to too many and too tardy intrauterine interventions.

The Society of Ophthalmology, at its April meeting, received a communication from M. Chaillous on a case of traumatic infection of the eye, due to an anaërobic microorganism (*Bacillus perfringens*). M. Valude made a report on the work of M. Soderlinh relative to a case of grippal tenonitis followed by atrophy of the optic nerve.

The Society of Legal Medicine, at its meeting on April 10, discussed and voted on the conclusions of M. Picqué concerning surgical intervention in the case of the insane. It was agreed to discriminate between those who have lucid intervals and those who do not. The first class have the right to accept or to refuse intervention. Consequently, the surgeon can operate on the strength of a medical certificate establishing a condition of lucidity of the patient and his consent to the operation. For the other class, the society expresses a wish that the new law so decree that the insane patient shall be protected in matters of health as he is in matters of property, which are put into the hands of judiciary power.

At the Therapeutic Society, M. Mirovitch has called attention to the influence of automobiling and cycling on vision. After dwelling upon the ocular troubles which are caused by the constant pressure of the air, which is due to the too great rapidity of travel, and the irritation caused by the dust, M. Mirovitch showed eyeglasses which were designed to avoid these inconveniences.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

WORK OF THE ARMY MEDICAL CORPS—DISINFECTION OF SHIPS—THE EYESIGHT OF FILIPINOS—COMMISSIONER OF PUBLIC HEALTH—RETIREMENT OF MAJOR CARTER AND APPOINTMENT OF DR. HEISER—EXODUS OF ARMY SURGEONS.

MANILA, P. I., April 8, 1905.

THE April meeting of the Manila Medical Society was the last that will be held until after the termination of the hot season, which will be about July. Four papers were read at this last session. "The Work of the Army Medical Corps in the Philippine Islands," by Charles Richard, Major and Surgeon U. S. Army. The paper gave a brief account of the results that have been accomplished by the military. It showed that much of the work which is now being successfully done was started by the army medical men at the time the islands were under military rule.

The second paper, "Disinfection of Ships," by J. D. Long, Assistant Surgeon, Public Health and Marine Hospital Service, was a clear statement of how an infected ship is treated at the port of Manila. He stated that ships may be disinfected for a number of reasons: (1) Because they arrived from an infected port. (2) On account of the occurrence of a case of quarantinable disease aboard. (3) To maintain a standard of cleanliness and for the purpose of destroying vermin. Owing to the latter, the comfort of the traveling public, especially in tropical countries, is greatly increased. He dwelt upon the great importance of having the necessary sanitary measures taken at the port of departure, and whenever that is properly done much annoyance and delay can be obviated at the port of arrival. In practice, it has been found that only four disinfectants are required. Holds and other closed places are first fumigated with sulphur to destroy vermin, and then they are either treated with formaldehyde or washed down with bichloride solution. Decks are mechanically cleansed and then scrubbed with bichloride. All movable textiles are taken ashore to the quarantine station's steam chambers and exposed to steam under a pressure varying from 10 to 15 pounds for a period of at least twenty minutes. The chambers are so arranged that the air can be exhausted, by which method the steam penetrates much better. There is also provision made for drying the fabrics before they come from the chamber. The water tanks of the ship are disinfected with permanganate of potassium. The crew and passengers are bathed, a strong alkaline soap being used in the baths. While this operation is going on, their body clothing is passed through the steam chambers and is then returned to the owners almost by the time they have completed their bath. The author also laid particular stress upon an experienced officer having charge of the work, owing to the enormous damage that might be done to the machinery and equipment of the vessel or its cargo by making a wrong choice of a disinfectant, as, for instance, the use of sulphur in a hold containing tea, which would ruin it and thus cause a heavy loss. He also called attention to the fact that a ship could be disinfected at a modern quarantine station without any serious delay to the vessel and practically no damage to the cargo.

The third paper, "A Comparative Neurological Study of the Filipinos and Americans," by R. L. Richards, M.D., U. S. Army, was an account of the physical examinations made by him of the native scout recruits prior to their admission to the army. He stated that the Filipinos had an exceptionally acute distance vision and color perception. In the discussion which followed, one of the speakers stated that in the examination at the port of Manila, of more than a thousand natives, who were applicants for the position of master, mate, pilot, etc., more than 2 per cent. were found to be color blind, and it was the exception rather than the rule to find a native with a good 20/20 vision. From these two conflicting statements then it would appear that considerable more work is necessary before any conclusions can be reached on this question.

The fourth paper, "The Diagnosis of Plague in Rats," by W. B. Wherry, M.D., of the Government Laboratories, was read by title only. Dr. Wherry showed a number of photographs made from some of his preparations.

Major E. C. Carter, U. S. Army, who has been the Commissioner of Public Health during the past two years, has been relieved by the Surgeon-General of the Army from further duty in the Philippines and directed to proceed to Washington, D. C. His position here has been tendered to Dr. Victor G. Heiser of the U. S. Public Health and Marine Hospital service, who has been the chief quarantine officer for the Philippine Islands for the past two years. Major Carter has performed the trying duties of Commissioner of Public Health with much tact. He was particularly fortunate in his work among the natives. Somewhat over a year ago, in recognition of his services, he was appointed a member of a committee which traveled all over the Orient for the purpose of investigating the opium traffic, in order that it might make recommendations to the government from which suitable legislation could be framed to regulate the opium traffic in the Philippines. It will, perhaps, be remembered that Congress has recently passed an opium law which is to apply to the Philippines.

Dr. W. B. Wherry has resigned his position as bacteriologist at the Government Laboratories, and has returned to his former position with the Rush Medical College at Chicago. There will be an unusual exodus of medical men from the Philippines during the current month. No less than sixteen have been ordered to return on the April transport. Among them are from the Army Medical Service, Assistant Surgeons Böyer, Halloran, Hall, and Woodall.

Progress of Medical Science.

Boston Medical and Surgical Journal, May 25, 1905.

A Consideration of the Pelvic Articulations from an Anatomical, Pathological, and Clinical Standpoint.—The attention of J. E. Goldthwait and R. B. Osgood was called to this subject by the occurrence of the case of a woman who was greatly disabled by marked relaxation of the pelvic articulations following pregnancy. But scant mention is made of the condition in the textbooks on obstetrics and gynecology. The cases naturally fall into three groups, the first including the cases in which there is definite relaxation associated with pregnancy, representing an exaggeration of a normal physiological condition; the second the cases in which the relaxation is associated with menstruation, apparently representing also a physiological condition, apart from any pathological change with which we are at present familiar; and the third, the cases in which the leison is due to trauma, general weakness, or some definitely known pathological process. The authors discuss in full the anatomical peculiarities of the pelvic joints and the general etiology of the condition, illustrating their contentions with several excellent photographs. As to symptoms, abdominal mobility is naturally prominent, but this varies greatly as to its extent. There is more or less discomfort and disability. Probably the most common complaint of the patients is of backache, referred at times definitely to the sacroiliac articulations, but often simply to the sacral region. This is usually worse on lying upon the back or with any back-straining exercise or occupation carried to the point of fatigue. When lying upon the back, the flattening of the lumbar spine necessarily strains the sacroiliac ligaments and is evidently the cause of the backache. As this takes place only when the muscles are relaxed, it explains the pain developing during sleep, the patient often being wakened with the severe suffering. This is usually relieved by stretching or by some other change of position in which the lumbar spine and the sacrum are drawn up. The backache which develops when the patient is up and about may be brought on by any posture which causes strain on the sacral ligaments, such as lounging, sitting with the lumbar spine thrown back, or prolonged standing and walking. At times the backache is produced by a jar or by some sudden misstep, in which the muscles are taken off their guard. The treatment (which is described in detail) consists essentially of joint protection and replacement of any subluxated bones. This can be done by immobilization, bodily attitude, plaster jackets and various applications of webbing bandages, plaster strips, braces, etc.

New York Medical Journal, May 27, 1905.

The Surgical Paradox.—E. Van de Warker takes up again the subject of the dangers of curettage of the uterus, replying to an article by Dr. D. H. Craig, in which some of the ideas of Dr. Van de Warker's previous paper on the subject were controverted. He regards accidents as less liable to occur in the hands of physicians who are good mechanics and began young. Older men find it difficult to educate into being special faculties. It is difficult for them to follow out the rules of rigid antisepsis. There is a great difference between being taught how to do a thing and being trained to do it. The dangers of puncture of the uterine walls are more real than is often admitted. There is a strange indifference on the part of the laity in their choice of operators. Many a surgeon who is clever in hysterectomies, ovariotomies, etc., is an unsafe operator in uterine curettage. Dr. Van de Warker believes that the statement that the vagina is sterilized by its own secretions rests on too narrow a margin of truth to serve as a justification for the lack of most rigid application of the principles of modern aseptic surgery. The danger of rupture or perforation of the uterine wall comes principally from the enormous force exerted by the leverage of the expanding blades of the dilator. Much of the bad surgery of the present day is, according to the author, referable to the text-books written on special surgery for the general practitioner. These books inspire middle-aged men to undertake surgical operations for which they are in no wise fitted, for they have not learned how to think and work under the rigid conditions of modern surgical science. The surgeon estimates a man's fitness as a surgeon by the number of his recoveries, but the public has another standard, which appears to be the number of his operations and his success in boasting of them. While we have been advancing the cause of medical education we have neglected to educate the people in discrimination and good medical and surgical judgment. Until we do this, the unfit and belated surgeon will do his share of work along with better men. Another unfortunate fact is that the colleges of the present day teach only surgical rudiments and not surgical art. Some men supplement their college work by a hospital experience; others go to the post-graduate institutions, but they have no basic knowledge of surgery by which to profit from what is taught. The author believes that post-graduate institutions should be under the control of the State regents —in fact, the same way as the under-graduate schools are.

Medical News, May 27, 1905.

The Widal Reaction.—E. Andrade has experimented with the Widal test in order to determine the value of the method and incidentally the relative value of living and dead cultures of the B. typhosus. His conclusions are as follows: (1) Living and dead cultures are about equally sensitive to the action of the agglutinins of typhoid fever, though in dead culture the reaction may require a longer time to take effect, and it is therefore necessary to keep the specimen under observation for two hours. In some cases the reaction is quicker with the dead than with the living cultures. (2) The dried blood method is equally effective with dead as with living cultures. (3) The reaction, when it takes place, is more characteristic with dead cultures than with living cultures. There are no pseudo-reactions with dead cultures. (4) Dead cultures do not seem to lose their sensibility to the agglutinins of typhoid fever for a long time. The author has now in use a dead culture which was prepared six months ago, and it reacts just as typically as when first used.

Two Unusual Cases of Gastric Cancer.—The cases are reported by W. F. Cheney. Case 1 was that of a man aged 54 years, in whom the common symptoms of cancer of the stomach were all lacking. He had a good appetite, ate heartily, digested well, had no nausea or vomiting. No gastric pain after eating, no emaciation, and no cachexia. A diagnosis had been made of malignant disease of the liver, but there was no reason to suppose that it was secondary to disease of the stomach. Autopsy, however, showed that at the fundus of the latter organ, about in the middle, between the cardiac orifice and the pylorus, at the greater curvature, there was found a circular ulcer about 5½ cm. in diameter, with elevated margins; the margin and the bottom of the ulcer were infiltrated with grayish white hard tumor masses. In the middle of the ulcer the stomach wall was perforated, the perforation measuring about one centimeter in diameter, and closed by a tumor mass in the ligamentum gastro-colicum. In the tail of the pancreas was found a tumor mass about the size of a walnut; and a considerable number of lymph glands in the upper retroperitoneal space were enlarged and infiltrated with tumor. Microscopical examination of the tissues showed that the process in the pancreas, lymph glands, fundus of the stomach and liver was carcinomatous. Case 2 was that of a man of 37 years; the diagnosis of gastric cancer was not suspected. Malignant disease was considered a probability an account of the emaciation, anemia, cachexia, and the presence of an abdominal mass. This was regarded as connected with the spleen, but on exploring the abdomen the tumor proved to be an enormous carcinoma of the splenic end of the stomach adherent to the anterior abdominal wall and associated with a perigastric abscess. Death occurred one week after operation.

American Medicine, May 27, 1905.

Chylous Ascites.—James F. Bell reports a case, in a man of 57, in which the amount of fluid withdrawn from October 1 to December 17 aggregated 106,370 c.c. There was little loss of strength or weight, the patient, at the last paracentesis, weighing but 5 pounds less than his normal average. The history would suggest a rupture of a large lymph duct, the thoracic duct, the receptaculum chyli, or a chylous cyst of the mesentery which has continued to discharge into the peritoneal cavity. The cause of the rupture is unaccounted for, and no growth or neoplasm can be found in the abdomen. Dr. S. P. Beebe discusses the literature on analysis of chyle and reports the results obtained from examination of the fluid in this case.

Some Results of Abdominal Operations.—George Erety Shoemaker deals with 100 unselected consecutive cases from his service at the Presbyterian Hospital, with five deaths, one moribund when admitted and rapidly incised for pus drainage without diagnosis, one seen two weeks after onset with gangrene of several feet of small intestine, two bad chronic pus cases, and one chronic inflammation of tubes, ovaries, and appendix. In the 95 recoveries hysterectomy was done 20 times; 9 for malignancy. In malignant cases the method preferred was the separation of the growth through the vagina, followed by removal of the uterus through a suprapubic incision. In the 12 cases of fibroid tumor the method preferred was hysterectomy by supravaginal amputation. Operation was done primarily for appendicitis 11 times, but in the course of other abdominal operations the appendix, not being normal, was removed in 22 other cases, so that altogether in one-third of the cases of the series the appendix was removed. The method preferred was by ligation and purse string burial of the stump. The removal of the appendix probably increases the risk of the primary operation to a very slight degree, and is not advised under unfavorable conditions, as in a complicated hysterectomy. Of the 6 cases of extra-uterine pregnancies all the patients recovered. A large number of other operations were done in a corresponding period, such as plastic perineal work, suspension of the kidney, curetting, etc., some of these operations being in combination with abdominal section and all without mortality. In 68 per cent. of the cases requiring perineal repair the anterior vaginal wall was also treated by the excision method.

Lobar Pneumonia in Children.—Marion McH. Hull directs attention to the greater frequency of this variety of pneumonia in children than is ordinarily supposed and the characteristics of the childhood type—its greater tendency to begin without a chill and to terminate by lysis; for resolution to be delayed and to be followed by abscess of the lung or empyemia; and the greater frequency of otitis as a complication on account of the anatomic peculiarities of the eustachian tube in children. Otitis has occurred in 50 per cent. of Dr. Hull's cases, in many without pain. Difficulty of early diagnosis is characteristic. The degree of leucocytosis may be of value in determining the prognosis.—

Journal of American Medical Association, May 27, 1905.

Infant Feeding.—F. S. Churchill discusses the embarrassments of infant feeding when breast milk is not available, and the unsatisfactory results of the common practice of diluting cow's milk with water in such cases. He summarizes practically as follows: Cases of difficult feeding in infancy are: (1) those of fat indigestion; (2) those of sugar indigestion; (3) those of proteid indigestion. Each of these may occur alone or in combination with the others. Proteid indigestion is most common, but fat indigestion is also frequent. Each must be treated individually, the form of indigestion present must be ascertained if possible, and appropriate measures be adopted. The treatment is almost exclusively dietary; the fats and sugar can be regulated by varying the amounts of cream and sugar in the food. The composition of cows' milk, with its high caseinogen and low lactalbumin content must be cut down or eliminated, if need be, and the lactalbumin retained. This twofold object is attained by feeding whey. Increase in quantity and quality of the food must be made gradually. In conclusion, he suggests the desirability of careful study of artificially fed infants and publication of the results.

Pyloric Stenosis in Infancy.—Charles M. Scudder reviews the literature of pyloric stenosis of infancy, and describes the symptoms, diagnosis and treatment. He recognizes two groups, the subacute or chronic, and the acute fulminating cases. While most cases are fairly typical, in some the differential diagnosis is difficult, and a careful study of each symptom and the sequence and grouping of symptoms should be made till the diagnosis is reached by a process of exclusion. He has little faith in the medical treatment, and believes that the condition is practically hopeless without operation. The results of operations since 1898 show a saving of over 50 per cent. of the cases, of which probably all would have died if let alone. An analysis of the fatal cases shows that many of them were due to mistakes or errors of technique, too late operation, etc. The operation should be rapid, free from causes of shock, sepsis or hemorrhage, the parts to be handled gently and isolated outside of the abdominal cavity. The Loreta operation is condemned. Pylorectomy is too severe and pyloroplasty is not recommended save in exceptional cases. Some form of gastroenterostomy is best for most cases, but owing to the shortness of the infant mesentery and other reasons the anterior operation should be avoided if possible. The Finney operation of gastro-pyloro-duodenostomy may be suitable in some cases, or if not feasible, Köcher's gastroduodenostomy may be useful. After-care is of vital importance, and if possible an expert in feeding a baby should have charge. Absolute quiet is essential, and rectal feeding may be needed for a few days. Scudder does not discuss the etiology to any extent, but thinks that a congenital hyperplasia may occur and a spasmodic contraction of this, after birth, is frequent if not the rule.

Tolerance to Nitroglycerin.—According to D. D. Stewart, an excessive tolerance of nitroglycerin can be readily acquired if care is not taken to avoid a too rapid increase of the dose, hence the drug, though intelligently employed, is often of little service. The best rule for giving the drug for its effects on blood pressure, is, in his opinion, to administer it four times a day in dose just sufficient to produce the slightest feeling of fullness in the head or slightly to quicken the pulse. If more than this is given, an undesirable tolerance is likely to be established. When a rather rapid increase seems needed to keep up a constant effect, it is best to discontinue the drug for two or more days, at intervals, and to resume its use with a smaller initial dose. By so doing the use of very large doses and strong solutions, which are not exactly safe to handle, will be avoided. Nitroglycerin, he thinks, has not met expectations as a remedy in conditions of persistent high tension, and he now uses it in such cases less frequently than formerly, endeavoring at first, at least, to relieve by limiting the nitrogenous intake and maintaining free action of the skin and bowels. Aconite is often substituted for nitroglycerin in these cases with advantage.

Peritoneal Gauze Drainage.—W. D. Haggard calls attention to the fact that the fancied necessity for drainage after abdominal section has been greatly lessened by the knowledge that the peritoneum can easily dispose of considerable amounts of blood and serum and that accumulations of pus are generally sterile. He calls attention to the likelihood of wound infection from drainage after hernia operations, and to the danger of resulting hernia after infected abdominal wounds, and states that this is infrequent after wounds, which have healed aseptically. He advocates drainage through the cul-de-sac of Douglas, and describes his methods in detail. He places the gauze in the abdomen so that, after the operation is completed and the incision sutured, the gauze may be reached through a new incision in the vagina with less danger of infection.

Headache from Malaria.—C. J. Stedman reports a peculiar case of malaria, without temperature symptoms, occurring in the middle of an Arctic winter. The only symptom —headache—appeared each forenoon and lasted five or six hours. The patient acknowledged no previous malarial infection. The blood examination showed no perfect organisms, but numerous malarial spores, and these rapidly disappeared with the symptoms under quinine. He regrets that the blood examination was not made earlier and the exact character of the parasite determined, though the appearance indicated the tertian organism. The case is reported on account of the unusual circumstances and manifestations and as a suggestion of the importance of early blood examination.

The Lancet, May 20, 1905.

Epidemic Cerebrospinal Meningitis and Posterior Basic Meningitis.—According to O. Hildesheim, these two conditions are quite distinct, the one from the other. His views are based on an analysis of 100 cases of the latter malady. More than one-half the cases of posterior basic meningitis occur in infants under one year of age. The cases are more protracted, and most of their sequelæ are associated with internal hydrocephalus. Amaurosis without optic neuritis occurs in about one-third of all the cases, while optic neuritis is rare, though fairly common in the epidemic form. Deafness is uncommon in the posterior basic disease, but very frequent in the epidemic form. Skin lesions, though they occur, are much less common in the former than in the latter. The author believes that the ultimate decision as to differential diagnosis must rest with the bacteriologists. He adds that this problem is a difficult one, and that it is very important to realize that one has not necessarily found the cause of the disease because one has shown the presence of a potentially pathogenic organism in a case of meningitis. He had under his observation a case which the physician in charge considered an example of pneumococcus meningitis. He performed a lumbar puncture and the pathologist reported that he obtained a pure culture of pneumococcus. Nevertheless, the necropsy revealed a typical tuberculous meningitis.

Congenital Elevation of the Scapula.—C. R. Keyser reviews previously recorded cases and reports his personal experience with a girl of nine years without antecedent, personal or family history. On examination, the left scapula was found to be two and a half inches higher than the right, but the bone was of the same size as its fellow. Movement of the arm, both active and passive, was normal. There was no osseous bridge to be felt between the vertebral border of the scapula and the spine, nor was there any lateral curvature of the spine. The spinous process of the third dorsal vertebra, however, felt thicker than normal, and was apparently displaced slightly to the left. The interior angle of the scapula was on a level with the interval between the sixth and seventh dorsal spines. There was no paralysis of any muscle. The x-rays showed nothing abnormal, and the two arms were of the same length. The child's head was rickety in appearance, but there were no other signs of rickets or of any other deformity. The teeth were slightly notched and ridged, as is generally the case in ill-nourished children. As the child suffered absolutely no pain or inconvenience from her condition, no active treatment was adopted, especially as the deformity was barely visible, except when the patient was undressed.

Is Man Poltophagic or Psomophagic?—This question is discussed by H. Higgins. These words introduced by Gegenbauer, signify respectively the swallowing of finely and coarsely masticated food. The horse is a typical example of the first, and the dog of the second. The author describes minutely the structure and function of the parts concerned in swallowing in man, and describes some interesting experiments which cannot be detailed here. His general conclusion is that man is designed to be a poltophagic animal, and that if poltophagia were universally practiced, the daily quantity of food required to support life would be much less than the present more or less "bolting" habits of the average man have called for.

British Medical Journal, May 20, 1905.

Remarks on the Causes and Treatment of Edema.—J. Dixon Mann declares that edema, due to failure of cardiac or of renal compensation, or of the two conjointly, is a common clinical phenomenon, the pathology and treatment of which demands renewed consideration in the light of recent investigations on the subject. In simple cardiac edema the cause is essentially hydrodynamic in nature. The edema is chiefly due to changes in the vascular endothelium, caused by the imperfect supply of oxygen and of nutrient material to which the partial stagnation of the blood gives rise. The vascular walls become abnormally permeable and the resulting transudation is increased by the low pressure of the blood supply to the kidneys and the coincident retention in the tissues of sodium chloride. The edema in these cases is not the direct result of back pressure, or at least to a limited extent only. The edema due to kidney disease is not so easily explained. Some of the causes are, changes in the vascular endothelium due to the toxic action of waste materials in the blood, which are normally removed by the kidneys; the defective elimination of water by the kidneys, and probably the occurrence of hydremic plethora are influential factors. Recently, many experiments have been made in regard to the part played by sodium chloride in the development of edema. It is known that edema may increase without diminution in the daily volume of urine, or with such diminution as is insufficient to account for the quantity of water retained. The writer declares that while he hesitates to accept implicitly the theory that retention of sodium chloride is the exclusive cause of renal edema, he is satisfied that restriction of dietic salt in the edema of Bright's disease tends to promote its dispersion. As to the treatment of edema, when the heart alone is at fault, physiological rest is the most valuable of all remedial agents. In most cases of failure of cardiac compensation, rest alone is not sufficient to restore it. Digitalis, among medicinal remedies, is most valuable. It must be remembered, however, that few preparations vary so much in activity as does this one. Alcohol in certain cases is very helpful in tiding the heart over a critical period, but its effects need close observation. Diseased kidneys are generally a contraindication to its use. Renal incompetence is, as a rule, more difficult to treat than simple cardiac incompetence. The comparatively new class of diuretics which are purin derivatives have materially increased the efficiency of renal therapeutics. One of these is caffeine. When the kidneys fail to respond to the stimulus of diuretics, the skin offers a route for the elimination of both water and solid urinary constituents. The hot-air bath and the vapor bath are efficient auxiliary means of reducing edema and at the same time of promoting the elimination of nitrogen and of salts, especially of sodium chloride. But during the bath the patient should not be allowed to drink copiously of water, as this neutralizes the remedial action of the bath. Cathartics avail little in the dispersion of edema. Of all foods, milk is the least harmful to the kidneys. Its exclusive use it not without objection, however. The ingestion of much liquid tends to increase the amount of water already retained in the system. A moderate amount of solid food is generally advisable. Generally, too, food stuffs which contain a high percentage of extractives should be eliminated. Proteids may be replaced by farinaceous dishes, cream, butter, bread, potatoes, and sweets, eggs, weak tea, and coffee. When there is an ample volume of urine, the intake of liquid usually needs no restriction; with scanty urine, the intake should be governed by the weight of the patient. When the weight increases, the intake should be restricted. The progress of the edema is ascertained by periodically weighing the patient.

Treatment of Seasickness.—J. Metcalfe Sharpe believes that seasickness is a nervous vomiting, and that the reflex action is transmitted by the vagi to the solar plexus. He has found that by paralyzing the accommodation of one eye, that is, by converting one eye into an "ametropic" and allowing the other to remain "emmetropic," the intensity of the symptoms is greatly ameliorated. His method of treatment is as follows: Two or three drops of a solution of atropine (4 gr. to the ounce) or other mydriatic are put into one eye daily; or one eye is merely bandaged. In this way the principal focus is altered and the motion of objects on board the ship, which doubtless forms the impulse, is not so uniformly transmitted to the brain. The results are excellent. Cases, more or less blind in one eye, that have been observed, have not experienced seasickness since blindness.

Camphor Poisoning.—Graham Grant describes the case of a man who was thought to be dying. While an emetic was being prepared, the patient vomited and seemed to get well immediately. He was taken to the hospital, whither he walked with no difficulty. A little later he was sized with a convulsion, which rapidly passed into collapse. The by-standers again thought that the man was dead. Within ten minutes, when the writer arrived, he found the patient standing. He smelled strongly of camphor, as did also the vomit. The pupils were dilated and the pulse was flabby, but there were no other symptoms.

Berliner klinische Wochenschrift, May 8, 1905.

Quinquaud's Sign.—Hoffmann and Marx discuss the nature of this phenomenon, which Fürbringer describes as follows: If the spread fingers of the patient are placed against the palm of the observer's hand, for the first two or three seconds nothing is noticed, but then faint shocks are felt, as if the bones of the hand were knocking against each other and against the observer's palm. According to the intensity of these movements there are produced all gradations, from a gentle rubbing to true creaking crepitation. The sign is supposed to be indicative of chronic alcoholism, though various observers have published different opinions as to its significance. The present authors tested it on 1,018 of the inmates of a detention prison, whom they divided into four classes, according to their abstinence, or degree of alcoholism. The conclusion is reached that the sign affords reliable information and has distinct value in making a diagnosis of alcoholism. The absence of the sign or its presence in moderate intensity does not give definite information either for or against abstinence, or the abuse of alcohol, but the probability in favor of the former is as three to two. A marked degree of the phenomenon, however, indicates excessive drinking with a probability of three to one. The sign has no connection with the ordinary tremor, as the authors in many cases saw the one without the other, and they believe that it is due to a longitudinal vibration of the bones instead of the transverse motion which causes the latter. The sign may also be detected by auscultation, as a sound is produced which is audible through the stethoscope. It is possible to stimulate it artificially by muscular fatigue or the use of the faradic current.

Münchener medizinische Wochenschrift, May 9, 1905.

The Treatment of Hay Fever.—Denker says that while Dunbar's theory of hay fever etiology has much to commend it, not all persons who are subject to the disease are susceptible to the effect of the poison isolated by Dunbar from pollen of the graminaceæ. The author obtained some of the preparation from Dunbar himself and tested its effect on three patients who for years had been sufferers from hay fever. The experiment was made during a period when the patients were free from trouble, but even when the toxin was applied undiluted to the conjunctiva or nasal mucosa no reaction was produced. The author considers that there was no doubt that the patients were really hay fever subjects, and there was no question as to the freshness of the toxin. The results obtained by the use of the antitoxin are, however, quite favorable. Lübbert and Prausnitz having reported 57 per cent. of successful cases, but the effect is very evanescent and the patients are required to sleep with closed windows. The author has developed a method which is free from these objections, as it prevents outbreaks in the following and even in the second year. It consists in massage of the nasal mucous membrane in order to reduce its abnormal sensibility. The entire mucosa, as far as it can be reached, is well anesthetized with a solution of cocain and adrenalin, and the inferior, middle, and if possible the superior turbinated bones are subjected to progressively more forcible friction with a cotton-wound probe. The septum is similarly treated. The treatment is carried out daily and at first takes two to three minutes, the time being lengthened gradually to three to four minutes for each nostril. Eight cases are reported in all of which this treatment was markedly effective, in some instances the attacks being put off for several years, while the acute stages of the disease were promptly relieved.

A New Form of Counting Chamber.—Bürker describes a new form of chamber for counting blood cells. He says that the old Thoma-Zeiss cell has the following disadvantages: It is difficult to adjust the cover glass properly, the cells are frequently irregularly scattered, variations in atmospheric pressure give rise to differences, and the ruled area comprises but a small portion of the entire surface. The first objection is met by the new apparatus inasmuch as the cover glass is put in position before the addition of the blood mixture, so that the operation may be carefully performed. There is no chance for unevenness of distribution of the cells, as the mixture enters the chamber almost instantaneously through capillary attraction. The chamber is open on two sides, so that changes in pressure have no effect, and the fourth difficulty is obviated either by not having any ruled area at all or by having this cover nine square millimeters. The former type is especially adapted for accurate work, and in this the area to be counted is marked off by the use of suitable diaphragms in the ocular, which are calibrated by means of stage micrometer accompanying the instrument. For ordinary use the other type, with large ruled area, is advised, and this yields more accurate results than the old form, even though only eighty squares be counted instead of two hundred.

The Possibility of Separating Different Albuminous Bodies Emanating from the Same Organism by Means of the Precipitin Reaction.—Forssner says that so far the results of experiments undertaken with this end in view have not been very encouraging, and he describes some tests of his own which gave positive results. Extracts of guinea pig liver, kidney, and spleen and serum were injected into rabbits and the adapted serum tested for precipitins with solutions of these four bodies, using the principle of partial saturation. The results led Forssner to conclude that it is possible to distinguish by this method solutions of guinea pig kidney, liver and serum and probably spleen also. On injecting liver extract into guinea pigs several partial precipitins are produced, some of which react with the serum kidney, and spleen extract as well as with liver extract; others are specific only for kidney and liver extracts, or for liver alone. The precipitins obtained by the injection of kidney extract show the same relative properties, a single body being present which is specific for kidney alone, and the spleen precipitins react most strongly with splenic extract. Some of the precipitins obtained with blood serum reacted also with the organic extracts, but the larger part were specific for the serum, and it is impossible to exclude the possibility that in the former instance the reaction was due to traces of blood serum in the organic extracts. The liver and spleen appear to have more properties in common than the liver and kidney or kidney and spleen.

Deutsche medizinische Wochenschrift, May 11, 1905.

Carcinoma.—König terminates an extensive article on this subject with the following conclusions: The nature of the disease is still unknown, but according to König's views it has a specific cause, which in all probability is parasitic in nature. The prevalence of carcinoma has not increased, at least there is no proof that it has, its apparently greater frequency being due to the more exact statistics and better diagnoses of modern times. König has never encountered groups of cases simulating epidemics, and he has seen nothing which leads him to believe that it can be transmitted from person to person. He has never known of a nurse acquiring the disease from a patient, and although the disease may be transplanted, he does not believe that it is transmissible by inoculation. There is a predisposition to carcinoma depending first on general grounds, such as advanced age, and a special predisposition due to heredity, which may be transmitted from father to children or by skipping a generation from grandfather to grandchildren. Nothing definite can be said regarding the frequency of this predisposition. In numerous cases trauma must be regarded as affording a predisposition to carcinoma, and the same is true of ulcers which are irritated and of increase in the functional activity of a gland, as of the breast. Primary carcinoma occurs only in epithelium, but it can develop in any position in which epithelium is found. For a time it is a purely local disease, but as its course cannot be predicted, it should be removed as soon as possible, preferably by radical operation, which cures 30 per cent. of the patients. Sometimes, however, recurrences take place years later, owing to the peculiar latency of the germ. Radiotherapy has cured small growths and improved large ones; if it is to be tried in place of operation, it should be in small superficial cancers or in those so advanced as to be inaccessible to the knife.

The Infection of Monkeys with Syphilis.—A. Neisser, who is now in Batavia continuing his studies on the susceptibility of monkeys to syphilitic virus, reports on the results of experiments made on 53 monkeys of the lower orders carried on at Breslau during the past winter. Twenty-five animals were inoculated by scarification of the skin about the eyebrows, the genitals, abdomen or breast, and in all but two positive results were obtained. The sores developed 20 to 35 days afterward and corresponded fairly closely to human chancres. Typical glandular swellings were not observed, and no general manifestations were produced in any case. Inoculations with primary lymphnodes were made in two cases, and were also effectual. Subcutaneous inoculations, however, with bits of chancre tissue and condylomata, as well as intraperitoneal and subcutaneous injections of undefibrimated syphilitic blood gave negative results. In a large number of instances cutaneous inoculations from one animal to another with the primary lesions produced from infection with human virus gave positive results. In discussing this feature of the experiments the author draws attention to Metschnikoff's claim of having produced reduction in virulence and immunity in this way. Neisser believes, however, that in these cases Metschnikoff's reinfections did not succeed, not because immunity had been produced, but because the animals had been made syphilitic in the attempt to render them refractory to infection. It is evident that syphilis produces less and less characteristic lesions in monkeys the further removed they are from man, and the author says that the next problem that experimenters must solve is to determine whether, and if so, where, in the body of the syphilitic animal, virulent material would serve to reinfect is to be found.

Experimental Observations on the Significance of Meat Extractives in Relation to Gastric Digestion.—Sasaki says that although it has been recognized that the extractives of meat exert a very pronounced stimulating effect on the nervous centers, the relationship to gastric secretion of the bodies of this nature taken into the stomach at the beginning of a meal in the form of the ordinary bouillon has not been duly recognized. He experimented with a dog, a portion of whose stomach had been isolated by the Pawlow operation. The animal was given, after a 24-hour fast, 100 c.c. of water, followed in half an hour by the same amount of milk, and the gastric secretion was then examined. The experiment was then repeated, using instead of distilled water an equal amount of 10 per cent. solution of meat extract, with the result that the gastric juice was greatly increased in amount and possessed a higher acidity. The secretion also continued for a much longer period of time than when water was used as an appetizer. The author therefore concludes that by giving meat extractives a short time before the main portion of the meal, the gastric mucous membrane is stimulated to produce a much more abundant and active digestive secretion than is otherwise the case.

French and Italian Journals.

The Pathogenic Action of Intestinal Worms.—Giuseppe Messineo discusses the action of intestinal worms in the intestine, whether their morbid action results from simple mechanical irritation, or whether the products of the worm's life is toxic to the individual. He has made injections into various animals of a solution extracted from the different varieties of worms, and observed the poisonous effects. He finds that not only a simple extract of tenia and ascoris causes the death of the animals receiving the injections, but also that a precipitate obtained from this solution by sulphate of ammonia, ascetic acid or phosphotungstic acid has a poisonous effect. The injection of the extracts causes a marked inflammation of the gastrointestinal tract, and the intestinal cells brought in contact with it in vitro are disintegrated by it. Subdural injection of the solution produces chromatolysis of the ganglion cells, and dilatation of the vessels of the entire nervous system. The first symptoms observed in all the animals were nervous symptoms, especially of the motor tract.—*Giornale Medico del Regio Esercito,* April 30, 1905.

The Blood in Osteomalacia.—Nicola Pende gives us the results of his observations of the blood of ten patients suffering from osteomalacia, who were treated at the Lateran Hospital at Rome. He took care that none of them should be pregnant or in the puerperal state, which would involve blood changes, and took cases that were in other respects normal. Some of the cases were in the early, some in an advanced stage, and one died while under treatment. All were treated with phosphorized cod-liver oil. The results of his blood examinations were as follows: The density of the blood was in general reduced; the alkalinity is not diminished, but usually normal, and in some cases increased; the resistance of the blood corpuscles to solution is increased; this is in part the expression of an irritative state of the medulla of the bones, which causes a larger number of erythrocytes to enter the circulation, in part to the pulmonary insufficiency of the deformed chest. Erythrocytes may or may not be diminished, due to hematopoietic irritation of the bone marrow, and to peripheric blood stasis; there is a certain increase of cosinophile leucocytes; the lymphocytes are diminished; there is a preponderance of large mononuclear leucocytes, especially in the transition stage of Ehrlich; myelocytes were found in only one case; the coagulating power of the blood and its cryoscopic point are not changed. All the patients were benefited by treatment, as was shown by improvement in the blood dyscrasia. —*Il Policlinico,* May, 1904.

Action of Radium Rays on Virus of Rabies in Vitro and in Animals.—Guido Tizzoni and Alessandro Bongiovanni have made experiments on rabbits as to the effects of the radium rays on the virus of rabies. He has used the fixed virus, which, by its high potency, represents the maximum experimental force of the virus. Two series of experiments were made, one in vitro, and one on animals. In vitro the radium rays quickly decompose the virus when maintained at a temperature of 12-15° C, and the virus loses its toxic power in a short time. When the rays were applied to animals as soon as the poison was injected, it had a marked effect, as well against infection through the eye as on the cerebellum or the sciatic nerve. The animals thus treated had only a slight rise of temperature, a transitory weakness and rigidity of the hind legs, while the control animals died of the infection. When the injection is made an hour after the infection, it has a curative action. After 24 hours it has no effect.—*La Riforma Medica,* May 6, 1905.

Acidification of the Liver and Spleen a Certain Sign of Death.—Brissemoret and Ambard call attention to the alkaline reaction of the liver and spleen in the living. This can be seen by experimenting with litmus paper of medium thickness. On the contrary, some time after death the reaction of these organs is acid, a reaction that increases progressively and rapidly. These investigators have studied this condition in nine cases—cancer of the stomach, cerebral hemorrhage, pulmonary tuberculosis, uremia, and puerperal septicemia. The reaction can be seen a half-hour after death if the experiments are carefully performed. The reaction is very persistent, for in one case of poisoning by strychnine, a state of considerable acidity was determined six months after death. The acidity of the liver after death is not due to microorganisms, but to autolysis, as has been demonstrated by Magnus Lévy. The acidity does not develop until about fifteen minutes after the cessation of respiration. At this time life is considered to be absolutely extinct. If uncertainty exists as to the presence of death in any instance, the examination of the hepatic or splenic pulp will satisfy all doubts.—*Revue Française de Médecine et de Chirurgie,* May 8, 1905.

Observations on the Local Treatment of Rabies.—Konradi, as the result of laboratory experiments with the disease, draws the following conclusions. It is possible to prevent the development of rabies by local antiseptic treatment (bichloride solution, 1-1,000) to the site of inoculation. In injuries to the limbs the treatment must take place within twelve minutes, and in wounds of the face within three minutes, but may be of value even after the expiration of thirty minutes. Relapses are possible with rabies, as with other infectious diseases. The virulence of rabic virus is reduced by active antagonism on the part of the animal organism. Individual susceptibility must be reckoned with in laboratory experiments, as in practice.—*Zentralblatt für Bakteriologie.*

Book Reviews.

Food Preservatives, Their Advantages and Proper Use; The Practical *versus* the Theoretical Side of the Pure Food Problem. By R. G. Eccles, M.D., Phar. D., Fellow of the American Association for the Advancement of Sciences, etc. With an Introduction by E. W. Duckwall, M.S., etc. New York: D. Van Nostrand Company, 1905.

The object of this little monograph is to show that food preservatives, such as salicylic or benzoic acids, are not injurious to health or digestion if employed properly, and that the opposition to their use comes from the ultraconservative minds among the people and from politicians who are interested in the food problem without being acquainted with the scientific facts connected therewith. Dr. Eccles is not in sympathy with the majority of the leaders of the pure food and drug movement, for the opponents of modern preservatives appear to him to be in favor of impure food and food dangerous to public health. The essay is written, therefore, in the hope of convincing the profession and the public "that the evils that come from not using preservatives may be greater than those which can possibly result from their use."

The pamphlet makes interesting reading, and the author's reputation as a food expert entitles him to a careful and impartial hearing.

Poisonous Plants of All Countries. With the Active Chemical Principles Which They Contain and the Toxic Symptoms Produced by Each Group. By A. Bernhard Smith, late Acting House Surgeon to Lord Lister, King's College Hospital, London, etc. Bristol: John Wright and Company, 1905.

This is a syllabus of the poisonous plants commonly met with, and of the symptoms and treatment of the intoxications produced by them. Guy and Ferrier's classification of toxic plants has been followed, and under each group are given the names, botanical characters, and toxic principles of each plant and the symptoms and treatment of poisoning by any member of the group considered. A table of mushrooms, together with two rather primitive colored plates of fungi, are given, while a list of the active principles, a glossary of botanical terms, and a full index make the book useful for reference.

An Introduction to Chemical Analysis, for Students of Medicine, Pharmacy, and Dentistry. By Elbert W. Rockwood, M.D., Ph.D., Professor of Chemistry and Toxicology, University of Iowa, etc. Second Revised Edition. Illustrated. Philadelphia: P. Blakiston's Son and Company, 1904.

Dr. Rockwood's book is a practical manual of chemical analysis, intended primarily for medical students, as a guide in their laboratory course. It is probably too elementary for pharmaceutical students, except perhaps in the beginning of their course. The book includes an introductory chapter on general technics, and a series of lessons covering qualitative analysis of inorganic and of the commoner organic compounds, with special reference to the substances of interest to the physician. Volumetric analysis is next taken up, and its principles are thoroughly elucidated, so that a student can apply them later in his clinical work. Finally, a brief outline of the analysis of drinking water, of the methods of detecting poisons, and of blowpipe analysis is given. A series of tables useful to the beginner in chemistry completes the book.

The author correctly aims to teach principles rather than to fill the student's overtaxed cerebrum with a mass of details which he is not likely to retain. Special attention is given to incompatibilities of chemicals, and a series of suggestive questions has been inserted. The book is very practical, and evidently written to suit the peculiar needs of medical students. This second edition contains few changes, but has been carefully revised.

Infantile Mortality and Infant's Milk Depots. By G. F. McCleary, M.D., D.P.H., Medical Officer of Health in the Metropolitan Borough of Battersea. Illustrated. London: P. S. King & Son, 1905.

Dr. McCleary's book contains a very interesting and complete technical, statistical, and medico-humanitarian study of the movement known in France under the name of "Goutte de Lait," in England as "Infant's Milk Depots," and in this country typified by the philanthropy of Nathan Strauss and the work of various Health Boards in establishing "Milk Stations" for the infants of the tenements. The author studies the question of the milk supply to the infants of the poor from every viewpoint, collects a series of valuable statistics, and describes in detail the milk depots of France, England, Spain, and the United States. In England there is a tendency to follow American methods of modifying infant's milk, "without the American refinements, which are probably unnecessary on this side of the Atlantic," while in France the tendency is to give infants unmodified milk much earlier. A full account of the various phases of the pure milk movement in New York will be found in this book, including the "Certified Milk" system.

The book is especially to be commended to health officers and to physicians who are in charge of hospitals or other institutions for infants, but it is also of interest to philanthropists and students of preventive medicine in general.

Chirurgie du Système Nerveux (Crâne et Encéphale, Rachis et Moelle, Nerfs). Par Georges Marion, Professeur Agrégé à la Faculté de Médecine de Paris; Chirurgien des Hôpitaux. Paris: G. Steinheil, 1905.

This is the sixth volume of the system of surgery edited by Professors Berger and Hartmann of Paris, and contains the operative surgery of the cranium, the brain, the spinal cord, and the nerves. The work is based upon Professor Marion's personal experience, as well as upon the entire literature of the subject. The author assumes that the reader has little or no experience in this field of surgery, and leads him, step by step, through the operations, describing technical manipulations and instruments, landmarks, precautions, dangers, etc., with a minuteness of detail and a clearness of diction which makes the work especially valuable to the surgeon who only occasionally is called upon to perform operations on the brain and the spinal cord. The book is, however, also well adapted for the use of surgeons who make a specialty of brain surgery, as it presents all the methods known, with their bibliography, giving the preference in each instance to one or two selected methods which the author has found to give the best results in his own work.

The ground has been thoroughly covered, though naturally some subjects have not been treated completely, for the simple reason that they are still in a comparatively undeveloped state. The surgical treatment of epilepsy and other neuroses, and the newest methods of dealing with the cerebrospinal fluid, etc., are fully discussed. Americans have been given very full credit where it belongs, and one meets such names as McBurney, Nancrede, Hartley, Deaver, Keen, Dawbarn, etc. In discussing the resection of the Gasserian ganglion, the author gives due credit to both Hartley and Krause, but does not use either method personally, giving the preference to a procedure described in 1904 by Prat, which involves the resection of the zygomatic process.

The 320 illustrations are excellent, and add a great deal to the value of the book.

The Detection of Poisons and Strong Drugs, Including the Quantitative Estimation of Medicinal Principles in Certain Crude Materials. By Dr. Wilhelm Autenrieth, Professor in the University of Freiburg. Authorizes translation from the Third Enlarged German Edition, by William H. Warren, Ph.D., Professor of Chemistry, Medical Department of Washington University, St. Louis, Mo. Seventeen illustrations. Philadelphia: P. Blakiston's Son & Co., 1905.

In this volume, within the brief compass of a couple of hundred pages, the student will find a concise and valuable guide to toxicological analysis. The book is written by a well-known authority on the subject, and is here presented in English for the first time. In addition to the usual laboratory directions, the author gives information on the fate distribution, and elimination of the various poisons that may have gained access to the animal body. There is a sufficient indication of the literature of the subject, and constant reference is made to original articles dealing with special topics. The volume is well got up, the printing is clear, the arrangement excellent, and the book easily stays open at any given page—a necessary adjunct to a laboratory guide, but one not always found.

A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, A.M., M.D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905.

This new book on chemistry has some features which differentiate it from most other books of its class. It is eminently readable; the various theories discussed are made clear and intelligible; there is not too much chemistry, and what is given has been selected with reference to the needs of the general practitioner; there are several sections of great practical interest, such as those on water supply, urine, milk, and the various paragraphs on toxicology, all of which are treated from the standpoint of the physician and not of the expert. Among the newer topics are included ionization, dissociation, cryoscopy, radium and radioactivity. A few flaws have been detected which could be corrected in the next edition, *e. g.* on page 60 the valence of boron is given as four; four pounds of sulphur will disinfect a space of 1,000 cubic feet, not 10 cubic feet, as on page 149; on page 131, hydrochloric acid should not be given as an example of the *-ic* acids with salts terminating in *-ate*.

Society Reports.

NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

First Annual Meeting Held in Washington, D. C., May 18 and 19, 1905.

(Special Report to the Medical Record.)

(Continued from page 835.)

General Meeting.

THURSDAY EVENING, MAY 18.

Address.—Mr. Talcott Williams of Philadelphia said that the rise in the standard of life was chiefly due to the lessening of transmissible disease. He believed that in the future it would be as hard to find a case of tuberculosis for clinical study and the teaching of students as it is to-day to find a case of smallpox or typhoid fever in some European cities. He believed it would be the duty of the State in a short time to take care of all transmissible diseases, and the physician would confine himself to the treatment of the regular diseases of childhood, middle life, and old age. One of the most important factors in the removal of tuberculosis, in his opinion, was the elimination of dust, and he considered that greater care of our servants was most important. He urged the more thorough and careful investigations by hospitals and private subscribers of each individual case, and stated that the child is already born who will see tuberculosis disappear as a menace to society.

Pathological and Bacteriological Section.

MORNING SESSION, FRIDAY, MAY 19.

Channels of Infection in Tuberculosis.— Dr. Wm. H. Welch of Baltimore reviewed in detail the various channels of infection, and the many and varied opinions of observers, both here and abroad, as to the relative frequency of each.

Dr. Leonard Pearson of Philadelphia called attention to the fact that an English Commission had recently stated that one-third of the cases studied by it were apparently due to the bovine tubercle bacillus.

The Clinical Value of Marmorek's Antituberculous Serum.—Dr. Arthur J. Richer of Montreal gave statistics showing the results of the use of this serum, and explained in detail the method of its employment.

The Serum Diagnosis of Tuberculosis.—Dr. Hugh M. Kinghorn of Saranac Lake gave the details of the use of this serum, and stated that he did not rely upon it as being of much value.

The Diagnostic and Prognostic Value of Agglutination in Tuberculosis.—Drs. M. P. Ravenel and H. R. M. Landis of Philadelphia did not consider that agglutination was of any value for diagnostic purposes, nor did it have any prognostic value.

Studies in Immunity in Tuberculosis.—Drs. E. R. Baldwin, H. M. Kinghorn, A. H. Allen, and J. L. Nichols of Saranac Lake read these papers, in which they detailed a number of experiments, but drew no conclusions.

The Blood in Tuberculosis, with Special Reference to Prognosis.—Drs. Josephus Ullom and F. A. Craig of Philadelphia read a paper in which they said there were many differences in the results obtained by examinations of the blood according to the stage of the disease.

The Thyroid Glands in Tuberculosis.—Dr. M. B. Stanton of Philadelphia reported having studied cases in the living and on the cadaver, and called attention to the frequency of the coexistence of disease of the thyroid and tuberculosis.

Dr. Edward L. Trudeau of Saranac Lake reported having observed the coexistence of tuberculous symptoms and exophthalmic goitre.

AFTERNOON SESSION, FRIDAY, MAY 19.

The Natural and Artificial Protection of Man Against Tuberculosis.—Dr. G. Figari of Genoa presented this paper by invitation; it was read by Dr. James J. Walsh of New York. It dealt with experiments made upon animals, and he hoped to produce a protective immunity against the disease by using certain fluids by the mouth, as blood serum, or milk. In other words, animals were to be immunized and the blood serum or milk of these animals was to be used to immunize a large number of people. Nothing positive in the way of conclusions was drawn.

Tuberculosis of the Thoracic Duct and Acute Miliary Tuberculosis.—Dr. Warfield T. Longcope of Philadelphia read this paper, and said that many observations had been made of tuberculosis of the thoracic duct in cases of acute miliary tuberculosis. In 12 out of 13 cases of acute miliary tuberculosis large cheesy nodules were found in the duct. They had studied 25 cases of tuberculosis in which the process was generalized and where the thoracic duct seemed to be the origin of the process. Of these 25 cases, 17 were typical instances of acute general miliary tuberculosis. The course of the disease was usually from two to twelve weeks. In 20 out of 23 cases of generalized tuberculosis showed tuberculosis of the thoracic duct; in two instances of chronic type the peritoneum and thoracic duct were normal. The type of lesion in the duct varied greatly. He believed the thoracic duct was of great importance in spreading tuberculosis throughout the body. Two specimens of tuberculosis of the thoracic duct from the Johns Hopkins Laboratory were shown.

The Vitality of the Tubercle Bacillus in Sputum.—Dr. David C. Twichell of Saranac Lake reviewed the literature on this subject, and told of experiments made with the tubercle bacilli in sputum to determine their vitality under various conditions of dampness or sunlight, in certain media, etc.

Vicarious Action of the Bowel for the Kidney in Tuberculosis.—Drs. Lawrence F. Flick and Joseph Walsh of Philadelphia presented this paper, which was read by Dr. Walsh. They said they had made a careful study of a number of cases, which had been under observation for a long time, and had seen many cases come to autopsy, and they were satisfied that there existed this vicarious action of the bowel for the kidney in tuberculosis which seemed to be an effort on the part of Nature to eliminate by the bowel what could not be eliminated by the kidneys. A detailed report of one out of fourteen cases was presented.

Dr. Oliver A. Blumenthal of Syracuse reported a case of vicarious action of the bowel occurring in a patient of 28, who was suffering from tuberculosis of the left apex. About 7 o'clock in the evening the temperature would begin to rise, and by 8 o'clock it would be 102° or higher; this would immediately be followed by colic and rumbling in the bowel, and then by loose stools and the reduction of the fever. This reduction of temperature to normal would occur within a few minutes. Vicarious sweating was also noticed at times in this patient.

Landry's Paralysis Complicating Tuberculosis.—Dr. D. J. McCarthy of Philadelphia contributed the history of mixed infection occurring in a case of advanced tuberculosis. Landry's paralysis was an ascending paralysis, without sensory disturbances, with the toxic condition suddenly coming on and with the cerebrospinal fluid containing different microorganisms. In the case reported, the Klebs-Loeffler bacilli were found in pure culture. Landry's paralysis complicating tuberculosis was an exceedingly rare affair.

Sociological Section.

SECOND DAY, FRIDAY, MAY 19.

Progress of the Sanatorium Movement in America.—Mr. Wm. H. Baldwin of Washington gave statistics of the number of sanatoria in existence at the present time throughout the United States, together with their location, accommodation, and results. He reviewed the growth of the movement from the time it was started twenty years ago by Dr. Trudeau, and showed not only what had been accomplished up to the present time, but what the prospects were for the future.

Dr. W. J. **Marcley** of Rutland, Mass., took up the question of the employment of the improved cases and discussed it at great length. He also urged the improvement in the methods of living on the part of consumptives, and advised that physicians, Boards of Health, employers of labor, owners of buildings, and proprietors of sanatoria should be urged to cooperate in accomplishing this object.

Dr. J. N. **Hurty** of Indianapolis showed how Indiana was endeavoring to improve the condition of its consumptives, largely by educational means, and he advised the taxation of the owners of all unsanitary places as a means of increasing the healthful surroundings for consumptives to live and work in.

Dr. **Kennedy** of New York described a method now in vogue of finding employment for improved consumptives.

Dr. W. H. **Allen** of New York detailed the work of the seaside camp now in operation, and dwelt with great force and at considerable length on the importance of making the fact public that many of the deformities of childhood were due to tuberculosis in the parents.

Dr. **Wallace** of New York explained the objects of the seashore home at Coney Island for the treatment of crippled children, and detailed some of the results obtained to date.

Dr. T. E. **Oertel** of Augusta, Ga., stated that nothing of any importance in this matter had been done in the South, but that the profession was about to be organized throughout Georgia with a view of securing State aid and making a determined fight for the improved condition of the consumptive.

Dr. **Wainwright** of Scranton referred briefly to the philanthropy of a gentleman in Oil City, Pa., who was supporting several consumptive patients at his own expense in tents in the country, and feeding them at his own farm house.

Mrs. **James** E. **Newcomb** of New York made a few remarks as to what she and her associates were endeavoring to accomplish in New York City.

Dr. S. A. **Knopf** of New York gave more details of Mrs. Newcomb's work, which he said consisted principally of caring for poor consumptive working girls and women.

Dr. Geo. M. **Sternberg** of Washington, D. C., called attention to his establishment of a hospital for consumptive soldiers, instead of their having to be treated along with soldiers sick of other diseases. He also laid great stress upon the fact that to date it had been impossible to get any help from the Government for the establishment of a tuberculosis hospital in Washington.

Mr. **Edward** T. **Devine** of New York said the citizens of Washington would be able to accomplish more if they were to band themselves together, and not, as seemed to be the case, be at variance with the local Health Officer.

Dr. **Kober** of Washington agreed with Mr. Devine, and showed how impossible it had been to secure the condemnation of houses in Washington that were unfit for habitation, simply because one Senator objected.

Infection in Transportation.—Dr. H. M. **Bracken** of St. Paul went into this matter in great detail, especially concerning the condition of Pullman cars, and read extracts from letters from railroad surgeons all over the country, showing how little care in most cases is taken to keep the cars clean. He considered that sleeping cars were especially dangerous, and he believed the question of car sanitation and car ventilation was one of vital importance.

Dr. T. R. **Crowder**, a representative of the Pullman Company, objected to a great deal of what had been said in reference to the uncleanly condition of Pullman cars and the many criticisms of the Pullman car as now constructed. He called attention to the number of improvements that had been instituted within the last five years, of which he considered the most important was that of using a third sheet for covering over the top of the blankets, thus protecting the berth material entirely from the occupant and preventing the materials themselves from coming in contact with any future occupant. He explained the methods at present in use for the cleansing and fumigation of the cars, and admitted that an ideal method had not yet been found.

Dr. Bracken called attention to the fact that the car cleaning was not always done according to the rules regulating this work.

Dr. Crowder stated that the rule of the company that no infectious disease should be carried could not always be enforced.

Mr. **Kennedy** felt that perhaps the public's taste for ornamentation had something to do with the present make-up of the cars.

Dr. J. N. **Hurty** of Indianapolis commented on the fact that many people who traveled in Pullman cars were not cleanly themselves. He said he felt that the company was bringing about improvements as fast as possible, and that the condition of the company's blankets was sometimes better than the garments of the people who used them.

Mr. **McDonnell**, a representative of the Pennsylvania Railroad, assured those present that his company was anxious and willing to carry out any suggestions for the improvement and comfort of the traveling public that the association or any one else might suggest, provided it could be convinced of the necessity and practicability of adopting the suggestions offered. He showed that the company had gone to great trouble and expense in introducing the most up-to-date ventilator device; had made hundreds of tests in order to discover the best disinfectant, and was now about to devise a method of giving the traveling public a good reliable water supply in places where it was known that the drinking water was not good.

Dr. J. B. **Castor** of the Santa Fé Road stated that his company would gladly adopt any practical suggestions that might be offered for the disinfection, fumigation and cleansing of the cars and for the protection of the health of the traveling public. He called attention to the fact that the employees of the company were very rarely affected with tuberculosis, which was also true of the Pullman car employees, which he felt showed that the railroad cars could not be the menace to public health that it was claimed they were. He ridiculed the suggestion of having a hospital car for tuberculous patients, which, he said, would be useless in the absence of the law compelling such patients to ride in such cars.

Dr. R. L. **Graham** of New York spoke at some length on the methods employed by the Metropolitan Street Railway Company of that city to insure the health and comfort of the traveling public, and also called attention to some of the difficulties that had to be contended with in accomplishing the object sought.

Dr. **Victor** C. **Vaughan** of Ann Arbor said that the railroad companies, and especially the Pullman Car Company, were not doing by any means all that could be done to preserve the health of their passengers, and made several suggestions as to what might be done to improve the comfort and convenience, as well as lessen the dangers to the traveling public.

Mr. **Edward** T. **Devine** of New York suggested that this association should have a Standing Committee on Sanitation and Transportation, with Dr. Vaughan as chairman, and that the public should be educated up to the point of creating a demand for the improvement suggested.

Dr. **Charles** L. **Minor** of Asheville heartily endorsed the suggestions of Mr. Devine, and called attention to the fact that the railway surgeons were absolutely helpless in these matters, as their suggestions were always swept aside in order to place a few more dollars in the pockets of the stockholders.

Dr. **Pottinger** of Los Angeles commended the excellent sanitary laws and regulations of the Northern Pacific Railroad, and also the recent employment of the third sheet by the Pullman Company.

Dr. S. A. Knopf of New York called particular attention to the cuspidors in railroad cars, which he said were not deep enough, nor did they have large enough openings. In addition to these improvements, he recommended that something more than water should be placed in each cuspidor. He also objected to the habit of the Pullman porters in brushing off the passengers, which he considered a very dangerous procedure.

Dr. Bracken heartily endorsed what Dr. Knopf had said in reference to the cuspidors, which he said a person could not hit if he tried. He realized the difficulties of keeping the cars clean, but stated that this was accomplished in Texas because it was made compulsory.

Dr. Keim of Iowa moved that the thanks of the assembly be extended to the various transportation companies that had sent representatives to this meeting to take part in the discussion. This motion was carried.

Clinical and Climatological Section.

FIRST DAY, THURSDAY, MAY 18.

The Secretary, Dr. S. G. Bonney took the Chair in the absence of Dr. Bridge, whose address "On Some Usually Neglected Dangers from Sputum," was read by title.

The Committee on Clinical Nomenclature made a report through its Chairman, Dr. Vincent Y. Bowditch of Boston, Mass.

Dr. Charles L. Minor of Asheville moved that the Executive Committee be requested to send copies of the report of the Committee on Clinical Nomenclature to the medical members of the Association and to the leading medical journals of the country; that they urge its general use during the coming year and that any resultant statistics be sent to the Committee on Nomenclature, which is hereby continued with orders to report next year. This resolution was carried.

The Committee on Early Diagnosis made a report, through its Chairman, Dr. Arnold C. Klebs of Chicago, Ill. The report called attention to the importance of family history, temperature, and careful physical examination. The Committee did not feel that the *x*-ray was of any particular value as an aid to diagnosis. Reference was made to the fact that the pleuritic friction sound was often heard early in the disease and also that râles were frequently heard only after the patient coughed. Some comment was made on the use of tuberculin which was considered quite important but necessitated great care and a complicated apparatus.

Dr. Edward G. Janeway of New York believed that the failure to recognize the disease in its early stages was partly due to lack of care and reexamination. He called attention to the fact that in the absence of physical signs a physician will often tell a patient he has no consumption, apparently forgetting that the disease might be present although physical signs were absent. He advised at least four or five examinations before a person should be pronounced free from consumption.

Dr. F. I. Knight of Boston believed that diagnosis had been attempted much earlier since the possible curability of the disease had been proved, and usually with beneficent results to the patient although occasionally otherwise.

Dr. DeLancey Rochester of Buffalo said the profession neglected the pulse entirely too much, and he believed a perceptibly increased pulse of low tension was an important sign. He reported in detail the case of a man in whose expectoration tubercle bacilli were present although a deformity of the nose and the condition of the pharynx would easily have accounted for the sputum he was raising and the symptoms of which he complained. Later examination of this patient elicited signs of early tuberculosis. He believed that all cases with a rising temperature should be examined repeatedly, as he considered this a most suspicious sign.

Dr. Potter of Indianapolis had asked the members of the junior class in a medical school to state the symptoms and physical signs of early tuberculosis, and although he had received very fair answers to the first part of the question he was appalled to observe the lack of knowledge concerning the early physical signs. Taking up the question of the use of tuberculin as a diagnostic agent he admitted that he had been led to use it more and more, especially in cases requiring a positive diagnosis at once.

Dr. Howard S. Anders of Philadelphia referred to the association of mitral stenosis with tuberculosis and mentioned two cases in which the patients, both semiemaciated, anemic women, with streaks of blood in the sputum, appeared to be tuberculous, but who really had mitral stenosis. The mitral stenosis was followed by apical tuberculosis six months later. While he did not know whether or not people suffering with mitral stenosis were any more susceptible to tuberculosis, yet he did feel that the type of physique rather indicated this. He then called attention to some of the mistakes made in physical examination, such as auscultation after the patient had taken two or three deep breaths, when one might miss things that had been present before.

Dr. Alfred Meyer of New York said that he avoided the auscultatory mistakes mentioned by Dr. Anders by making a second examination of suspected points after he had made a cardiac examination. Referring to the occurrence of hemoptysis in mitral stenosis he said he knew that in cases in which mitral stenosis and areas of dullness coexisted hemoptysis had often been present.

Dr. S. E. Solly of Colorado Springs regretted very much the slighting way in which the *x*-ray had been treated in the report as he regarded it as extremely valuable and often of great service.

Dr. Charles L. Minor of Asheville called attention to the use of the thermometer. He advised that physicians should make sure their thermometers were accurate on some other authority than that of the maker. He commended the Committee for dwelling in their report upon the importance of the use of the blue pencil, as in his opinion it was only by its aid that one could satisfactorily determine these cases.

Dr. S. L. Pottinger of Los Angeles thought that with the physical examination, personal history, and tuberculin test the diagnosis could be made with a practical certainty, although it required considerable time.

Dr. John H. Pryor of Ray Brook, N. Y., regarded the Committee's report as one of the safest and most judicious he had ever read, and in view of the fact that it would probably be published he suggested that it be so changed as to include a reference to the change in the pitch of the voice or whisper as a diagnostic point.

Dr. Mannheim of New York emphasized the point that rough breathing was the very earliest sign of tuberculosis, but called attention to the fact that it must not be confounded with increased vesicular breathing, interrupted breathing, or adventitious sounds. While this sign was not absolutely characteristic of tuberculosis yet in his experience it was often found after repeated examination.

Dr. Dunn expressed the fear that physicians might go a little too far into the refinement of diagnosis, and misinterpret the slight signs, calling them indications of tuberculosis, although he did not mean to decry the most careful work in this line.

Dr. Arnold C. Klebs of Chicago, in behalf of the Committee, thanked all those who had taken part in the discussion and said the Committee simply wanted to bring out in its report the most important points.

Dr. DeLancey Rochester of Buffalo moved that the relation of tuberculosis to insurance companies and the importance of the cooperation of these companies be brought to the attention of the officers of this Association; that they be requested to interest the directors and officers of the insurance companies in the matter of the prevention of tuberculosis, and that an invitation be extended to the officers to attend the next annual meeting of this Association. This was carried.

On motion of Dr. Victor C. Vaughan of Ann Arbor the report was adopted as read.

The Open Air Treatment of Surgical Tuberculosis.—Dr. W. S. Halstead of Baltimore in this paper referred to the early treatment of tuberculosis, especially surgical cases, by means of open-air life, and quoted at length a large number of illustrative cases.

Dr. John W. Brannan of New York detailed the results of the work done along this line at Coney Island where an institution had been established for open-air treatment, which showed it to be a great success. He stated that the children were kept out of doors every day in the year and slept every night with the windows down, the temperature in their rooms at times being as low as 28°. He showed some photographs of some of the children illustrating marked improvement and gave some statistics of the results accomplished to date.

Dr. Alfred Meyer of New York asked if the use of tuberculin was as beneficial in tuberculosis of the bones as in tuberculosis of the soft parts and requested an explanation of the method of its administration.

Dr. Halsted said that Dr. Trudeau's preparation and method were employed, two milligrammes being given to an adult and one to a child to begin with, the second dose being increased to four and two milligrammes respectively, a third dose being very rarely needed.

Influence of the Advent of the Tuberculous Upon Native Populations.—Dr. C. F. Gardner of Colorado Springs referred in this paper to the great difference in different countries and cities in the effect on the native population of an influx of consumptive cases.

Dr. Lawrence F. Flick of Philadelphia believed that the reason why the native population in many places was not affected by the invasion of tuberculous people was because of the immunity enjoyed by the descendants of consumptives. He stated that children were more immune than parents and that therefore the children of consumptives were less susceptible to the disease than the parents were, which he thought perhaps explained why, in a thickly populated city like Denver, there were not more cases of tuberculosis among the natives.

Dr. S. L. Pottinger of Los Angeles said that only two cases of tuberculosis, so far as could be learned, had occurred in the native population of his city in the last ten years, although attention had frequently been called to what might happen if tuberculous cases were herded together in cheap lodging houses.

The Committee on the Role of Climate in the Management of Tuberculosis made a report through its Chairman, Dr. Charles L. Minor of Asheville.

Dr. Lawrence F. Flick of Philadelphia objected very much to the adoption of the report on the ground that the Committee had considered climate an important factor in the treatment of tuberculosis whereas the speaker did not consider there was anything in climate in the treatment of this disease. He believed that common sense ways of living with open air, proper diet, and proper discipline, in any kind of climate, would effect a cure, and made the statement that he had sucessfully treated in Pennsylvania patients who had been unsuccessfully treated in the West and the South.

Dr. F. I. Knight of Boston thought that climate did have some effect in the treatment of the disease.

Dr. Stevens of Iowa urged that the report should be so modified as to lay less emphasis on the value of climate as he feared otherwise the publication of the report would have a bad effect on legislators when they were approached on the question of establishing sanatoria in their own States.

Dr. Carrington of Fort Stanton spoke strongly in favor of climate in the treatment of tuberculosis largely because in certain places one could live out doors so many more days in the year than was true of certain other places.

Dr. Vincent Y. Bowditch of Boston spoke in favor of adopting the Committee's report.

Dr. DeLancey Rochester of Buffalo, while claiming that he had had some patients recover from tuberculosis while living in the damp and dark city of Buffalo, admitted that it was not the place where he would elect to treat a patient if he could be sent elsewhere, and he was therefore in favor of adopting the Committee's report.

Dr. Guy Hinsdale of Hot Springs, Va., asked what the members of the Association would do if they had consumption and, replying to his own question, stated that they would doubtless seek the best climate they could get.

Dr. Alfred Meyer of New York thought it was a good thing that objection had been taken to the report of the Committee as it had accentuated in the minds of those present the value of pure air.

Dr. Lawrence F. Flick of Philadelphia believed that a patient could live out of doors 365 days a year in any climate, never mind how severe or damp the weather, as it stimulated the desire for the very kind of food that was necessary for the treatment of the disease.

Dr. W. F. R. Phillips of Washington was in favor of referring the report back to the Committee owing to the great difference of opinion as to the value of climate on which the Committee had laid considerable stress.

The report was finally adopted although with many dissenting votes.

SECOND DAY—FRIDAY, MAY 19.

The morning was devoted to a symposium on the sanatorium treatment of consumption.

Sanatorium Provision with Industrial Opportunities for Indigent Consumptives.—Dr. Herbert M. King and Dr. Henry B. Neagle of Liberty, N. Y., presented this paper which was read by Dr. King. All exertion, physical as well as mental, should always be under medical advice and a list of occupation more especially adopted for consumptives was given. In the institution at Liberty there were three departments, the infirmary, the pavilions, and the industrial. Patients were first sent to the infirmary under medical supervision. When the disease became quiescent the patient was transferred to the pavilion before it was determined the kind of work best adapted for him. As the disease abated he was transferred to one of the units of the industrial departments, and later he was sent back to the world a bread winner. At the Loomis Sanatorium the average duration of the disease was over three years, and during these years 70 per cent. of the fifty people chosen for observation were self-supporting. To determine the merits of complete rest and exercise some experiments were made in the Loomis Annex which seemed to favor the enforcement of rest. In only a few instances the patients felt better during the period of increased exercise. In 1902 an attempt was made to create a working corps among the quiescent cases, caring for the live stock, etc., each patient working four hours a day divided into two or four shifts, but the plan had to be abandoned because of disinclination on the part of the patients. Moderate exercise under careful supervision was most beneficial in certain cases.

Detention Institutions for Ignorant or Vicious Consumptives.—Dr. J. P. C. Foster of New Haven read this paper. He believed that it was not so very important to draw a sharp line of distinction between the ignorant and the vicious consumptives; they should be properly recorded and the unfortunate cases should be kept under supervision. Pauper cases passed into charitable institutions to remain there for life, and this became with a patient a matter of choice. For the safety of the public the right to detain such cases in hospitals should be given, and should be rigidly enforced. The detention of those willing to work was a different matter, although sometimes it must be necessary to detain patients who were able to work. These, he said, were the most dangerous that they had to deal with. With regard to the proper places for such detention, rationally the place was properly equipped wards in the poorhouses. Detention institutions could be had at very small expense and residence in such institutions should be demanded of such patients. The vicious consumptive could be held in the ordinary jails at slight expense and he should be made to do some work, as keeping the rooms clean, etc. Forcible detention should be made for those who were endangering the community.

What Cases are Suitable for Admission to a State Sanatorium for Tuberculosis Especially in New England.—Dr. H. C. Clapp of Boston read this paper in which he related his experience of six and a half years at the State Sanatorium at Rutland, Mass. The cases that were entered early in the disease showed 75 per cent. cures; the far-advanced cases were never cured; moderately advanced cases could sometimes be cured but often not. The incipient case should be made the standard for admission but, of course, this standard was more or less flexible. These hospitals should not be turned into homes for incurables. The sanatorium at Rutland had been gradually increasing its accommodations, starting in 1898 with 175 beds and now having 325 beds and soon it would have 400; if there had been no enlargement of accommodations the sanatorium would now be filled with incipient cases. Certain cases were positively excluded, such as the bed ridden, those with high fever, with laryngeal complications unless very small, with complications of other organs as the kidneys, etc. The vital point was the nutrition; this was the sine qua non of treatment and, therefore, any case with marked digestive disturbances was refused admission. No children under 14 or adults over 50 were admitted. The apyretic were the most desirable cases.

Six Years' Experience at the State Sanatorium for Tuberculosis at Rutland, Mass.—Dr. V. Y. Bowditch of Boston and Dr. H. B. Dunham of Rutland presented this communication which was read by Dr. Bowditch. He said hopeless cases were not received in this institution but provisions were made for them elsewhere. The majority of the cases admitted were far away from the incipient stages of the disease. Since the institution had been opened in October, 1888, there were received 3,300 patients out of 7,000 applicants, and for the results of treatment he referred them to the Eighth Annual Report published in 1904. He presented the following table: The number of patients discharged with disease arrested, 539; in good health and most of them at work, 400; the number who had not replied to his letter if inquiry, 50; the number of patients who could not be traced, 9; the number in whom the symptoms had returned, 36; the number who died, 45; patients who left the sanatorium "improved" but who had now reached the condition of "arrested," 63; this made a total of 1,142. This table showed the subsequent history of the patients up to May, 1905.

Sanatorium Management in Appropriate Climates.—Major G. E. Bushnell of Fort Bayard, N. M., read this paper. The cases dealt with were from the army, navy, and marine-hospital service largely and one-third of the cases were able to care for themselves unwatched. Many of the cases admitted were almost moribund and the results in this sanatorium should, therefore, not be compared with other institutions. At Fort Bayard the altitude was 6,040; the air was dry and but a slight precipitation; the rainfall was 13.79 inches and occurred chiefly in the summer months. The climate here was very advantageous and there was less sunshine during the summer months. The chief contraindication to altitude was weakness of the heart; increased strain upon the heart caused many cases to die quicker than if they lived at lower elevations. All patients were required to rest for one month when admitted and the results justified this procedure. The results of treatment here were very good. Photographs were shown of hospital plans and arrangements. In 1904 there were 625 patients, 375 remaining under treatment at the close of the year. Among these 625 cases there were the following results: In 12 there was arrest; in 379 there was improvement; 173 were unimproved; 61 died; 61 were not under continuous treatment. The cases in the Philippines did not differ in prognosis from the cases met with in this country.

The Treatment and Care of Advanced Cases of Pulmonary Tuberculosis.—Dr. S. A. Knopf of New York read this paper (to be published later).

The Home Treatment of Tuberculosis in Either Favorable or Unfavorable Climates.—Dr. Edward O. Otis of Boston read this paper and said that no climate for the treatment of tuberculosis was a favorable one, and that we should speak of climate in this connection as being "more favorable" or "less favorable." It had been stated that only 2 per cent. of those afflicted with tuberculosis could take advantage of sanatorium treatment and therefore the home treatment became of the greatest importance. Dr. Otis considered the question under different headings or divisions; the desperately poor, those who were in most comfortable circumstances while engaged in work, but whose incomes ceased when out of work, those able to go away, but with strong disinclination to go away, and those able and willing to go and live elsewhere, but who preferred to be treated privately. Each of these classes he said must be treated differently, and the hygienic and dietetic treatment must be adopted according to the exigencies of the case. The importance of cultivating a merry heart to make a cheerful countenance was emphasized. Pulmonary gymnastics was found to do more harm than good by many and Dr. Otis was of the opinion that restriction of motion and not increased motion was better for patients suffering from pulmonary tuberculosis.

The After Treatment of Tuberculosis.—Dr. J. A. Wilder of Denver read this paper.

The History and Work of the Bedford Sanatorium of the Montefiore Home.—Dr. Alfred Meyer of New York read this paper (to be published later).

Clinical Suggestions from the Study of Five Hundred Cases of Pulmonary Tuberculosis.—Dr. H. P. Loomis of New York read this paper (to be published later).

The Educational Leaflet for Distributon Among the People.—Dr. H. B. Biggs of New York, Dr. William B. Stanton of Philadelphia, Dr. V. Y. Bowditch of Boston, and Dr. Joseph Walsh of Philadelphia, were the members of the committee, which made the introductory report on this leaflet. This report was followed by a lengthy discussion as to the needs which should be fulfilled by such an educational leaflet for the people.

TENNESSEE STATE MEDICAL ASSOCIATION.

Seventy-second Annual Session, Held at Nashville, April 11, 12, and 13, 1905.

The Association met at Watkins' Hall, under the Presidency of Dr. Paul F. Eve of Nashville.

Prayer was offered by Rev. W. M. Anderson. Addresses of welcome were delivered on behalf of the city by Mayor A. S. Williams, and on behalf of the medical profession of Nashville by Dr. Geo. H. Price, the response to which was made by Dr. H. Berlin of Chattanooga.

Melancholia.—Dr. S. T. Rucker of Memphis read a paper on this subject. He defined the disease, and then referred to the etiology, symptoms, varieties, pathology, diagnosis, prognosis, and treatment. The onset of melancholia was almost always gradual. At first, it might be only a feeling, which took no definite shape, and there might be no delusions. Every thought and everything in the environment had a sorrowful color. When questioned, the patient would simply say he felt depressed or he had the blues. The morbid feeling constituted the disorder. The symptoms varied from a simple state of dejection to a state of profound depression, in which the patient was either paralyzed by the dreadful nature of his concepts or was thrown into a state of agitated suffering, associated with marked precordial distress and peculiar pains in the back or top of the head. The prognosis in melancholia was very favorable. Fully 90 per cent. recovered. Thorough investigation, speedy separation from relatives and friends, and an early commitment to an institution for treatment should be the rule in this class of patients.

Dr. M. Campbell of Knoxville said that melancholia was not, strictly speaking, a mental disease, but a symptom of a pathological state that underlay the symptom of depression that was most prominent, whether it be an organic or functional disease, but most generally it was functional. A large percentage of the subjects of melancholia who were sent to hospitals for the insane did not recover. He did not think half of them got well. As to the treatment, he suggested a change of scene, getting away from the conditions that produced the disease, building up the patient physically, giving hypnotics to produce sleep, warm baths, etc.

Dr. W. J. Breeding of Taylors related the history of a woman, 42 years of age, mother of eight children, whom he saw in the sixth week of pregnancy, when she was in a very depressed condition. He made a diagnosis of hysteria. There was no pathological condition, so far as could be determined. She had numerous delusions up to the seventh month of pregnancy, when a miscarriage occurred, the fetus being badly deformed. It was thought she would now get well, but in a couple of weeks she lapsed into a condition of melancholia, eked out a miserable existence for two or three months, and then committed suicide by hanging.

Dr. C. P. McNabb of Knoxville reported two cases, in neither of which would the family consent to sending the patient to a hospital. One patient had three attacks of melancholia, with three partial recoveries. The other was now in her third attack.

Dr. A. F. Paschall of Crossland thought that in the case of young men advertising literature played an important rôle in the causation of melancholia.

Dr. S. S. Crockett of Nashville said there was a popular impression that there was an insanity that developed in puerperal women that differed from other forms of the disease. There never was a greater mistake. Pregnancy and lactation should be regarded as one factor that might produce insanity in a woman who was otherwise predisposed to it.

Dr. Louis Le Roy of Nashville agreed with Dr. Crockett that there was no special type of insanity peculiar to the pregnant woman. The shock to the nervous system resulting from the profound changes occurring in pregnancy might bring on an attack which was impending or accentuate the nervous disturbance, otherwise held under control. On the other hand, many cases were the result of auto-intoxication.

Diagnosis of Kidney Diseases.—Dr. Louis Le Roy of Nashville read a paper with this title, and among other things, said that while malformations of the kidney were of great rarity, their importance in surgical cases should cause the possibility to be constantly borne in mind. The absence of one kidney or fusion of both into one mass should be considered, and the presence of an organ on both sides determined, if possible, while debating the admissibility of operative measures. It was not always possible, and frequently quite difficult, to determine the presence of the kidney when in normal position, and in such cases the presence of the organ might be determined by the x-rays, or both ureteral orifices might be determined by a cystoscopic examination, in which case the presence of two kidneys might be considered as assured. In case of movable kidney, however, it was usually possible to recognize the condition by palpation, sometimes assisted by percussion, and one might sometimes be surprised to find no clinical symptoms associated. In appendicitis the location of the point of tenderness, the usually higher temperature, absence of blood in the urine, tenseness of the muscles of the abdomen and flank, and the increase of polymorphonuclear leucocytes in the blood should direct attention from the kidney, especially if the mass could be palpated. Renal neuralgia was usually found in patients of a more or less neurotic temperament, and would not be found to be associated with hematuria. Ovarian inflammation might be puzzling, but one would usually be able to elicit some exciting cause, and local tenderness should be easily recognized by vaginal examination. Hematuria was absent and some endometritis was frequently associated. Diaphragmatic pleurisy would usually be influenced somewhat by respiration, even though the diaphragm were held rigid. There would be absence of abdominal breathing, and cough was usually present. The respirations were usually shallow and hurried, and early in the attack auscultation would frequently elicit the friction sounds. The essayist described the points of differentiation of kidney diseases from gastric ulcer, ataxia, chronic valvular diseases of the heart, and then referred at length to acute parenchymatous nephritis, and acute interstitial nephritis. Pyelonephritis was usually secondary to some other infection below, but especially in typhoid fever and tuberculosis might originate through the blood.

Perinephritic Abscess.—Dr. W. A. Bryan of Nashville discussed this subject, and the differentiation of this form of abscess from other abdominal conditions.

Treatment of Hypertrophied Tonsils.—Dr. J. F. Hill of Memphis entered his protest against the promiscuous and wholesale excision of children's tonsils. There were three kinds of diseased tonsils: (1) A tonsil which was constantly swollen, red, and easily irritated; this tonsil was of a specific scrofulous or tuberculous nature, and the only logical method of dealing with it was by excision. (2) A tonsil which was diseased in the interior, which formed occasionally into an acute abscess. (3) A tonsil with ulcers on the surface, which might be either indolent or active, was easily managed by a 2 per cent. solution of nitrate of silver. As to treatment, tonsil No. 1 was treated by complete excision; tonsil No. 3, which had ulcers on the surface, could be relieved with 2 per cent. solution of nitrate of silver, but tonsil No. 2 gave considerably more trouble. His method of treating tonsils of this character was to pass a small curette through these openings into the bottom of the tonsil and remove all the diseased or granular tissue, then carry a 10 per cent. solution of nitrate of silver into the tonsil. This should be repeated in from three to six days, and continued until the tonsils were cured, which usually required six treatments. By this method the tonsils were cured and left to perform their natural functions. He laid down two general rules: (1) Cure all tonsils which can be cured, and leave them intact. (2) Excise all tonsils which cannot be cured.

Dr. J. T. Herron of Jackson, in a paper on the same subject, quoted from some of the best authorities to show the importance of removing hypertrophied tonsils by some operation, and not allow them to remain, thus weakening the mental and physical strength of boys and girls. He detailed a number of cases upon which he had operated with gratifying results.

Dr. G. C. Savage of Nashville said it was a great mistake to allow children to go on from year to year with enlarged faucial tonsils., especially if they were subject to repeated attacks of inflammation.

Dr. T. J. Happel of Trenton preferred a tonsillotome for removing tonsils. He had tried scissors and other instruments, but said the practitioner should select that instrument which was best adapted to his use, then the work could be done more successfully.

Medical Ethics.—Dr. T. J. Happel of Trenton read a paper in which he said it was to be regretted that most graduates left medical colleges with a vague sort of idea that there used to be in the dim past a set of rules governing the relations of medical men to one another, to their patients, and to the public at large, but that since nothing had ever been said to them by their professors upon this subject, those rules had long since passed into innocuous desuetude.

Origin and Treatment of Malignant Growths.—This was the title of the President's Address, delivered by Dr. Paul F. Eve of Nashville. He mentioned two varieties, one of the epithelial type of cells known as carcinoma; the other of the endothelial variety, or connective tissue cells, known as sarcoma. Both of these in many respects presented clinical features very much alike. He referred to the theory that cancer was of parasitic origin, but said he was very much more favorably impressed by the other theory which based the origin of cancers upon cell proliferation. Assuming that this disease was due to cell proliferation, if one could in any way check or change these cells, he had the promise of an ultimate success and recovery. About two years ago he operated upon a lady for scirrhous mamma, with involvement of the neighboring glands. A very complete operation was made, and every vestige of the disease was removed, so far as could be discovered. Her recovery seemed complete in every respect, and he flattered himself that there would be no recurrence. Four months after the operation she returned with a reappearance in the scar tissue. A second operation was performed, consisting of curetting the diseased structures. The patient was subjected to treatment with the *x*-ray for four weeks. At first improvement was noticed, but at the end of the third week the wound looked very unhealthy, and at the end of another week the patient returned to him, appealings, as all those unfortunate women do, for some means to save her life. The appearance of the ulceration was foul and fungous, and every indication pointed to general infection and a speedy death. He began to treat this wound with balsam of Peru, after first irrigating with bichloride of mercury, 1-3,000. After the first few days the unpleasant odor ceased and he was surprised to notice a decided change and granulations of a healthy nature springing up in the wound. This treatment continued for five weeks, with an occasional touching up of the granulations with the solid stick of nitrate of silver. At the end of this time the wound was entirely healed, and the patient looked the picture of health. He had the pleasure of seeing this patient a short time ago. There was not the slightest evidence of any recurrence, and the woman was in excellent health.

Since this case he had had quite a number of others which had been treated in a similar manner. Improvement had been marked in every instance, and the ulcerations from the foul and fungous condition had assumed healthy granulations, healing occurring slowly but effectually.

Gastric Dilatation Without Stenosis.—Dr. Fenton B. Turck of Chicago discussed the pathology of this subject.

Food Adulteration in Tennessee.—Mr. Lucius Brown of Nashville, in a paper on this subject, said that an examination of pure food legislation showed that 22 States had a regularly organized food inspection department. Kentucky had just increased its appropriation for this purpose from $7,500 to $10,500. For the proper enforcement of pure food laws a qualified analytical chemist was an absolute necessity. Not less necessary was a wise and active pure food commissioner.

Early Diagnosis and Early Treatment of Otitis Media.—Dr. N. C. Steele of Chattanooga said that there was a large number of adults who were permanently deaf in one or both ears. Of every one thousand seriously deaf ears, perhaps in 999 the disease was otitis media, and every aurist knew that chronic otitis media was generally incurable. He pointed out the general management and treatment of these cases, and closed by saying that the physician who looked carefully and intelligently after the patient's general health, as well as the local treatment, would have the greatest success in otitis media, just as he would in other local diseases.

Tuberculosis Cutis.—Dr. J. M. King of Nashville discussed this subject. He pointed out how the initial skin lesion was formed, and discussed the differentiation of lupus from rosacea, eczema, and blastomycosis, which he said was rarely necessary. Radiotherapy, Finsen light, and violet rays were at present considered the most acceptable method of treatment, and should always be used if possible.

Gastrointestinal Diseases of Children in Summer.—Dr. Zeb. L. Shipley of Cookeville divided the acute diarrheas of infancy on the basis of their etiology into two main classes, namely, those due to nervous origin and those due to infection. Simple diarrhea was of nervous origin, manifested by an increased peristalsis. This increased peristalsis might be caused by various conditions acting through the central nervous system or by the mechanical action of undigested food. Among the most important factors acting through the central nervous system were sudden changes in temperature, prolonged exposure to heat or cold, fright, and fatigue. Food might fail of digestion from being unsuitable, or from the digestive organs being functionally weak. In either case the food became a foreign body. In this form of diarrhea the intestinal mucous membrane showed no pathological lesion unless it be a slight hyperemia. The stools were increased in number and fluidity, and usually contained particles of undigested food. The chief factor in the treatment of this form of diarrhea was the removal of the cause. If the alimentary canal contained undigested food, this could best be eliminated by giving fractional doses of calomel and sodium bicarbonate, often repeated, until one or two grains had been given, or castor oil in teaspoonful doses acted admirably. The cause having been removed, the diarrhea usually ceased. But should it continue, the treatment should be directed to the control of the excessive peristalsis. The author next devoted considerable attention to infective diarrhea, and said in the prophylactic treatment of it the infant should have the best possible hygienic surroundings, be given plenty of fresh air and bathed frequently. Care should be taken not to overfeed the infant, as less food was needed in warm weather than in cool, and owing to the depression produced by the heat the child was less liable to digest its food. The infant should be kept as quiet as possible. It should be lightly clothed and frequently bathed.

How Shall We Feed and Treat the Baby?—Dr. Herman Hawkins of Jackson, in a paper with this title, laid down three cardinal rules: (1) A food should be given the baby which could be assimilated and given at regular intervals. (2) One should obtain the best possible hygiene of person and surroundings. (3) As little medicine as possible should be given. Each rule was discussed at considerable length, and several cases were reported.

Amyloid Degeneration.—Dr. C. P. McNabb of Knoxville defined this disease and then discussed its etiology, pathological anatomy, symptoms, diagnosis, differential diagnosis, and treatment.

The More Serious Complications of Influenza.—Dr. E. A. Cobleigh of Chattanooga said that one of the primal results of influenza which was impressed upon him early was not simply the usual debility which accompanied most of the cases and seemed out of all reasonable proportion to the appreciable conditions presented, but its indefinite persistence and extreme degree in quite a good many cases. The patients, wholly without regard to age or previous vigor, were too feeble for any movement or exercise beyond the minimum of vitality required to stay alive. This one element of debility was profound, and the sole cause for uneasiness. Instead of recovering within ten days or a fortnight, most of these sufferers lingered for weeks, sometimes even for months, and not a few dwindled on for a year or two, to die of sheer exhaustion at last. The next condition, often occurring by itself, was marked by extreme nervousness. A third condition, not very frequent, but seen often enough to impress the clinician, was marked by mental involvement, occasionally amounting to prolonged delirium, to stupor little short of coma, to hallucinations during or even after convalescence from the real attack; and rarely to mania or continuing insanity. One of the most impressive and rare complications which he recalled ever having seen consisted in extreme clonic spasmodic seizures, particularly involving the heart, the diaphragm, and the muscles of respiration, with no mental disturbance except the most pitiable fear of impending death.

The Clinical Significance of Ascites.—Dr. Raymond Wallace of Chattanooga discussed this subject and reported two instructive cases. One case illustrated unusual difficulty of making an accurate diagnosis. The unusually pronounced alcoholic history in this case with excessive peripheral arteriosclerosis, taken with the gastric symptoms and the presence of ascites, naturally led to a diagnosis of atrophic cirrhosis; and the absolute absence of any cirrhotic changes in the liver was a point of interest. The disappearance of the miliary carcinosis of the peritoneum after scrubbing and exposure to the air presented a phase analogous to the operative cure of miliary tubercle of the peritoneum.

Acute Septic Osteitis.—Dr. Jere A. Crook of Jackson reported a severe case of chronic osteomyelitis of the femur in a twelve-year-old boy. The disease had existed for a year, and the necrosis had progressed so far that the shaft of the bone was entirely consumed for about two inches. The ends of the remaining bone were rounded with bone forceps, all loose pieces removed, the two freshened ends put in apposition, drainage inserted, and the limb encased in splints. The result was unusually good. The bone united, the wound healed entirely, and the patient had a useful leg with only about three inches of shortening. Here amputation seemed indicated, but conservative treatment saved the limb. He had amputated only twice for ostemyelitis, and then after making every effort to save the limb.

Prophylaxis of Tuberculosis.—At the evening session of the second day, this subject was discussed largely for the benefit of the laity, and speeches were made by Dr. John A. Witherspoon, Rev. Collins Denny, Captain A. J. Harris, and Mr. G. H. Baskette, representing the lay press.

Gallstones in the Common Duct.—Dr. W. D. Haggard of Nashville read a paper on this subject. He said that gallstones in the common duct had been found once in every five cases operated by Robson, and once in every seven cases of the Mayos. It was estimated that 67 per cent. occurred in the duodenal end, 15 per cent. in the hepatic end, and 18 per cent. in the middle of the choledochus. They varied in size usually from a split pea to a nutmeg, although exceptional instances of much larger stones had been recorded. They were usually solitary, although more than one was frequently found. Freeman of Denver removed 37. They usually caused death in from six to twelve months from cholemia, if the obstruction was complete and unrelieved. He had seen death ensue in six weeks from cholemia and infection. Operation was not urged in acute obstruction by stone, but recommended in all cases that had been in existence for several weeks or longer, unless there were ecchymotic spots from long-standing cholemia. A quiescent interval between ague-like attacks and in the absence of jaundice, was recommended for operation, if such an interval could be attained.

Circumcision.—Dr. E. A. Timmons of Columbia read a paper on this subject, in which he discussed its technique, method of anesthesia, and after-treatment, and reported several cases.

Appendicitis.—Dr. John A. Gaines of Nashville read a paper on this subject in which he cited several anomalous cases of this disease.

Etiology and Pathology of Appendicitis.—Dr. Walter Lenehan of Nashville contributed a paper with this title, which was based on the examinateion of 12 cases which were reported in detail, after which the author discussed the etiology, predisposing causes, and immediate causes. He had found the following organisms in his cases: Bacillus coli communis, Streptococcus pyogenes, aureus, Staphylococcus pyogenes aureus, Bacillus influenzæ, Bacillus typhosus, Klebs-Loeffler bacillus, Bacillus tuberculosis, and Diplococcus pneumoniæ. Some non-pathogenic organisms, notably the gas bacillus and a few yeast fungi, were also found, but were invariably associated with one or more of the pathogenic organisms. The organism most frequently found was the colon bacillus. The author drew the conclusion that any microorganisms capable of producing inflammatory changes in any other part of the body might also produce the same changes in the appendix.

Laryngeal Diphtheria.—Dr. C. H. Wilson of Nashville emphasized the importance of early mechanical relief when mechanical obstruction threatened life, and held that one should not delay until depression was marked. While in no other operation did skill show to better advantage, intubation was not a difficult procedure, but could be learned easily by practice. An early operation, though possibly awkward, was better than waiting to give a moribund case to an important consultant. Moral: Don't wait; intubate.

Tabes Dorsalis.—Dr. G. P. Edwards of Nashville said that the treatment of this disease should be directed to the removal of any syphilitic processes present or suspected; to the improvement of the general health, to stimulation of the function of the cells impaired but not lost, to restoration of coordination in the muscular system, and to correction of any incidental disorders which might retard or complicate the desired result. The author believed that any stage or condition of tabes might be improved or benefited by properly directed treatment. The development of the degenerative changes could be arrested completely in nearly every preataxic case, and much of the lost function could be restored. He believed that these results might also be obtained in a large majority of the ataxic cases, and that this majority was reduced somewhat in proportion to the duration and intensity of the ataxia and the abuse of the specific remedies employed. The author's clinical observation, aggregating 14 cases in his private work, had been uniformly satisfactory. In these fourteen cases, embracing a variety of conditions and degrees of advancement, all had responded to treatment in a most satisfactory manner. In every case the disease had been arrested and continued so to the present time. The author had demonstrated that the *x*-ray, when of sufficient penetration to obliterate the shadow of bony structures, would stimulate cell activity in the diseased cord, facilitate the restoration of the lost function in cells not completely destroyed, and relieve the crises and other lightning pains.

Alcoholic Insanity.—Dr. I. A. McSwain of Paris offered the following suggestions on this subject: (1) The children of drunken and debauched parents ought for obvious reasons to be taken away from them and placed in decent homes, or removed to industrial institutions provided by the State. This would check their hereditary tendencies to drunkenness, and therefore reduce the number being raised up to become a burden to the State in the way of paupers, criminals, and lunatics. (2) Young people, who in early life contract the pernicious habit of drinking, should also be removed from the temptation of their environments, and placed in institutions in which they should be taught some useful employment and restrained from vicious habits. (3) The drinking man, as soon as he began his spree, before he was crazed by it, should be taken into custody, not as a mere nuisance, but as a dangerous man or one likely to become so, because of insanity in the incipient stage. (4) The confirmed drunkard, the chronic alcoholic subject, should on no account be allowed to exercise his personal liberty in the pursuit of delusions which result from prolonged excesses.

The following papers were also read: "Some Recently Collected Statistics on the Increasing Frequency of Abortion; Some Causes for the Same," by Dr. J. L. Andrews of Memphis; "Keratosis Follicularis," by Dr. G. P. Edwards of Nashville; "Bone Surgery," by Dr. R. A. Barr of Nashville; "The Physician as an Advertising Medium," by Dr. F. J. Runyon of Clarkesville.

Officers.—The following officers were elected: *President,* Dr. Cooper Holtzclaw, Chattanooga; *Vice-Presidents,* Drs. S. W. Woodyard, Greeneville, Alfred Moore, Memphis, and A. F. Richards, Sparto; *Secretary,* Dr. George H. Price, Nashville; *Treasurer,* Dr. W. C. Bilbro, Murfreesboro.

Memphis was selected as the place for holding the next annual meeting; time, second Tuesday in April, 1906.

The British Army Council has decided to discontinue the experiment of providing recruits with artificial teeth. The soldiers would not pay for their teeth, as agreed, out of their pay of a shilling a day, and when the military authorities tried to make them, they deserted, teeth and all.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Eighteenth Annual Report of the State Board of Health of the State of Ohio for Year Ending December 31, 1903. 8vo., 569 pages, paper.

A Treatise on Plague, Dealing with the Historical, Epidemiological, Clinical, Therapeutic and Preventive Aspects of the Disease. By W. J. Simpson, M.D., F.R.C.P., D.P.H. 4to, 466 pages, muslin. The Macmillan Company, New York. Price, $5.00.

Atonia Gastrica (Abdominal Relaxation). By Achilles Rose, M.D., and Robert Coleman Kemp, M.D., 12mo, 215 pages, muslin, illustrated. Funk & Wagnalls Company, New York and London. Price, $1.00 net.

Salben und Pasten mit besonderer Berucksichtigung des Mitin. Von Dr. S. Jessner. 8vo, 37 pages. A. Stuber, Wurzburg, Germany.

Acute Contagious Diseases. By William M. Welch, M.D., and Jay G. Schamberg, A.B., M.D. 8vo, 781 pages, muslin. illustrated. Lea Brothers & Co., Philadelphia. Price, $5.00 net.

A Nurse's Guide for the Operating Room. By Nicholas Senn, M.D., Ph.D., LL.D., C.M. 8vo, 204 pages, muslin, illustrated. W. T. Keener & Co., Chicago. Price, $1.75 net.

Laryngeal Phthisis or Tubercular Laryngitis. By Richard Lake, F.R.C.S. Second Edition. Enlarged and Rewritten by Harold Barwell, M.B., F.R.C.S. 8vo, 120 pages, muslin, illustrated. Bailliere, Tindall & Cox, London, England.

The Historical Relations of Medicine and Surgery to the End of the Sixteenth Century. An address delivered at the St. Louis Congress in 1904. By T. Clifford Allbutt, M.A., M.D. 12mo, 125 pages, muslin. The Macmillan Company, New York. Price, $1.00 net.

The Book of Prescriptions with an Index of Diseases and Remedies. Rewritten by E. W. Lucas, F.I.C., F.C.S. 16mo, 366 pages, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $2.00 net.

A System of Physiologic Therapeutics. Vol. XI. Edited by Solomon Solis Cohen, A.M., M.D. 8vo, 388 pages, muslin, illustrated. P. Blakiston's Son & Co., Philadelphia. Complete set, $27.40.

The Doctor's Recreation Series. The Doctor's Window. Poems by the Doctor, for the Doctor, and About the Doctor. Edited by Ina Russell Warren. 8vo, 288 pages, muslin, illustrated. The Saalfield Publishing Co., Akron, O.

Dermatologische Heilmittel. Von Dr. S. Jessner. 8mo, 96 pages. A. Stuber, Wurzburg, Germany. Price, mk. 1.50.

Beitrage zur Klinik der Tuberkulose. Herausgegeben von Dr. Rudolph Bauer. Band III, Heft 5, 4to, pp. 331-426. A. Stuber, Wurzburg, Germany.

The New Knowledge. A Popular Account of the New Physics and the New Chemistry in their Relation to the New Theory of Matter. By Robert Kennedy Duncan, Professor of Chemistry. 8vo, 263 pages, illustrated, muslin. A. S. Barnes & Co., New York. Price, $2.00 net.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Professor Dr. Carl Von Noorden. Part VI. Drink Restriction (Thirst-Cures), Particularly in Obesity. 8vo, 86 pages, muslin. E. B. Treat & Co., New York.

Practical Dietetics with Special Reference to Diet in Disease. By W. Gilman Thompson, M.D. Third Edition. 8vo, 846 pages, illustrated, muslin. D. Appleton & Co., New York.

Enlargement of the Prostate. By John B. Deaver, M.D., and Astley Paston Cooper Ashhurst, M.D. 8vo, 266 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

The Medical Epitome Series. Clinical Diagnosis and Uranalysis. By Jas. Rae Arneill, A.B., M.D. 12mo. 244 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $1.00 net.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 27, 1905:

	Cases	Deaths
Measles	888	19
Diphtheria and Croup	331	26
Scarlet Fever	184	15
Smallpox	.....	.....
Chickenpox	141	.....
Tuberculosis	470	163
Typhoid Fever	32	4
Cerebrospinal Meningitis	76	60
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	2,116	287

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending May 27, 1905:

Prevention of Otitis Media in Children.—A. Jacobi says that nasal, postnasal, and pharyngeal catarrhs should be treated before they can do harm; adenoids should be removed, enlarged tonsils resected, and hypertrophy of the mucous membrane of the nose reduced. No operation about these parts is successful unless subsequent cleanliness be enforced. Some operators neglect to avoid recurrences by not attending to that rule. One or two daily warm saline irrigations made from a nasal cup, during which the mouth should be kept slightly open—injections should never be practised—suffice for that purpose. Adenoids, when small, will get well without operation when the irrigations are gently and regularly made. Sprays or the use of droppers cannot take the place of irrigations. A spray of a 5 per cent. solution of silver nitrate through the nares once a week will work well. This application should be made several weeks in succession.—*Archives of Otology*.

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
District of Columbia, Washington	May	13–20	2	..
Florida, Jacksonville	May	13–20	2	..
Illinois, Chicago	May	13–20	6	2
Galesburg	Apr.	13–20	1	..
Kentucky, Covington	May	13–20	9	..
Louisiana, New Orleans	May	13–20	4	Four cases imported.
Massachusetts, Lowell	May	13–20	2	..
Michigan, Ann Arbor	Apr.	29–May 6	1	..
Missouri, St. Joseph	May	6–20	40	..
St. Louis	May	13–20	5	..
New Hampshire, Nashua	May	13–20	2	..
New York Kingston	May	13–20	1	..
New York	May	13–20	1	1
Ohio, Cincinnati	May	5–19	7	..
Toledo	May	6–13	1	..
Pennsylvania, Altoona	May	13–20	1	Imported.
York	May	13–20	12	..
South Carolina, Greenville	May	13–20	4	2
Tennessee, Memphis	May	13–20	1	..
Nashville	May	13–20	4	..
Wisconsin, La Crosse	May	13–20	1	..
Milwaukee	May	13–20	2	..

SMALLPOX—FOREIGN.

China, Hongkong	Apr.	1–8	7	3
France, Paris	Apr.	29–May 6	21	1
Great Britain, Bradford	Apr.	22–May 6	12	..
Toledo	May	6–13	1	..
London	Apr.	29–May 6	4	..
India, Bombay	Apr.	18–25	..	76
Italy, Catania	May	6–11	..	8
Palermo	Apr.	22–29	8	..
Malta	Apr.	22–29	..	1
Russia, Moscow	Apr.	15–29	10	5
Spain, Barcelona	Apr.	20–30	..	6
West Indies, Barbados	May	9	1 among laborers for Canal zone, probably imported.	
Grenada	Apr.	20–May 4	2	..

YELLOW FEVER.

British Honduras, Belize	May	24	2	1
Honduras, Puerto Cortes	May	25	4	1
Mexico, Tierra Blanca	May	7–13	1	1
Panama, Panama	Jan.	1–May 13	61	22

PLAGUE.

Arabia, Aden	Apr.	14–28	19	8
Australia, New Castle	Apr.	13	4	1
Chile, Santiago	Apr	16–28	2	..
China, Hongkong	Apr.	1–8	3	3
India, General	Apr.	1–8	59,227	52,841
Bombay	Apr.	18–25	..	1,018
Japan, Formosa	Mar.	1–31	..	284
	Apr.	1–20	..	272
Straits Settlements, Singapore	Apr.	1–15	..	5

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Original Articles.

A CONTRIBUTION TO HEMOPHILIA, WITH SPECIAL REFERENCE TO THE JOINT SYMPTOMS OF THE DISEASE.*

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THE case which forms the basis of this paper is told in perhaps wearisome detail to illustrate the life history of a hemophilic and to furnish data for a discussion of some of the features of the disease.

The parents and grandparents of the patient, on the paternal side, have been known by me for many years, and every facility has been at hand for the thorough investigation of the patient's ancestry.

Family History: L. P., æt. 16 years. Paternal side: The father, grandfather, great-grandfather, and great-great-grandfather were free from any evidence of hemophilic disease. The mother and her direct ancestors, on both sides, for four generations were similarly free. The grandmother on the paternal side was free from the disease, and was a first cousin of the grandfather on the same side, *i.e.* the paternal great-grandfather and maternal great-grandmother on the paternal side were brother and sister. The mother of the patient has borne four children—three boys and one girl. Three of them are alive and exempt from any evidence of hemophilia.

Personal History. His mother states that from birth the patient's skin was noticeably thin and of a delicate texture, and its color of an ivory whiteness. When he was five months old she noticed a small swelling on his leg, which was also discolored, the result, she believed at the time, of the child's knocking his leg against the crib. A little later a "blackish lump" the size of an egg suddenly appeared on his chest, without ascertainable cause, and persisted for many weeks. When two years old the patient began to suffer from severe nosebleeds, which were finally controlled with much difficulty by plugging the nostrils. From this date until five years of age he was never free for more than a few days from "black and blue spots" on various parts of the body; some of them could be traced to slight injuries; others appeared without known cause.

At five years he began to have attacks of "inflammatory rheumatism," necessitating confinement to the bed for two or three weeks in the individual attacks. They evidently were of a similar nature to those occurring later under my observation, and were probably of traumatic (hemophilic) origin, as the mother states that it was regarded as a curious phenomenon that they were usually preceded by a "bump" of the affected joints. A nosebleed at eight years was controlled only after forty-eight hours, and nearly proved fatal. A little later, following a blow on the thigh, the entire limb became greatly swollen and was apparently the seat of a very large extravasation. The following year, accompanying and subsequent to a coryza, there was slight bloody oozing from the nostrils for several weeks. In the same year the boy suffered from an attack of supposed rheumatism, involving his left hand, which became greatly swollen and discolored; the mother states that it was almost black. Dentition occurred at the normal period and was unattended with hemorrhage, with the exception of a slight oozing from the gums with the irruption of the last teeth. The patient was not vaccinated on account of the fear of bleeding. The diseases of childhood were attended with no unusual symptoms.

The patient was first seen by me in 1897. From this date until his death, seven years later, he was under my observation. My advice was sought for a recurrence of his "rheumatic" trouble. Immediately preceding this date there had been a nasal hemorrhage, entirely controlled only after nineteen days; for the first twenty-four hours it was of a very violent nature.

On examination the patient was found to be of slight physique, with well developed musculature, to possess a sensitive nervous organism and a bright intellect. The skin was of fine texture and of ivory whiteness. The skin of the face seemed unnaturally thin and transparent, the blue lines of the veins showing through their superficial covering. The examination of the different organs gave entirely negative results. The radial artery at the wrist in pulsation seemed of normal size, and the outlines of the heart showed an organ of normal dimensions. Urinalyses elicited no abnormality in the secretion. There were several skin areas on both the upper and lower extremities, some of large size, presenting various degrees of discoloration, from a nearly black to a yellowish green hue. The left knee was greatly swollen. The swelling was due to a large intra-articular effusion, with little if any into the periarthritic structures. The skin was drawn very tightly over the effusion, but was not reddened or discolored. There was acute pain in the joint, both spontaneous and on movement. The joint symptoms were believed by the mother to be of a rheumatic nature and to have followed a misstep on the stairs. In view of the previous history of the patient, the arthritic symptoms were regarded by me as of hemophiliac origin and due to intra-articular hemorrhage. The temperature was only moderately elevated (100° to 102°). The arthritic symptoms gradually disappeared and at the end of a month the joint was quite normal in appearance, and its movements were unimpaired. A similar attack occurred a year later, and on this occasion involved the right knee. In this attack there was discoloration about the joint. Subsequent to the absorption of the effusion, the function of the joint was unimpaired.

There were no further arthritic symptoms until 1900, when there was a very severe attack, again involving the right knee. The joint was greatly swollen, with extreme tension of the overlying skin and exquisite pain, both spontaneous and on movement, requiring large doses of morphine. The skin was not reddened during the attack, but there was much subsequent discoloration about the joint. Improvement was very gradual, and an acute recurrence occurred at the end of a few weeks. There was fever throughout the earlier stage (ten days) of both attacks, the maximum temperature being 103°, with a diurnal variation between morning and night of about one and a half degrees. The patient was practically confined to his bed for eleven months, as a recurrence of the intra-articular effusion developed whenever any attempt was made to place him on his feet. During this period the other knee (the left) was slightly affected on two occasions. There was also one severe attack of hematuria.

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*Read before the Association of American Physicians, Washington, May 16, 1905; and in part before the Practitioners' Society of New York, April 7, 1905.

Following the above prolonged disability and during the two subsequent years, both knee joints were on several occasions slightly affected, but no severe arthritic attack occurred until 1902. Notwithstanding the frequency and severity of the articular effusions, with their resorption the function of the joints up to this date remained unimpaired. Occasional nosebleeds during this interval were rather easily controlled by local applications of adrenalin.

In the summer of 1902, and again in the early autumn, large interstitial hemorrhages occurred into the left upper and lower extremities, in the latter instance involving the whole of the left calf. In October of the same year, shortly following the sudden occurrence of exquisite pain in the right half of the abdomen, the patient presented all the symptoms of grave hemorrhage, syncope, extreme pallor, etc., and a large interstitial hematoma speedily became palpable, occupying nearly the whole of the right abdominal wall. The hemorrhage was deep-seated, as no discoloration of the overlying skin followed. Resorption only took place after many weeks.

From 1902 until death in the summer of 1904, there occurred another severe hematuria, an effusion into the left elbow joint, and a constant succession of effusions into the capsules of both knee joints, more frequently the left. In none of the joint involvements was the skin reddened. In all the attacks pain was present, both spontaneous and on movement, and there was a rise of temperature, slight in the less severe attacks, as high as 103.5° with the larger effusions. Pari passu with the diminution in the swelling, the temperature fell and the spontaneous pain subsided. The pain on movement persisted for very considerable periods.

As a rule the effusion was wholly intracapsular. In a few of the attacks there was also a periarticular infiltration, as shown by the subsequent discoloration about the joint.

Gradually during the last two years of life the signs of a chronic arthritis of the knee joints developed. There was obvious thickening of the periarticular tissues, of the synovial membrane, fringes became palpable, and the character of the crepitus suggested partial destruction of the cartilage of the left knee joint. Finally severe contracture and a partial ankylosis of a fibrous nature, of the left knee, developed. There was very considerable atrophy, probably largely from disuse of the muscles related to the joints, especially of the left knee. The articular ends of the bones entering into the structure of the joints seemed enlarged, but as no radiographs were taken, the apparent enlargement may have been due to the thickening of the periarticular tissues.

In February, 1904, after walking on his crutches a short distance, and without any appreciable injury, the patient suddenly complained of acute pain in the abdomen, especially in the right lower half. He gradually became blanched, with fluttering pulse, and presented all the symptoms of concealed hemorrhage. When seen by Dr. Draper and Dr. Hance, he lay with knees drawn up and complained of acute pain in the lower portion of the right abdomen. The whole abdomen was distended and rigid; there was marked tenderness on palpation in the right inguinal region, with muscle resistance; no mass could be palpated. Rectal examination was negative. The urine was free from blood. Temperature 101°, pulse 120.

During the following week the symptoms continued to be of a very grave nature. The temperature fluctuated between 101° and 103°, and on the seventh day an intraabdominal tumor could be palpated in the right inguinal region. From this date improvement gradually occurred, and with diminished rigidity of the abdominal walls, the intraabdominal mass was palpable in the lower portion of both inguinal regions and above the symphysis pubis. Resorption gradually occurred, and at the end of six weeks no distinct tumor was palpable. In the summer of 1904 the patient was taken to his home in Ohio, and in July there was a sudden recurrence of acute abdominal pain and all the symptoms of concealed hemorrhage. No blood was passed by the bowel. Syncopal attacks speedily followed and a fatal issue in twenty-four hours from the occurrence of the first symptoms.

No autopsy was obtained.

The case related possessed many points of interest: Its congenital yet not ascertainable inherited character; the frequency and severity of the arthritic attacks; the involvement of the smaller joints (the hand) on one occasion; the eventual development of permanent structural changes of the joints; and, finally, the occurrence of intra-abdominal hemorrhage and death, probably from this cause.

The hereditary nature of hemophilia was recognized as early as 1784 by Fordyce,[1] and, with continued observations, the mode of its transmission is now well recognized. Briefly it is as follows:

1. As a rule, the daughters of a bleeder father are exempt from evidence of the disease, but transmit it to their male offspring.
2. The sons are also, as a rule, exempt and do *not* transmit it to their offspring.
3. The daughter of a bleeder father may transmit the disease to a single one, to several, or to all of her offspring.
4. Where there are several daughters the capability of transmission to offspring may be confined to a single one, or all the daughters may transmit it.
5. Occasionally there is a direct transmission from father to son through several generations.
6. The disease does not appear in the issue of sons of a bleeder family, who are not themselves bleeders.

Following such laws, the transmission has been traced through many generations. In the Appleton-Swayne family of Reading, Mass., instances are present in the seventh generation.[2]

In the Clitherow family of Prescott, Lancashire, the transmission has been traced back to 1770.[3] and in two families of Tenna, Switzerland, to 1770, when they united in a common ancestor.[4]

It is reasonable to believe that a *de novo* origin of the disease is possible. The evidence in the literature to this effect is very considerable. When, as in the case related, four generations of ancestors on both sides have given no evidence of the disease, no other conclusion seems possible.

It is interesting to note that both the patient's father and grandmother on the paternal side were sufferers from diabetes, and that the two families on the paternal side sprang from a common ancestor, four generations back.

Joint Affections—As early as 1838 Dubois[5] asserted that the intracapsular effusions in hemophilia were of a hemorrhagic nature. As his views were not based upon aspirations made during life or upon examinations after death, they were not generally accepted. In 1868 Reinert[6] published a case which he believed lent support to Dubois' statement. A year later Assmann[7] reported the finding of fluid blood on puncture of a swollen knee in a patient suffering from hemophilia. Legg,[8] in his treatise on hemophilia, published in 1872, wrote that the nature of the joint swelling was as obscure as the rest of the pathology of the disease, and that he was not acquainted with the record of any examination after death of the joints of a patient who had suffered from the swelling common in hemophilia. The generally accepted view at this period was that the arthritic symptoms of hemophalia, early recognized as characteristic of the disease, were of a rheumatic nature. Since 1872 our knowledge of the pathological anatomy of these arthropathies has gradually grown. The literature, however, is strangely scanty and is embraced in the reports of autopsies by Virchow (Lempe's case),[9] by Poncet,[10] Sir William Jenner,[11] König,[12] Sandelin,[13] Tilman,[14] of joints aspirated or opened by Ligorio,[15] in King's College Hospital,[16] (incision and autopsy, Legg's case), in the Bristol Royal Infirmary, England (aspiration, Greig Smith and Shaw's case),[17] by Cheyne,[18] by Dufour,[19] Chaves and Speroni,[20] and finally in radiographic studies by Sabrazes and Cabannes,[21] by Gocht,[22] by J. E. Shaw,[17] and by Kinnicutt.[23] The majority of these observations are on single cases.

It will be of interest before considering the conclusions reached from these observations, to review the symptomatology of the joint affections. From a careful study of the literature it is evident that the arthropathies, contrary to the generally accepted belief, may occur in earliest infancy. Pearce[24] reports a case in an infant 10 days old; Shaw[25] at 17 months; Eve[26] at 18 months; Kinnicutt at 3 years; and a number of recent observations indicate the not infrequent appearance of joint symptoms between 2 and five years of age. In the case related the arthritic attacks first occurred at 5 years. On the other hand, a marked tendency is shown to the gradual cessation of joint effusions even when they have been of unusual frequency and severity, after the completion of pubescence. The small joints as a rule escape. The knee is most often attacked; the elbow, ankle, hip, shoulder, and hand joints follow in successive frequency. The clinical manifestations vary greatly and do not seem to be wholly dependent upon the amount of the effusion. The effusion generally reaches its maximum within 24 hours, occasionally subsides very rapidly, but more frequently after 10 to 14 days, leaving an unimpaired function of the joint in many instances. The process may be repeated almost indefinitely, and often for a long period all evidence of structural joint damage is absent. There are occasional instances where complete recovery has not followed even a first attack. In one of Sadler's[27] cases the affected joint was never normal after the first attack at 3 years of age; in another of his cases permanent deformity was present at the age of 10 years.

The overlying skin may be reddened or it may preserve its normal color during the period of effusion. In two personal cases observed in the past year, repeated effusions were unaccompanied with any change in the color of the skin. In such instances the joint affection has often been mistaken for "white swelling." Discoloration not infrequently has been noted *about* the joint, indicative of an associated extracapsular hemorrhage. Pain, often of an exquisite nature, spontaneous and on movement, accompanies the swelling as a rule. In the case related it was controlled only by very large doses of morphine. In the absence of visible signs of inflammation and in the presence of extreme tension in many of the attacks in this case, the pain was believed to be due to the stretching or compression of the synovial nerve filaments. Occasionally the pain radiates from the joint, following the course of the nerves (Hamilton's case);[28] the symptom usually subsides pari passu with the resorption of the effusion; occasionally the pain disappears within a few hours, even with the persistence of the swelling (Gocht's case);[22] exceptional instances have been reported where even large effusions have been unaccompanied with pain (König's case);[12] fever usually accompanies the attack, maximum temperatures in individual cases of 100° and 103.5° being noted.

Although cases in which studies of the joint affections through incision, aspiration, and by radiographs during life, and of the structures after death, have been few and limited in the case of individual observers to single instances—with the exception of König's three cases—it may be asserted with approximate certainty that the arthritic attacks and subsequent structural changes are dependent upon a succession of intracapsular hemorrhages.

It was possible for König[12] to study the pathological processes in their various stages, and his observations have been confirmed by other observers. In the first stage there is a simple hemarthrosis; the joint is filled with fluid or coagulated blood; the synovia are injected, hyperemic, and covered with streaks—hemorrhagic clots. In the earlier attacks no further change presumably occurs. The blood is speedily absorbed and there is complete recovery. In the second stage, usually present after numerous effusions, the joint contains more or less bloody or pure serum; the synovial membrane is slightly thickened, presenting numerous thickly set brownish-stained villi or fringes; the cartilages have lost their white color and smoothness; masses of fibrin encroach upon them, showing a tendency to the formation of connective tissue, possible forerunners of adhesions. Erosions of the cartilages are also observed, especially at points where the accumulations of fibrin have occurred. The third stage is that of deformity, which in varying degree I believe to be the inevitable result of protracted hemophilic arthritis, *i. e.* frequently repeated attacks over a long period. In this stage ankylosis of varying degree, sometimes complete, usually of a fibrous character, is present; the capsule is greatly thickened; there is greater or less destruction of the cartilages; the joint cavity is filled with fibrinous deposits, more or less adherent; subluxation has been observed; and, finally, changes in the bones entering into the structure of the joint have been described.

Observations in regard to such changes are conflicting. Piollet,[29] on the authority of Sandelin, asserts that there is marked atrophy of the articular ends. Gocht's[22] radiographs apparently show that the bones are porous and less voluminous. In a protracted case with moderate ankylosis reported by Sabrazes and Cabannes,[21] radiographs show that the articular ends of the bones are seemingly intact. On the contrary Bowlby[30] observed in three cases of protracted hemophilic arthritis, during life, enlargement of the articular ends with projecting nodules of bone; and studies of hemophilic joints in the museum of St. Bartholomew's Hospital[31] show lips of new bone at the edges of the condyles of the femur covered with nodular masses of cartilage. In the case related in the present paper, examination during life showed apparent enlargement of the articular ends. In a second case observed during the past year radiographs gave a less clear definition of the diaphyseal end of the femur related to the affected joint, the right, than of the left femur. The density of the bony tissue seemed to be increased. They also indicated the presence of a turbid intracapsular effusion, presumably blood, or of a blood clot. The radiographs were taken three weeks after the occurrence of an effusion. The arthritic attacks in this case had not been of sufficient frequency presumably to produce marked structural changes in the articular ends of the bones.

In view of these observations, a justifiable conclusion would seem to be that both hyperthrophy and atrophy of the articular bony structures occur in the late periods of hemophilic arthropathies, possibly representing different stages of the pathologic process.

Bowlby[32] regards the changes as analogous in most respects to those occurring in osteoarthritis. Goldthwait[33] believes that atrophic rather than hypertrophic changes are characteristic of true osteoarthritis (arthritis deformans).

It has been stated earlier that in patients surviving the age of pubescence, joint effusions become less frequent, or do not occur. Gocht[22] suggests that an explanation may be found in the anatomical lesions; when the joint is filled with more or less organized fibrous products, a diminution in the frequency or severity of hemorrhage is to be expected. Another reason may be found in a diminution in the hemorrhagic tendency in hemophiliacs with advancing years.

The lesions of both the second and third stages have been mistaken not infrequently for those of tuberculous arthritis and arthritis deformans respectively. Obviously a differentiation by physical signs may be often impossible.

In the second case referred to in this paper, a joint lesion was believed by orthopedic surgeons to be of a tuberculous nature until a nearly fatal surface hemorrhage (extraction of tooth) led to a more minute inquiry into the history of the patient.

König,[12] in one of his cases, opened the joint on the supposition that the disease was of a tuberculous nature; a fatal issue followed from hemorrhage. J. E. Summers[34] reports a similar case with a fatal issue. Cheyne[18] operated on a case of supposed arthritis deformans, with nearly fatal issue from hemorrhage. It was subsequently discovered that the patient was a hemophiliac, and later other joints were affected.

In the literature I have been able to find a number of instances where in families of bleeders the male members have severally exhibited joint affections without evidence of other bleeding, and surface bleeding with exemption from arthritic symptoms during the early years of life. In the history of a bleeder family reported by Sadler[27] this is clearly shown. The observation is an important one from a diagnostic standpoint.

The practical deduction from the above observations is that in joint affections bearing a resemblance to tuberculous disease, in infancy and childhood, the family history, as well as the personal history, should be studied carefully previous to operative treatment. The tuberculin test in a hemophiliac is not without danger from injury by the needle.

Before concluding the study of the joint affections, a word should be said in regard to the origin of the hemarthroses. It would seem justifiable to conclude, from the clinical histories of a large number of cases, that they may be both of spontaneous and traumatic origin, as in the case in the bleeding from other tissues of the body—in hemophiliacs.

An explanation of the frequent recurrence of hemorrhage in a single joint is suggested by the hyperplasia of the richly vascular synovia. The hyperplastic tissue once developed would permit of nipping from very slight causes.

Peritoneal hemorrhage in hemophilia must be of the rarest occurrence. In the voluminous literature which I have consulted I have been unable to find an instance, unless Lemp's case may be regarded as an example of this kind. The physical signs of an intraperitoneal tumor were apparently present during life, associated with a hematoma of the upper portion of the thigh; and at autopsy a sausage-shaped tumor was found in the iliac fossa whose composition was shown by microscopic examination to be of altered blood. In the case related in this paper the physical signs of a hemorrhage of this origin were demonstrative, and it is probable that the fatal issue was due to bleeding from a similar source. The hemorrhage may have been either spontaneous or due to some slight and unrecognized traumatism, such as a strain in the use of the patient's crutches.

It is presumable that the bleeding was from omental tissue, the blood gravitating to the most dependent portions of the abdomen.

The *treatment* of the hemorrhage in hemophilia at the best is unsatisfactory and often is ineffectual. A great variety of methods and drugs have been employed from time to time, only gradually to be discarded.

Legg,[35] in his latest publication on hemophilia, reiterates an opinion previously expressed by him[36] that "one of the most satisfactory ways of treating the bleedings is to leave them to themselves." He adds that "after they have lasted for some days and the patient is blanched and exsanguine, they cease and the patient gradually recovers." Such action, or lack of action, requires greater courage than is commonly possessed by the medical attendant.

I shall refer only to therapeutic measures which have been employed comparatively lately, and which have been regarded favorably. Drugs which act as "physiological styptics" when applied locally, and which also possess the power of increasing the coagulability of the blood when administered internally, may properly be considered as furnishing a rational therapeusis in hemophilia.

A physiological styptic, using Professor Wright's term, differs essentially in its action from that of such styptics as tannic acid, the salts of the heavy metals, alcohol, the actual cautery, etc., which produce their effect by a coagulation or a disintegrating process with possible subsequent eschar formation, or an inflammation of varying degree. The physiological styptic possesses an elective affinity for the blood itself and is inert when brought in contact with other tissues. In the lime salts these properties are found. In his investigations on "Increasing and Diminishing the Coagulability of the Blood,"[37] Wright was able to demonstrate by experiments in healthy human beings and in hemophiliacs that the coagulation time of unmixed blood could be reduced more than one-half by the addition to it of one-sixth volume of a one per cent. solution of chloride of calcium; also that a similar result could be obtained in hemophiliacs by the administration of chloride of calcium in two gramme (30 grain) doses twice daily, the effect being appreciable within a few hours from the beginning of treatment. His investigations further showed that the continued administration of large doses of the chloride of calcium for four or five successive days was ineffectual in maintaining an increased coagulability of the blood; that its temporary discontinuance resulted in an increase in the coagulability, the maximum being reached in twenty-four hours, an effect presumably due to the elimination of an excess of the lime salt. In the subsequent forty-eight hours, the coagulation time remained at about the same level, only to diminish again one-half in the short period of eight hours after the readministration of two grammes of the chloride of calcium.

The accelerating effect of carbonic dioxide gas upon blood coagulation also suggested to Wright the employment of the gas in the treatment of hemorrhage in hemophilia.[38] In the surface bleeding the stream of gas is gently turned upon the affected surface, inhalation being unnecessary. The result of such applications in the epistaxis and buccal hemorrhages of hemophilia has been excellent. In concealed hemorrhage the *inhalation* of the gas has been used with success. The gas should be freely mixed with ordinary air, as asphyxia in *any* degree is to be avoided; an anoxyhemic condition of the blood induces a diminished coagulability.

Finally, Wright,[39] basing his therapeusis on the diminution in the white blood cells and especially the polynuclear elements in hemophilia, has employed solutions of cell nucleo-albumins for local applications. He reasons that in the deficiency of white corpuscles, the blood lacks the cellular elements which contribute the nucleo-albuminous elements to the formation of fibrin. The addition of nucleo-albumins is, therefore, essential to the formation of a sound clot.

Lachan Grant[40] has very recently reported a case of obstinate bleeding in a hemophiliac successfully treated by the internal administration of two and one-half grains of ovarian extract thrice daily. While the hemostatic action of the ovarian extract cannot be regarded as demonstrated in this instance, the theory which formed the basis of its administration is both ingenious and of interest. Good results have also been claimed recently[41] from the use of thyroid extract. The use of gelatin preparations, either locally or by subcutaneous injections, has proved as disappointing in hemophilia as in other conditions where an increased coagulability of the blood is desirable.

Among the therapeutic agents effecting the circulation of the blood through their action either upon the vessel walls or the vasomotor centers, or both, chloral hydrate and adrenal preparations have been found of distinct value as local applications in hemophilia.

To summarize present views of the most efficient therapeusis of hemophilia:

1. The internal administration of the lime salts, especially of the chloride of calcium, in doses of two grammes (30 grains) twice or thrice daily. Its continued use should be interrupted every two or three days by a period of twenty-four hours. The salt is soluble in 1.5 parts of water and is well borne by the stomach.

2. The application of solutions of the same salt, with compression, for accessible surface bleedings. Aqueous solutions of one-half per cent. are efficient. Another convenient mode of employment is in the form of a finely powdered chalk mixed with one-half per cent. solution of the calcium chloride. The less soluble lime salts, such as calcium phospate, are equally efficient for local application.

3. The use of a combination of a one-half per cent. solution of calcium chloride and one-sixth volume of a solution of nucleo-albumin, for local application. The nucleo-albumin can be obtained from aqueous extracts of various cellular tissues—testicle, thymus, thyroid, ovary, etc. If the prepared extracts are not available, a supply may be procured readily by mincing any of these tissues in a weak alkaline solution (1-500 solution carbonate of sodium) and filtering through gauze after a few minutes.

4. The application of a stream of carbonic-acid gas to the bleeding surface, in accessible hemorrhage. Its inhalation, freely mixed with ordinary air or oxygen, in concealed hemorrhage.

5. The use of four per cent. solution of cocaine hydrate for surface bleedings, and also of adrenalin (1-1000) with compression.

My personal clinical experience in the treatment of hemophilia has shown me the value of the therapeusis described, for accessible hemorrhage. At times in the history of the case related I was convinced of the efficiency of the chloride of calcium administered internally. I have been equally convinced of its value in the hemorrhages of some other constitutional diseases.

The marked increase in the coagulability of blood following its internal administration admits of demonstration, and although its effect in hemophilia unquestionably is often disappointing, possibly through ignorance of the proper mode of its employment, a general consensus of opinion at the present time gives it a high value in the treatment of the disease.

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REMARKS ON THE ETIOLOGY OF FISSURE IN ANO.*

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It is universally conceded that fissure in ano may be located at any point of the circumference of the anal canal. It is also conceded that in point of sequence the most frequent location of the ulcer is at or near the posterior commissure, that the next most frequent site is near the anterior commissure, and that it is very rarely found upon the sides of this passage. Mr. Goodsall, who has had a very large experience in the treatment of this disease, his found that less than one per cent. of the cases in men occur at the anterior commissure, while in females more than eight per cent. are found at that point. While all writers cite many causes of this disease and agree that the most common location of the ulcer is near the posterior median line, yet to my mind no satisfactory explanation has been given why it occurs so frequently at this point and is so rarely found in the anterior quadrant or upon the sides, or why it occurs in the anterior quadrant in less than one per cent. of the cases in males and in more than eight per cent. in females.

In considering the etiology of the disease most authors regard constipation as uniformly the exciting cause, but they fail to state why constipation has a more vicious effect on the posterior aspect of the anus than upon other parts of its circumference, or why the effect is more vicious on the anterior aspect of the anus in women than in men. Some state that the fissure is due to traumatism plus infection. If so, why does the traumatism plus infection occur with such regularity on the dorsal surface of this passage, or why does it occur in the anterior part of the anus in women eight times in one hundred cases and in men only once in one hundred cases?

In a recent text-book on rectal diseases the following statement is to be found: "If these ulcers are more common in women it is because the skin is more delicate." This author fails to state, however, why the skin of the anus in women is more delicate at the posterior commissure than at any other part of its circumference. The author of another recent work on diseases of the rectum says: "In men they are more frequently seen at or near the posterior commissure, and rarely upon the sides or anteriorly, and in women they are comparatively often seen at the anterior commissure." This author states that a severe sneeze or cough may rupture the delicate mucous membrane of the anus and cause a fissure. He fails to explain, however, why a severe sneeze or cough cracks the anterior commissure in men *rarely* and in women comparatively *often*. Another eminent writer says: "I am quite satisfied that the true explanation of the formation of the vast majority, if not all, painful fissures is as follows: During the passage of a motion one of these little valves (anal valves) is caught by some projection in the fecal mass and its lateral attachments torn; at each subsequent motion the little sore thus made is reopened and possibly extended. The repeated interference with the attempts at healing ends in the production of an ulcer, and the torn-down valve becomes swollen and edematous, constituting the so-called pile; or, as it has sometimes been called, the 'sentinel pile,' of the fissure." While all of us may have observed, at least occasionally, that if one of the crypts of Morgagni is torn down in the production of a fissure, yet we might ask this author why it happens that the anal valve situated on the dorsal surface of the anus is the one that is always caught and torn down by some projection in the fecal mass, or why it is that the projection that catches the valve is practically always located on the posterior part of the mass. Furthermore, why is it that the anterior valve is caught in less than one per cent. of cases in men and in more than eight per cent. of those in women? Why do not the valves in the anterior quadrant or on the sides of the anus become entangled in the mass more frequently? It has also been pointed out by Mr. Goodsall that the anal valves, or crypts of Morgagni, are best seen in young individuals and new-born infants, and that in adults they are not so distinct. If this author's theory as to the causation of fissure is correct, then we should expect the disease to occur more frequently in infants and young children, when the valves are more prominent, and therefore should be more readily caught and torn down by the mass of feces. On the contrary, however, he states that the disease is more frequently met with in adults, which is in conformity with the observations of all writers on this subject.

The foregoing are examples of the theories of the causation of this disease that have been universally taught and accepted. It seems to me that they are, at least in many cases, erroneous and that we should have a more comprehensive etiology, especially one furnishing better reasons why the little ulcer occurs with such frequency and regularity upon the dorsal surface of the anal canal.

It is my belief that the chief predisposing factor in the etiology of this disease is anatomic, and that the sequential location of the fissure is due to the support given to the anal canal by the sphincters and levatores ani muscles.

In order, therefore, to present the etiology from this viewpoint, it will be necessary briefly to review some of the more important embryologic and anatomic features in connection with the development of the anal canal. According to authorities on the embryology, this canal is developed from the epiblast and includes that portion of the intestinal tract extending from the true skin to the true mucous membrane, or free margin of the crypts of Morgagni. Its average length, when in a passive state, is from one to one and a half inches. Its inner tunic is a mucocutaneous structure, and it is so closely connected with the muscular wall by the fibrocellular structure that but slight movement of the one upon the other is permitted. Simultaneously with the development of the rectum from the hypoblast and mesoblast a process called the proctodeum or invagination of the epiblast is going on. (Fig. 1.) This process continues until the outer and inner, or somatic and splanchnic layers of the mesoblast are pressed together and absorbed, when the epiblast of

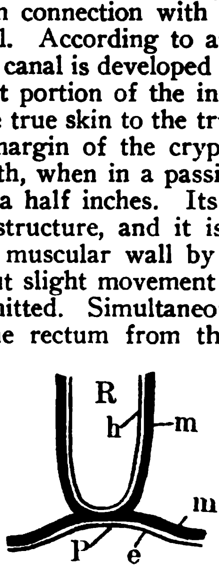

Fig. 1.—Diagrammatic. Showing the development of the rectum (R) from the hypoblastic (h) and mesoblastic (m) layers. P illustrates the beginning of the invagination of the epiblastic layer (e).

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the proctodeum and hypoblast of the hind gut, or mesenteron, come in contact with each other, forming a thin septum, the anal membrane, between the hind gut and the proctodeum, or rectum and anal canal. (Fig. 2.) The absorption or breaking through of the septum completes the connection between the rectum and anus. (Fig. 3.) The failure of this absorption causes the commonest form of imperforate anus. The anal valves, or crypts of Morgagni, appear to be the vestigial remains of this coalescence.

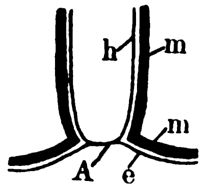

Fig. 2.—Illustrates the anal membrane (A). The outer or inner mesoblastic layers (m) having been absorbed.

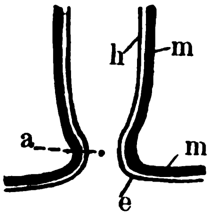

Fig. 3.—The anal membrane having been absorbed the connection between the rectum and the anal canal is established (a).

This canal is surrounded, supported and closed by a muscular cylinder composed of the two sphincter muscles and levatores ani. The proximal portion is surrounded by fibers from the internal sphincter and the levatores ani, and the distal or terminal portion by those of the external sphincter. Cunningham says that the internal sphincter is probably a detrusor rather than a true sphincter. The levator ani arises from the inner surface of the pubic arc, the spine of the ischium and the curved white line between these two points. Its fibers are directed downwards, backwards and inwards to be inserted into the central point of the perineum, the external sphincter around the anus, anococcygeal raphe behind the anus, and into the sides of the lower sacral and the coccygeal vertebræ. The anterior half of this muscle is tendinous, while the posterior half, or that attached to the coccyx, is muscular. Cunningham and others recognizes four divisions of this muscle, viz., puborectalis, pubococcygeus, iliococcygeus and ilio-sacralis. The pubococcygeus (sphincter recti portion) is the largest of these divisions. Its fibers pass backwards from the pubes and anterior portion of the white line on each side of the proximal portion, or beginning of the anal canal, and join behind this passage in a fibrous raphe, which extends back to the coccyx. (Fig. 4.) In regard to the disposition of these fibers in front of this passage, Quain says: "A few fibers of the pubo-coccygeus meet and decussate with those of the opposite muscle in front of the anus." Gerrish says: "Some of the fibers are inserted into the median raphe in front of and behind the anal canal." Cripps says: "Some of the fibers of the levatores ani, or, at any rate, some of the fascia to which they are attached, pass over the rectum blending with the fibers of the opposite side." Morris says: "Some of the fibers join the opposite muscle in a median raphe extending from the coccyx to the tendinous center of the perineum." From the foregoing it will be seen that the anterior half of this muscle is tendinous, that some of its fibers are united in a meridian raphe, which extends from the front of this passage to the tendinous center of the perineum, and that fibrous and muscular tissue crosses from side to side in front of the anus. These two muscular bands then which are firmly united behind and in front of this passage are closely approximated during contraction, and aid in closing the upper part of this canal. They also lend great support to it when it is overdistended. The combined action of the levatores ani and the external sphincter produce the characteristic perineal flexure of the rectum. (Fig. 5.)

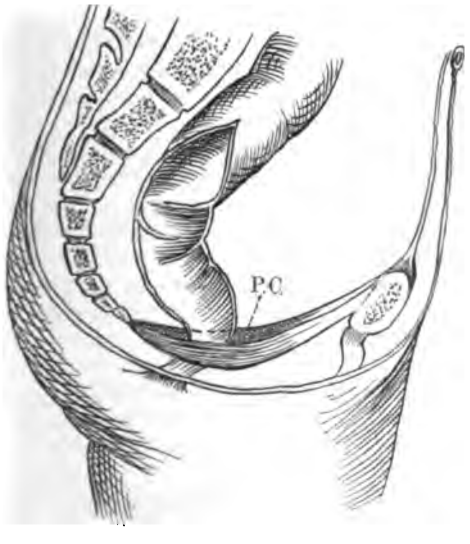

Fig. 4.—Illustrating the pubococcygeus portion (P. C.) of the levator-ani muscle.

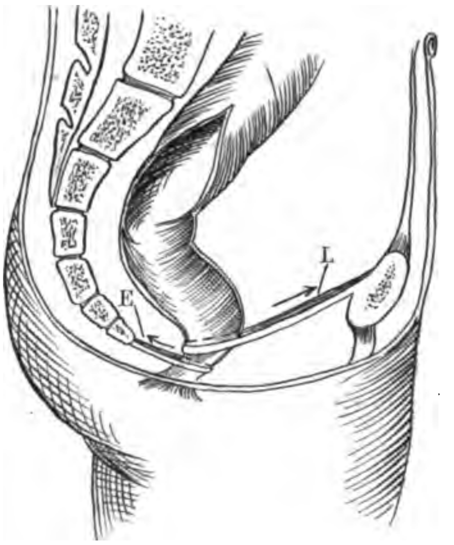

Fig. 5.—Illustrating the actions of the levatores ani (L) and the external sphincter (E) in producing the perineal flexure of the rectum.

The external sphincter muscle, according to Quain, Gray and other anatomists, consists of two planes of muscle fibers, and arises from the posterior surface of the tip of the coccyx and the anococcygeal ligament. Its fibers pass forward to near the posterior commissure of the anus, where they divide into two parts and, passing forward around this aperture, join in a commissure in front of it and pass forward to the perineal body, where they are inserted, a few fibers crossing from side to side in front of and behind the anus. The distance from the coccyx, the origin of the external sphincter, to the posterior commissure of the anus, where the muscle divides, is about one and one-half inches, which is twice as great as the distance from the center of the perineal body, its insertion, to the anterior commissure, where it reunites, which is about three-fourths of an inch. (Fig. 6.) Because of this difference in the distance between the origin and the insertion of this muscle and the center of the anal canal its fibers are more deployed posteriorly than anteriorly. Hence, when pressure is made from within outwards it is obvious, since muscle fibers are more easily separated or split than broken at right angles, that (1) the weakest point in this muscle must be at or near the posterior commissure; (2) that the next weakest point is at or near the anterior commissure; (3) that this latter point is weaker in women than in men, and (4) that the lateral quadrants or sides receive the greatest support from this muscle. (Fig. 7.)

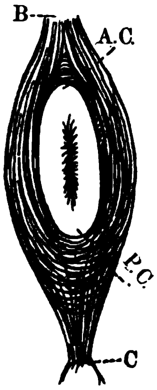

Fig. 6.—External sphincter muscle. Illustrating the difference in the distance between the posterior commissure of the muscle (P. C.) and the tip of the coccyx (C), its origin and the anterior commissure of the muscle (A. C.) and the center of the perineal body (B) its point of insertion

Anatomic conditions and relations almost identical with these exist between the levatores ani and the proximal portion of this canal. Hence, under similar conditions this muscle should behave in a very similar manner.

Therefore, when this canal is overdistended or placed under sufficient stress, as in the passing of a large hard fecal mass or in straining, to rupture its tissues, the tear, all things being equal, should occur first, on the dorsal surface, as it receives the least muscular support; second, on the anterior surface, as it is the next weakest point, and, third, or last, on the sides. Consequently this should be and is the sequential order in which the respective tears of the canal do occur.

Furthermore, the relative strength of these quadrants is not only true from a theoretical standpoint, but apparently from an experimental one as well. I have demonstrated, in the living, with and without the influence of anesthetics, that by gradual dilatation of the anus with a conical dilator, well oiled and of the temperature of the body, that the first break or tear occurs almost universally on the dorsal surface of the anus, and that the anterior is next to give way. The sequential order of these tears not only correspond with the weakest points in the muscular cylinder that surrounds and supports this canal, but with the statistics of the sequential location of fissure in ano.

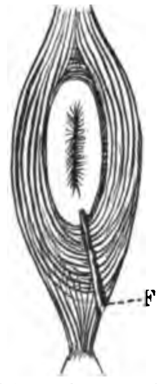

Fig. 7.—Illustrating the vicinity of the usual location of the fissure (F).

To recapitulate: (1) The dorsal surface is the most frequent location of fissure in ano, the anterior the next and the sides the least.

(2) The dorsal surface receives the least support from the muscular cylinder that surrounds the anal canal, the anterior the next, while the sides receive the greatest.

(3) Experimentally, with and without anesthesia, a conical anal dilator, when forced into the anal canal, tears the dorsal surface first and almost universally, the anterior occasionally and the sides rarely.

(4) From the foregoing it will be seen that the sequential points of muscular weakness, experimental tears and location of fissure in ano correspond.

Columbus Memorial Building.

ON THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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During the last ten or fifteen years the medical profession has taken a deeper interest in the subject of tuberculosis, thanks to those who, through personal and associated work, have endeavored to throw more light on the subject in the fields of etiology, bacteriology, pathology, therapeutics and sanitation. Others, like von Behring and Aufrecht, have, by closer investigation and original work, each apparently proven his own theory as to the modes of entrance of infection into the body and its routes of dissemination. Smith, Koch and others have performed good work in their endeavor to differentiate between human and bovine tuberculosis. Numerous other learned men in the profession throughout the civilized world have been active and diligent in their search for curative substances, in the advancement of sanitarium treatment, climatic treatment, rest and nutrition cures. These are all of the greatest importance and have supplied us with a knowledge and understanding of the disease that is invaluable both to the medical profession and the laity.

But that phase of the subject which is of the most importance not only to the physician but the patient and general public is the early recognition of the disease, and I am sorry to say it is a part of the subject that still seems to be somewhat neglected by some of the medical profession. The burden of an early diagnosis in the vast majority of all cases, no matter what the disease may be, rests on the shoulders of the general practitioner or family physician, and there are few diseases where an early diagnosis is of more importance than in tuberculosis. All authorities on tuberculosis make a statement something like this: "Tuberculosis is a curable disease and is curable in inverse ration to the length of time it has run and the extent of the lesions present." When an early diagnosis has been made in pulmonary tuberculosis is it the duty of the physician to inform the patient and his friends of the true condition of the case? I hold that a physician is criminally negligent, if, when he has discovered a case of tuberculosis, no matter how early the stage, he withholds the information and keeps the patient in ignorance, notwithstanding several arguments to the contrary.

It is impossible properly to handle such a case and get the best possible results, according to our present knowledge, if the patient is not aware of the fact that he has tuberculosis. Even should he recover, in his ignorance of the condition he will be very apt to disobey instructions given and is at a loss for any sane reason why he should not do as others, with the result that he may have a recurrence. Furthermore, by making him acquainted with his condition and properly instructing him in the laws of hygiene, he does not become a menace to others or a source of infection to his family and friends. It has been stated that every case of consumption is responsible for another case and so on down the endless chain. The necessity of an early diagnosis can be seen by going over the reports of the various sanitaria, and physicians doing special work in tuberculosis. Compare the percentage of cures in the so-called first, second and third stage cases. In the first or early stages of the disease, the percentage of cures runs anywhere from 70 per cent. to 95 per cent., according to the standard of classification and the line of treatment followed, while the second and third stage cases show a markedly lower percentage of cures. That tuberculosis is a curable disease in the early stages is demonstrated outside of statistics of the living. Post-mortem examinations properly conducted show a large per cent. of adults dying of other diseases to have tubercular lesions, either active, quiescent or obsolete. Ribbert has placed the mark at 100 per cent.

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*Read before the Denver City and County Medical Society, March 7, 1905.

It is claimed that 14 per cent. of all deaths are due to tuberculosis, or plus associated infections; therefore 86 per cent., or thereabouts, recover, or the disease has been arrested and has caused the individual little or no apparent inconvenience. The efforts of the tissues to destroy or arrest the invading microorganisms were successful in a vast majority of cases, and had the other 14 per cent. been recognized early, the proper care and treatment instituted and followed out, our death rate to-day would not be counted by the hundreds of thousands yearly. Just give this question some intelligent thought; consider the effect it would have on the spread of the disease. In the early stage before necrosis and breaking down of lung tissue takes place, there are no tubercle bacilli in the sputum, and even after the first breaking down, the foci are small and there are comparatively few bacilli thrown out with the expectoration, while an advanced case throws out its billions of bacilli daily. In this alone we would gain a great advantage in prophylaxis in properly educating the patient before he becomes a source of infection to his family or the general public.

I do not mean to say that all cases of tuberculosis pass unrecognized in the early stages, but we all know that a great number of them are either not recognized or the patient is kept in ignorance of his true condition until he has reached a stage where he is past all hope for complete recovery, when he is advised to "go West" or to try some other physician. Those of us who practice in the region of the so-called health resorts see numbers of those cases practically sent from home to die. It is not always the physician who first sees the case who is to blame. People have a horror of being told they are tuberculous, and therefore do not always accept the diagnosis. They want their own way about it, and generally visit some other physician, and if not then satisfied, go to others until they find one who will make a diagnosis to suit the patient. This is one of the greatest evils we have to overcome, as the general public as a rule have the picture of advanced consumption in their mind when we speak of tuberculosis, and to overcome this we must educate the people that tuberculosis in the early stages is curable, and to get a cure or arrest of the disease we must recognize it before necrossis and general infection takes place throughout the lung tissue. I have the histories of eighteen cases seen in the early stages of the disease, between 1892 and 1899, who went the rounds and were pronounced as suffering from anything from "stomach trouble" to "chronic malaria," and yet all of these eighteen people died of consumption in from one to five years.

There has been considerable stress laid on the findings of the microscope, and we often hear people say, "I have had my sputum examined and there are no tubercular germs in it." A positive result with the microscope is evidence of the disease, also of some necrosis, but a negative result is not evidence either way. Any one at all familiar with the pathology of tuberculosis knows that the bacilli cannot be demonstrated in the sputum until such a time as one or more foci have necrosed and their contents been discharged into an open bronchus and carried out with the bronchial secretions. Even then they may be so scarce as to escape detection, or the whole mass may be carried out at once. Microscopic examinations of the sputum, however, should never be omitted, and should be repeated at different times in all suspected cases. Even if we cannot demonstrate the specific bacillus, it will often give us valuable information in the form of elastic tissue fibers or associated infection. It is the associated infections that are responsible for the great destruction of lung tissue causing more extensive necrosis and the breaking down of the capsules that have been formed around the invading organisms, thus causing the spread of the disease to other parts of the lung or to other organs of the body, thereby transforming a case of mild tuberculosis into a case of phthisis or a case of acute miliary tuberculosis.

To make an early diagnosis in pulmonary tuberculosis it is necessary to have a knowledge of the pathology of the disease, not the gross lesions that are found in the lungs of persons dying of "consumption," but of the minute changes that take place with the first eruption of the tubercles, together with the phenomena that are produced by the action of the toxins and proteins that are elaborated during the growth of the young tubercles before a certain amount of immunity has been established by the tissues.

Mamoreck, in his work on the production of an anti-tuberculous serum, has found that toxins are produced only by the young tubercle bacilli, while the old cultures produce only tuberculins. This theory throws some light on the subject of acute tuberculosis, whether the disease be local or general. The first symptoms of acute general miliary tuberculosis are much the same as in the localized form of the disease, only greater in extent and duration. The small area of the localized disease elaborates but a small amount of toxins, and instead of overwhelming the economy, gives it an opportunity to produce an immunity, and an arrest of the disease before extensive pathological changes have taken place. It is during this first acute attack, and the interval before the next attack, that the skill of the physician is taxed to the utmost to make a diagnosis. and in the absence of enough of marked symptoms he may overlook the true condition, and attribute the malaise, chills, fever and night sweats—the result of absorption of toxins—to the other causes simply because the complete picture of consumption is lacking. Better make two mistakes in the right direction than one in the wrong. "The trouble with the doctor is, he usually defers his diagnosis until the appearance of all symptoms makes it absolutely certain that there is pulmonary tuberculosis. Instead of this, every case in which there is reasonable ground of suspicion ought to be treated as a possible case of tuberculosis. I believe it is better to have ten men all cured, with some doubt as to how many of them really had tuberculosis, than to have five dead and five permanently damaged, and be 'dead sure' that they all suffered from the disease" (Hall).

King, in his article in the MEDICAL RECORD of January 7, 1905, gives the history of a case that is very interesting and illustrates the importance of an early diagnosis. How often have we heard this tale of woe! "If my doctor had only told me sooner—he should have known." If we do not know, we should learn to know and lift that one dark blot from the record of the medical profession. It is not new serums, antitoxins, or drugs that we require to combat tuberculosis, but an early recognition of the disease, together with the education of the laity. The latter we can never accomplish if we do not pull together and in the right direction.

My experience with early tuberculosis during the past three and one-half years has been that out of sixty-nine cases treated and properly advised, sixty-nine have had the disease arrested and are apparently cured and in good health. Seven of them have been living in the East and Middle West from one to two and a half years following their former occupations. They have learned how to live and take the proper care of themselves. Others who were apparently in a similar condition or stage of the disease and who refused to accept the diagnosis and who continued to live and act as best suited them, have become worse and some have died of tuberculosis plus accociated affections.

Just what constitutes an early case of pulmonary tuberculosis has been a subject of some discussion in the past, but at the present time it is acknowledged to be the earliest possible moment that the invading bacillus can be detected in the economy, by the history of the case, the physical signs present, the condition of the patient, and, if need be, the tuberculin test. There has been much said about the pretuberculous stage, a condition which it is impossible to describe pathologically and which really does not exist, unless we consider all those who have no tuberculous lesions to be in the pretuberculous stage. By following closely the pathology of pulmonary tuberculosis—not phthisis or consumption—we are enabled to classify the various physical signs and conditions brought about by the elaboration of the toxins and proteins, of the bacillus and the growth of the few or numerous tubercles. Every case of tuberculosis has a small beginning, and from the original lesion, after more or less time, there develops the disease that eventually (unless arrested) extends to such a degree as to overwhelm the economy, leaving in its path degeneration and death. Therefore, to make an early diagnosis in the true sense of the term, we must seek to recognize the disease during the period of the first eruption of tubercles that are great enough to produce any appreciable physical signs or cause any deviation from the normal standard we call health, and before destructive changes have taken place in the lung tissue. It is in this stage that the patient consults his physician for malaise, digestive disturbances, bronchitis, pleurisy, recurring colds, loss of appetite, decrease in weight, occasional night sweats, or irregular development of slight fever. These symptoms are more prominent in the early eruptive stages, and the physical signs more or less absent, than in the later stages even with more destructive lesions, as early in the disease the tissues have not become immunized by the presence of toxins and show a greater reaction, for the same reason that a test dose of tuberculin will give a reaction in smaller quantities in an early case than in the more chronic forms.

In pulmonary tuberculosis the lymph nodes are probably the first to become involved, whether the infection takes place through inhalation, through the tonsils and thence by way of the lymph stream or by any of the other various modes of infection; and according to the location of these infected glands and the extent of the involvement, they give rise to a set of symptoms that should always receive our careful attention. The proteins from the growing tubercle bacilli being eliminated by the bronchial mucosa causes a hacking cough and increased secretions of glairy mucus. Extensive involvement of the glands of the mediastinum may be discovered if suspected by percussion dullness, attention having been drawn to that region by the patient complaining of a dull pain behind the sternum exaggerated by coughing. There is also the slight, or at times a very pronounced, hoarseness with apparently no laryngeal involvement caused by pressure of enlarged glands or slight consolidations in the apex on the recurrent nerve often associated with excessive cough. At times the pressure may be so great as to cause paralysis of the parts supplied by the recurrent laryngeal nerve and have been classed as tuberculosis of the larynx.

Case 138 illustrates this very nicely. L. M. (female), age 29, weight 110 lbs. Seen first about December 1, 1903, and was suffering from what she had been told was "tuberculosis of the throat." Examination of the larynx revealed no signs of local tuberculous disease, but showed a paralysis of the left vocal chord and some congestion on the left side of the throat. Chest examination showed slight dullness of apex of upper lobe of left lung, with increased vocal fremitus, no moisture. She had an almost continuous harsh cough which we could not control by heroin or codein, no expectoration, and was unable to speak above a whisper. I did not see her again until about the end of February, 1904, when she contracted grip, after which she had acute necrosis of the tuberculous deposit in the apex, with cavity formation, which discharged into a bronchus. As soon as drainage was established from the cavity her voice returned to normal, the cough subsided and she required no more anodynes. The pressure on the recurrent laryngeal nerve had been relieved and its function restored.

With these symptoms before us, any or all, we should give special attention to the conditions within the chest. On examination we may recognize the extra secretion of mucus, in the form of a slight apical catarrh, by the moisture of fine crepitations, brought out by making the patient cough, following by a deep breath. If not discovered on the first examination, further examinations should be made, as the secretions are not extensive and are not always present. We cannot expect much information from palpation in the early stages, as the deposit of tubercles is not extensive enough, except they be very superficial, to cause transmission of the voice sounds. It must be remembered that the vocal fremitus is always greater over the right side, owing to the greater diameter of the right bronchus. By inspection we may learn much from the general appearance of the patient. The features are dulled, the cheeks may show a circumscribed flush, the skin is pale and apparently anemic, the veinous network shows through it, and the color changes with every exertion or emotion. Even slight exertion causes perspiration and increases quite noticeably the number of heart-beats. Further inspection of the chest may show slight depression above or even below the clavicle, apparently lack of expansion over some part of the chest wall, especially over the seat of an old pleurisy, delayed or retarded expiration. Hemoptysis, however slight, should not be overlooked, and while examination may show no appreciable signs or deviation from the normal within the chest, the patient should be kept under observation. Very often the first symptom the patient notices is a slight or perhaps a severe hemorrhage, while he is apparently in good health, and in the absence of any of the other symptoms it is often hard to convince him that he has tuberculosis.

The thermometer is perhaps our most reliable guide in the diagnosis of early tuberculosis. It has been said that tuberculosis is an afebrile disease. This is true only in the more chronic forms when the system has established a certain amount of immunity to the toxins. In the early stages there is nearly always present in the afternoons a slight elevation above the normal, 37.2° to 38° C. This elevation may not appear every day, nor at the same hour, and it is well to make a routine practice of taking the temperature every two hours for ten days or two weeks in suspected cases.

We may also have a subnormal temperature, not only in the mornings but during the whole twenty-four hours, 35° to 36° C., or it may be subnormal in the morning with an exacerbation in the afternoon or night. Some few of my cases have had habitual subnormal temperature both A.M. and P.M. In case No. 37, the only evidence pointing to tuberculosis was a continual subnormal afternoon temperature, 34.8° to 35.8° C., and also a slight morning cough that he had for eight months. I gave him 1.5 mg. of tuberculin as a test dose, and the next day at 3 P.M. his temperature was 37.3° C. Three days later he again received 2.5 mg., and this time the temperature went up to 38.6° C., showing beyond doubt that there was some tuberculous deposit somewhere in the system, but which I was unable to locate. His recovery has apparently been complete, and he has followed his trade as carpenter and builder for two and one-half years.

In case No. 64 I found a similar temperature every day for over three weeks, the only symptom pointing to tuberculosis. A test dose of tuberculin gave a decided reaction and an elevation of 38° C. Several other patients who had a more advanced form of the disease with tubercle bacilli in the sputum, had marked subnormal temperatures.

I have used the tuberculin test in a number of suspected cases and have never seen any ill results follow its use. Neither have I seen, as has been stated by some, the release of the bacilli from their capsule so that they appeared in the sputum when they had never been found before, on careful examination. If such should happen, it is either a coincidence of rupture and test, or the reckless use of tuberculin, in large and repeated doses. In three and one-half years' experience I have seen nothing but good effects follow its use in properly selected cases. "When the disease is so slight that a diagnosis cannot be made on physical signs, nor any tubercle bacilli demonstrated in the sputum, then I believe that one, two, or three small injections of Koch's old tuberculin are absolutely free from danger. There is no recorded case where, used in the way I use this drug—1 to 10 mg.—any bad results have followed the injections, and that is the experience of Koch, Brierger, Neufeld, B. Fraenkel, Dr. Heron, and myself. Again, Professor Osler, in taking part in the discussion raised by Dr. Heron at the recent British Congress on Tuberculosis, which was chiefly concerned with the curative value of the newer forms of tuberculin, said that he regarded the old form of tuberculin as a safe and efficient diagnostic agent which he used in his routine practice at the Johns Hopkins Hospital (Latham, *Lancet,* Dec. 28, 1901, p. 1783).

In a consumptive family history the physician should see nothing more than that the patient under consideration may have had a special opportunity for infection and that people who inherit a weak constitution are more liable to infection than the offspring of vigorous parents. A phthisical family history, however, justifies a greater suspicion of infection, also a residence in a family where one or more members are afflicted with consumption regardless of relationship. For example, take case No. 152, in my record: A young woman, single, age 25, weight 127 lbs.; family history negative; both parents living and healthy. Six months previous to my seeing her she weighed 146 lbs. She gave a history of continuous good health up to three months ago, when she had a severe attack of influenza which left her with a slight morning cough, occasional night sweats, some pain in upper part of right chest, together with the other phenomena of acute tuberculosis. Three years ago she worked in a drygoods store, where one of the clerks or young men had a "cough." He always found some dark corner or out-of-the-way place in which to expectorate. At the end of six months he developed "consumption" and died. There does not seem to be any doubt as to where she contracted her disease and that the influenza infection was the cause of the acute attack which she had when I first saw her, by destroying the encapsulation of some of the foci, thereby liberating the tubercle bacilli into the surrounding tissues. It is well to remember that acute tuberculosis is very often prevalent after acute infectious diseases—like whooping cough, measles, scarlet fever, etc., especially in children—the associated affection destroying the barriers that the tissues had erected in their endeavor to destroy or arrest the invading tubercle bacillus, thereby, as stated above, liberating the germs and laying the foundation for the eruption of a new crop of tubercles. Of equal importance is the individual history in a great many cases. We may often gain valuable information in regard to repeated "catching cold," an obscure case of "malaria," so-called, "night sweats" in years gone by; a slight morning cough, or cough after retiring at night without any apparent cause; recurrent attacks of pleurisy, loss of a few pounds in weight, loss of appetite, etc. After we have taken all these things into consideration, made repeated physical examinations, used our microscope, etc., and are still unable to make a positive diagnosis, we have yet left the tuberculin test, which is reliable and devoid of danger if properly used and will practically settle the diagnosis beyond any reasonable doubt.

It is better to err on the right side than on the wrong, and, as Dr. Hall has said, "It is better that ten men should be cured and our diagnosis be in doubt in some of the cases, than that five should be dead and five permanently disabled and we be 'dead sure' that all had suffered from tuberculosis."

ENCEPHALOMENINGOCELE.*

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THE malformations of the brain and its coverings constitute an interesting group of pathological conditions. The three chief varieties are encephalocele, meningocele, and hydrencephalocele. The first is the most frequent and is a congenital hernia of the brain called cephalocele or "hernia cerebri." Meningocele, the least frequent, is the bulging of one or more of the membranes through a hiatus in the skull covered by the scalp. Hydrencephalocele, the most common of the large tumors, is a protrusion of brain tissue covered by skin and containing a central cystic cavity usually communicating with one of the ventricles of the brain. There may be a combination of brain and cerebrospinal fluid in the sac, encephalomeningocele, which is the rarest of all. Berger claims that the brain tissue found in meningoceles is neoplastic in character and has no physiological importance, and may therefore be disregarded from a surgical standpoint.

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*Read by title before the Southern Surgical and Gynecological Association, 1904.

They are usually about the size of an orange, but vary from the size of an egg to the size of a child's head. These various cephaloceles can be situated at any part of the skull. They most commonly occur in the mesial line. Pure encephaloceles are most prone to appear in the front, meningoceles occipitally. They may protrude through any suture or through an independent opening. They occur through sphenoid and ethmoid openings, or into the mouth, nose, or orbit, and may protrude through the foramen magnum. Cases have been reported in the neck.

The etiology of these formations is not clear. Many explanations have been offered. They probably apply to different types. The various theories may be grouped under four heads: (1) Union of the brain sac with the amnion, interfering with development of bone; (2) disease of bone causing non-union or porosity, with protrusion of the brain covering through the aperture, probably coexisting with disease of the brain itself; (3) intrauturine hydrocephalous causing a bulging of the membranes as the bones come together; (4) exostoses or protuberances on the pelvis of the mother, upon which the fetal head presses, interfering with development. External injuries have been supposed to cause these malformations. Other deformities, such as cleft palate, harelip, spinabifida and clubfoot, are often associated conditions.

Encephaloceles are usually small, opaque, smooth, and not pedunculated. They have thick walls, a wide base, pulsate on violent exertion, and become enlarged during sneezing, etc., but the tension is reduced during sleep. They grow very slightly and may exist for a number of years. Pressure causes dilatation of the pupils, strabismus, vomiting, convulsions, and other symptoms of brain compression. The opening in the skull occasionally can be felt. Sometimes they are changed by retrograde processes into a meningocele, and occasionally by ossification the openings close like a fontanelle. Many of the serous cysts of the scalp have probably been encephaloceles that have lost their communication with the interior.

Meningoceles would appear to have a simpler etiology and be dependent upon a protrusion of a part of the primary cerebral vesicle, from tension or an irregular division of the brain into its different parts in utero. When of pure type they contain fluid alone and are covered by one or more of the investments of the brain. They present, therefore, fluctuation and are translucent. They are usually pedunculated. There is no pulsation and no pressure symptoms, except that the child is usually restless when lying on the tumor. They grow much larger than encephaloceles but not so large, usually, as the hydrencephaloceles. When small they are sometimes reducible. Developmental defects of the brain are commonly associated, such as hydrocephalus, porencephalus, and microcephalus.

Hydrencephalocele is oftenest occipital and contains the posterior cornua of the dilated fourth ventricle. It is pendulous and lobulated. It grows larger than any of the congenital brain tumors. Indeed, Park says: "Some of the largest occipital cephaloceles are in fact hydrencephaloceles which contain the occipital lobe of the external cerebellum, and perhaps often the quadrigemina, along with the distended posterior cornua of the lateral ventricle and the dilated fourth ventricle with the Sylvian aqueduct already distended with the contained fluid. * * * Along with the membrane which constitutes the hernial sac are also other partitions, such as the falx, tentorium, and so on, but usually more or less distorted and deformed."

The skull is usually deformed also, and the brain inside is microcephalic. Horsley has been able to determine whether or not brain was included in these tumors by the faradic current. Sometimes it can be felt. Fortunately these children rarely live long, if they do not perish during delivery. They die of marasmus or, if the membranes rupture, of septic meningitis. Children with small sincipital encephaloceles sometimes live to puberty and the mental faculties, contrary to the general rule, are alert. Out of 75 cases collected by Laurence, 6 reached adult life.

Careful examination, congenital origin, and the tenseness on crying of the smaller encephaloceles, which are the most likely ones to be mistaken, will usually serve to discriminate them from other conditions, such as wens, fatty tumors, dermoids and cephalomatoma. They have been mistaken for abscesses and opened.

About everything from simple protection by a starch bandage to surgical removal has been tried. Aseptic puncture and compression has sometimes obtained a cure. Injection with Morton's fluid has also been occasionally successful. Incision or simple ligation would hardly find favor at the present time. Operative removal is indicated in many of the meningoceles. The presence of cerebral tissue is not a contraindication except in hydrencephalus. Bergmann reports two successful cases of operation for encephalomeningocele by Schmitz of St. Petersburg. Broca said all who were operated upon before the first month died. Anandale cured one child 7 weeks old, and recently there have been reports of cases of a few days old that have been successfully operated upon. Even after a successful operation the children sometimes die of convulsions from over-distention with cerebrospinal fluid, and sometimes hyprocephalus develops. The operative mortality is very much more encouraging than formerly. Chipault collected 50 cases of operation for meningocle in the last 9 years, with only 9 deaths.

The following case is an example of a meningocele containing cerebral tissue:

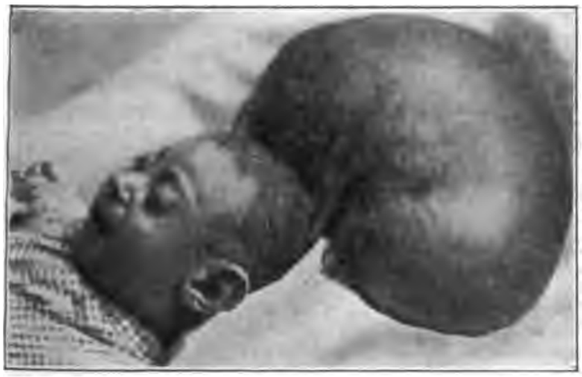
Male, 4 months of age, was sent to me by Dr. F. B. Sloan of Cowan, Tenn. The child had been born in a mountain hovel of an abandoned mother, who had no attendant. A tumor as large as a goose-egg was observed on the back of the head at birth. It grew progressively, and at the age of four months measured 23 in. in its long or transverse diameter, and 17 in. in the horizontal diameter. The tumor was kidney-shaped, and together with the child had to be carried on a pillow with great care. The child weighed 6 lbs. and the tumor 5 lbs. after removal. It sprung from the occipital region. It was smooth, transparent, exquisitely fluctuating, very thin-walled, and destitute of hair, save at the pedicle and about the hilus, where there was a rather abundant, long growth. The blood-vessels could be plainly seen. The child, while small for its age, was otherwise apparently normal and seemed hearty. The knee-jerks were present and sensation normal.

Handling the tumor excited crying. The sac was quite tense and did not distend upon crying. There was no pulsation. The pedicle was about the size of four fingers and very short. There was no spina-bifida or other deformity. The forehead receded markedly and gave an ape-like appearance to the face.

The case was seen by Drs. R. E. Fort, S. S. Briggs, and O. H. Wilson, who all advised operation. It was not thought at all promising, but clearly seemed the only thing to do.

Considerable difficulty was experienced in preparing the scalp and tumor for operation, as it had not been cleansed during the four months of the child's life. It was also difficult to handle the tumor. No anesthetic was given. An elastic ligature was placed around the base of the pedicle, and with large clamps above it, the tumor was amputated. In so doing it was seen that the brain tissue was cut through. The aperture in the skull was about the size of a quarter of a dollar. The bleeding vessels were tied with catgut, and the scalp closed over with interrupted sutures without drainage. The wound was sealed with collodion and cotton fibers.

The tumor contained a yellowish fluid, specific gravity 1.006, slightly alkaline, with considerable albumin. There was a small amount of cerebral tissue spread out over the lining at the bottom of the sac.



From a photograph, showing the relative proportion of the tumor and the head of the child.

The child showed symptoms of shock, and was given eight ounces of saline solution subcutaneously and 1-24 gr. strychnine. He reacted well from the operation, but was unable to nurse from that time on. All the functions of the body were performed normally. There were no convulsions. The pupillary and patellar reflexes were normal. There was a primary rise of temperature to 104° six hours after the operation, which receded to 99° on the second morning, and rose on the third day to 102°, but was never that high again. He exhibited a panting-like action of the tongue (polyapnea) continually.

He had been taking breast milk from a spoon satisfactorily up to this time. The wound had healed primarily and the sutures were out. He died rather unexpectedly on the ninth day. For two days previously the only conspicuous symptom was a lateral nystagmus. The temperature had not been above 100° in the four days preceding.

After death the skin flaps were separated and a small quantity of pus was found under them which the second collodion dressing had not allowed to escape. There was underneath the cerebral stump a considerable collection of cerebrospinal fluid.

IS CRANIOTOMY ON THE LIVING CHILD EVER JUSTIFIABLE.*

By I. MARX, M.D.,
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THE subject title of this paper resolves itself simply into a disquisition upon craniotomy versus cesarean section or symphyseotomy. The followers of the former can be designated as the conservatives, whilst the latter are embraced in the class of radicals. The interrogatory title of the article to be discussed this evening has for a long time been in the writer's mind as one befitting the thoughts of scientific obstetricians. Often and often has this subject been discussed at the bedside of the parturient woman, among the poorest as well as among the very rich, in circles where religious views and beliefs had to be weighed and carefully considered; where church affiliations and family ties were constantly swaying the poor woman, her husband and family from one determination to another. To this end, and from the uncertainty that has arisen on the part of those vitally interested, from the demoralization which has resulted from this vital uncertainty, the author has come to a finality in this question. Other things being equal, the religious question always weighing strongly, and more often than not absolutely determining the result, the writer always favors the mother as compared to the unknown fetus, when we are asked to allow the mother to suffer an increased risk to deliver her. This finality has been arrived at even in the face of the wonderful results of modern surgery. Again, years of active experience among all classes, in and out of hospitals, firmly forces the belief that only in rare cases can we consider a cesarean section on a woman many hours in labor, after manifold attempts to deliver, in the presence of a suffering fetus, as more conservative than a skillfully performed craniotomy. So far as we are concerned this standpoint relegates to the past and to the forgotten the maxim that we have so often heard: "No perforation of the living child. Away with the perforation." This much we all admit: the sphere for craniotomy is limited; but we believe its limitation must and ought to be extended, always holding that the life of the dangerously ill mother is of greater value than that of the suffering and possibly badly maimed child, which as an unborn creation is a questionable entity.

To approach the subject before us intelligently we shall first speak of the absolute contraindication for the performance of perforation. There can be no question that this condition is offered in pelves absolutely contracted either from bone approximation or through obstruction by a tumor mass. The early induction of an abortion is, if the demand is made by the vitally interested parties, our only salvation early in the pregnancy. Or, if at or near term, the elective cesarean section would be our method of choice. But too often we are confronted with such conditions and meet them, as consultants, when the suspicions of the attending physicians had not been aroused even after various and futile attempts at delivery. This dire condition can be obviated only by timely care and attention to the pelvic construction of every gravid woman. To go a step further in our exposition of the subject, we speak of: (1) The absolute indications for the operation; (2) The relative indications.

1. Absolute Indications.—There can be no question that under this category, broadminded men meet on common grounds and are practically fully agreed as how to meet certain conditions. The bigoted individual as well as he who plays to the galleries, or parades his profound surgical skill with the flourish of trumpets before a large class of students, is the one who even under these conditions shouts: "The perforator is obsolete!" We do not speak of the dead child, for that is beyond the scope of the paper. But it will not be amiss to ask how often have we not all seen, as consultants, the most serious forceps or difficult forced versions done on the dead child, while the mother's soft parts were fearfully endangered, and her life almost sacrificed, when the timely use of the perforator could have ended all simply, quickly, and safely? How often has not the writer under these conditions been asked *not* to do a perforation and has it not been hinted to him to perform some difficult piece of work, as a forced version in a threatened ruptured uterus, for simple moral effect? This chapter I have added for cogent reasons, and it must appeal to you all as of the greatest importance.

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*Read before the Section in Gynecology and Obstetrics of the New York Academy of Medicine.

The absolute indications as to (a) the fetus. Any prolonged, difficult life-saving operation on the fetus is contraindicated when that fetus is known to be suffering profoundly as shown by the well-known physical signs. After a baby has been mauled and hauled, has probably had its tender skull and brain vitally injured by the application of an array of forceps, which at times would do credit to an instrument store, its advent into this mundane sphere is better as a dead child, than as a suffering idiot. How easily could all of this have been avoided by discovering early that a malposition existed or a pelvic contraction was present. In midwifery the minor complications always give major perplexities. A contracted pelvis of the profound type is more readily discovered than a simple occipitoposterior position. Under this category, we always prefer the perforator. I can do no better than to quote from that nestor of pediatrics, Dr. Jacobi, the following: "But after all, many a baby would be better off, and the world also, if it had died during labor. There are those, and not a few, who are born asphyxiated on account of interrupted circulation, compression of the impacted head, etc., which destroys many that die in the first week of life. Those who are not so taken away may live as the result of protracted asphyxia, only to be paralytic, idiotic, or epileptic. Many times in a long life have I urged upon the practitioner to remember that every second added to the duration of asphyxia adds to the danger either to life or to an impaired human existence. All such cases prove the insufficiency of knowledge without art, or of art without knowledge, and the grave responsibility of the practical obstetrician." To all of which I solemly say, Amen! "To lose a newly-born by death, causes at least dire bereavement; to cripple his future is not rarely criminal negligence." The indication for the use of the perforator is absolute in cases of known vital deformity of the fetus, such as huge hydrocephalus and other monsters.

Absolute indications regarding (b) the mother, the wish of the parents and of the immediate family must always be satisfied. If between the operations proposed, as craniotomy and cesarean section or other cutting operation, for the purpose of saving the child, it becomes the wish of the immediate family that no risk for the mother be undertaken, it is our imperative duty to consider this an absolutely clear indication for the performance of craniotomy. The absolute indication from the maternal standpoint is presented, irrespective of the condition of the child, in all those cases in which dire and sudden accidents arise which immediately threaten the life of the mother; when the child cannot be extracted except after prolonged efforts which in themselves would not only tend to extinguish fetal life, but place an extra hazardous risk upon the mother. To perform, under these grave emergent conditions, the only operation for saving the life of the child, namely cesarean section, is out of the question, because of our utter unpreparedness. Unless a rapid forceps, version, or extraction can be done, our duty ought always be the performance of a perforation. I need only mention such grave complications as pulmonary embolus, severe accidental hemorrhage, eclampsia, etc.

Again, I wish most emphatically to impress upon the minds of this audience, the absolute necessity for the destructive operations in all cases of grave exhaustion on the part of the mother. A woman who is the victim of a prolonged fruitless labor or one who has been subjected to powerful efforts to deliver her under prolonged anesthesia, is one who would surely be annihilated by subjecting her to a cesarean section. Much rather would I *always* advocate the perforator on the living child under these conditions, than to subject the mother to the extra danger of a major operation, whose sole object would be to deliver her of a possibly living child; but at what a terrible cost? The truth of the matter, the kernel in the shell, lies not infrequently in the negligence of the attendant. Here the blame can and must be laid. Better instruction, skill, and patience on the part of the accoucheur will do more to anticipate these calamities and prevent them, than myriads of warnings uttered after these complications have occurred.

2. Relative Indications.—The skilled and technically perfect accoucheur can, by adopting various means and measures, reduce the necessity for the performance of the destructive fetal operations to a minimum. The early recognition of fetal exhaustion, the careful watch for threatening and impending maternal dissolution are all sacred and initial duties of the conscientious man. Operating too early without indications, is surely as criminal as operating too late. Timely interference, in the presence only of clear indications, of normal positions and presentations, knowing whether or not there be present disproportion between fetal head and maternal structures, are all the purest quintessence of common sense. The early recognition of vicious presenting parts and their timely correction is surely but one of the manifold duties of the physician. Means and measures at our command are numerous; to go deeply into this subject would entail words enough to fill a textbook. The application of the forceps in cases clearly indicated for forceps, the value and performance of version when there are contraindications, is again a subject which must depend on the discretion and experience of the operator. The various positions can often be utilized for ready and easy delivery, as the lateral prone, the Trendelenburg and the Walcher. Of the latter I can speak with the greatest satisfaction, for it has stood me in good stead on many occasions, whether in delivering the head in forceps cases, or in extraction by the breech in after-coming cases, supplemented by firm suprapubic pressure.

Relative indications must first and foremost depend not on us, as physicians, only, but also on the family. They are to, and must, decide the momentous question as to whether or not perforation is to be performed on the living and healthy child, in conditions of the mother, in which her life may be endangered by an operation of a major type, presumably cesarean section. To specify all these conditions would tend to make me too prolix, and I therefore refrain, for my desire is not to be elementary, for we are assembled together not as tyros, but as supposed experts. But, if the question of choice be left to us as physicians, we must and ought to decide in these relative conditions in favor of an operation of a major type, when the child is in good condition or approximately so, and when the mother is not septic, and is able to stand the shock of such an operation. If there be the slightest doubt in our minds as to the outcome, we must throw our weight of scientific authority, if necessary reenforced by further counsel, in favor of a deliberate perforation on the living child. In all cases, I want to go on record as stating that unless cesarean section can be made reasonably safe, I unhesitatingly prefer a craniotomy. Cesarean section is safer in skilled hands, we all admit; but what a death rate would the operation be followed by in unskilled hands? Perforation, again, is an operation less dangerous in untrained hands, than one of a major type. The most fruitful field for the relative indication, in a personal experience, has been in cases of pelvic contraction, not absolute, principally in those of a minor type. If not recognized they form a series of dystociæ, that tests even the skill of a careful observer. These can be overcome in many women and the delivery crowned by success, by an early performance of a version, the aftercoming head being helped through the pelvis by the Walcher position, and firm suprapelvic pressure. When from an early rupture of the waters a version is impossible, the tentative use of typical or atypical forceps, again using the extension position, might be of value. The application must not be persisted in too long, nor be too powerful, for fear of doing injury to the fetus. If this be unsuccessful, the woman and child in good condition, and the patient in such environment that the outcome of an operation is reasonably certain, then and then only, would a cesarean section be allowable. But all our discussions and inclinations will in nine cases out of ten, receive their quietus by the ever-familiar phrase you all know so well, "Save my wife and destroy the child." Is this not true? Discussion among scientific men at a meeting and heart-to-heart consultations at the bedside of the parturient woman are two widely different factors. One is theory, the other practice. Let not our positions change from one to the other; and in all sincerity it is my firm conviction that perforation has a place in midwifery; and as I grow older and more experienced in my own work I feel that the field for perforation and the allied operations is widening, and that for cesarean section, safe and life saving as it may be, is narrowing for cases essentially among our private clientele and private consulting work.

GUNSHOT WOUNDS OF THE ABDOMEN.

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Gross and Sims suggested laparotomy for gunshot and stab wounds of the peritoneal cavity. Later Bull applied this in practice. Dr. Hunter McGuire of Virginia was a pioneer contributor to the literature of this subject. In this, as in some other fields, the aggressive American surgeon long ago cast off the shackles of conservatism and blazed the trail for the more staid and cautious men of the Continent. Hence this method was first suggested, practiced, and perfected in the United States.

Not until after anesthesia made operation painless, and asepsis and antisepsis made it safe, did surgeons accomplish results worthy of the name of surgery in this field of work. With the advent of these blessings the new surgery was born. And with it came the rational treatment of peritoneal wounds.

Modern military bullets have a hard mantle of steel, copper, nickel or alloy of copper and nickel, or copper, nickel and zinc, enabling them to follow the rifling of the gun barrel. These balls weigh from 150 to 245 grns. as against the old Springfield bullet, which weighs 500 grns. The muzzle velocity varies from 1,984 to 2,329 feet per second against the Springfield's velocity of 1,300 feet per second. This hard rifle ball with a high initial velocity, rapidly revolving on its longitudinal axis, produces a neat, clean-cut perforation, which is easily sutured and heals rapidly. Unless nearly spent, this ball follows almost a direct course through the tissues. The increasing curve described by the trajectory when the force of the missile is nearly spent, causes at times the characteristic "keyhole" shaped puncture, the impact at the end of the ball on the skin at the proper angle bringing this about. The low velocity ball may produce the same sort of lesion. The dumdum or soft nose expanding bullets are liable to flatten even when striking soft tissues, producing the ghastliest of wounds.

The ordinary pistol ball passes through an unrifled barrel propelled by a powder of comparatively low explosive power. It can be deflected from its direct course by bone, cartilage, or fascia. Hence the direction of entrance is often of small indication as to its course and ultimate resting place. This ball may be flattened or distorted, producing large, ragged perforations, or the ball may change position from end to side with respect to the object it strikes, producing an oblong perforation. The intestines and other abdominal viscera being of fairly soft and yielding structure, offer but little resistance to any form of bullet.

Although the great danger of infection comes from the perforative wounds of the hollow viscera and the subsequent contamination of the peritoneal cavity, Major Louis A. LaGarde of the Army Medical Service has shown that there is danger of infection from the projectile per se, both the explosive and the ball being contaminated in from 12 to 47 per cent. of specimens examined, and that the wad and wadding are always contaminated. Also that the heat generated in firing does not in any sense destroy bacteria, and that the missile easily becomes infected en route by contact with clothing, skin, and other media. Until recently some had supposed that the combustion taking place in the gun barrel was sufficient to render the ball sterile. The ancients made use of animal, vegetable, and bacterial (in an impirical fashion) poisons in their warfare, and to this day some savage tribesmen poison their arrows and spears. After intestinal rupture peritonitis rapidly supervenes, especially so if there is much food in the intestines. In injuries below the ileocecal valve, the extravasation of intestinal contents does not as a rule take place so rapidly, but the bacterial content is proportionately greater.

The symptoms, the situation of the external wound, and the course of the bullet indicate the location and nature of the visceral lesions. Initial pain and tenderness below the umbilicus, the presence of free gas in the abdominal cavity, denote intestinal perforations. When the beginning pain and tenderness are in the epigastrium and the vomitus contains blood, we would expect wounds of the stomach. The temperature may be a little below normal, the patient may have a desire to move the bowels even after injuries to the stomach or liver. If there is any hemorrhage of note the symptoms are likely to be rapidly progressive and naturally there will be pallor, profuse perspiration, and shock. Frequently part or all of these symptoms are absent, making clear preoperative diagnosis impossible. Morphia given for the relief of pain may mask every symptom. It is in the immediately treated cases occurring in civil life and treated by men of operative experience that brilliant results have been achieved. Here it is truly a life-saving service. In these as in some other conditions where the element of doubt as to certain diagnosis is large, an element of risk must be run. "Who dares not, never wins a race." Over conservatism has been the death knell of more than one patient. Abdominal section is often the only means by which a certain diagnosis of visceral complications may be reached at a sufficiently early hour to save life, and unless this diagnosis of bowel injury is made early, and treatment is instituted promptly, the operator had as well never been born so far as the possibilities of any benefit to the patient are concerned. To wait for tympany and peritonitis is to wait until hope is lost.

The utter impossibility of learning the extent of the damage done save by section has become proverbial; nay, even a trite truism. In these wounds occurring in civil life where the wound of entrance can be shown to have penetrated the abdominal wall, where the services of an experienced surgeon are obtainable at an early hour, laparotomy indications are imperative, as a rule, regardless of symptoms. The mortality depends for the most part upon the time of the operation and the technique of the work. In war time, when operative intervention often comes late, when the work has frequently to be done under the most adverse conditions, such men as Nicholas Senn in the Spanish-American conflict, and Sir Frederick Treves in the Anglo-Boer war, obtained results that were most disheartening and found the censervatism of inactivity to be the saner policy.

According to the dictum of Richardson, gunshot wounds of the abdomen probably having visceral involvements should be treated by laparotomy only when the operator is a surgeon of skill and experience and when the refinements of modern methods are available; under these circumstances a gunshot wound of the abdomen, when seen within two or three hours, demands immediate investigation whatever the symptoms. Gunshot wounds of the abdomen of some hours standing require exploration only when symptoms of hemorrhage or peritonitis exist. Nicholas Senn and others have found when investigating and collating mortality statistics in cases of traumatic rupture of the intestines treated by operation (bullet perforations should yield identical results) that the mortality ratio bears a direct relation to the lateness of the case. Those operated on within four hours of the receipt of the injury giving a mortality of 15.2 per cent.; five to eight hours, 44.4 per cent.; nine to twelve hours, 63.6 per cent.; later, 70.7 per cent. Visceral injuries are said by Douglas to follow 97 per cent. of gunshot wounds of the abdomen of a penetrating character.

The abdomen should be carefully inspected. The use of the probe is often misleading and harmful. Base the incision on symptoms of the patient, location of wound and apparent course of the bullet. Ordinarily a medium incision beginning just below the ensiform cartilage and extending nearly to the umbilicus will give ample opportunities for exploration and inspection of the abdominal contents. Hemorrhage requires first attention. Spleen and liver bleeding may be controlled either by gauze tamponade or deeply placed, carefully tied sutures of catgut. Mesenteric wounds are often the source of profuse bleeding. Search for intestinal injuries should be systematic, not haphazard and at random. By lifting the transverse colon the jejunum can easily be found, raised and followed in either direction. While the operator draws up and inspects each inch of bowel the assistant should be returning the inspected part to the abdomen. By careful handling and the avoidance of unnecessary exposure of the bowel to the atmosphere shock will be minimized. Hot wet gauze towels should be plentifully used over any exposed bowel. Wounds of the bowel are closed by through and through sutures of silk piercing all of the coats. The line of suture is buried by fine silk sutures superficially placed. All injuries attended to, the toilet of the peritoneal cavity should be made. It is often necessary in these cases to irrigate the abdominal cavity to remove fecal extravasations, blood, etc. In such cases the irrigator devised by Dr. Howard A. Kelley is a valuable accessory. Normal saline solution should be used and some of it left in the peritoneal cavity. As infection may come from the bullet, the wound of entrance should be carefully cleansed or excised. By reason of frequent fecal contamination and beginning or general peritonitis drainage is often needed. A light gauze wick passed through a thin rubber capot (to prevent needless adhesions) acts well; this can be removed in two or three days and a fresh strip inserted. When the peritonitis has become general, counter drainage may be made in each flank through buttonhole openings made over the ends of partially opened hemostats.

When the patient's condition will tolerate it, considerable attention should be devoted to a careful closure of the abdominal wall. I have used fine silk for the peritoneum, and a heavier grade of silk for the fascia; here the mattress suture facilitates closure by bringing larger areas together than the interrupted stitch and saving time in tying. My objection to the continuous suture for this part of the work is that by becoming loosened at any one point it may become valueless for its entire length. I consider the proper approximation and retention of the fascia as the most important prophylactic measure in the prevention of post-operative hernia. Tension sutures of silkworm gut have previously been passed through the skin, fascia, and muscle, and the skin gaps between these are closed by interrupted silk worm gut sutures, or, what is better and neater, a continuous buttonhole suture of silk is used for the entire length of the skin incision.

CUSHION DISEASES.

By JEROME D. POTTS, M.D.

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THE reader must not infer from the above caption that I intend to announce the discovery of some new and startling class of diseases. Far from it, I simply wish to call the attention of the medical profession to a class, the chief etiological factor of which has been unrecognized or neglected. It is hardly to be expected that the general practitioner would take cognizance of such a factor, but when eminent specialists pass it by with slight notice, it is time that one of the lesser lights shone forth.

It is a fact, well known to anatomists, that in the construction of the human skeleton, two bony prominences with soft, elastic cushions on the extremity of each, were provided, on which the weight of the body should rest when in the sitting position. These cushioned prominences not only bear the weight of the body, but afford protection to certain soft parts situated between them. They are fixed parts of the bony pelvis, and do not change their relation to any of the organs or tissues they are designed to protect. The vertebral column, with its anteroposterior curvatures and lateral straight lines, is placed at right angles to a line drawn from one tuber ischii to the other, and, whether the body be inclined forward or backward, they both maintain their position and bear an equal pressure.

Every man and woman of leisure, and many who are employed, must spend at least ten hours each day in the sitting posture, and more or less discomfort is experienced as a result. Modern society has decreed that these prominences need protection, and in compliance with this decree the furniture-maker and the carriage-builder have devised a multiplicity of cushions. The soft-bottomed chair is brought into service. The tubera ischii no longer perform the function for which they were provided. They sink down into the cushion, and the weight of the body is caused to rest as much upon the soft parts as upon the hard. The integument of the perineal and perianal regions, the mucous membrane of the labia, and, in relaxed conditions of the sphincters and levator and muscles, the mucous membrane of the anus, rectum, and vulva, the urethra, male and female, the prostate gland, and Cowper's glands may become diseased by violation of nature's provision.

The cushions ordinarily used are made of steel or brass springs, padded with hair or wool, and covered with some more or less impervious material. The warmth of the parts placed in contact with these is increased, the function of the sudorific follicles and sebaceous glands is stimulated to increased activity. The inability of the secretions to escape by friction or evaporation, must sooner or later result in maceration and exfoliation of the epithelial layer. Since it is a well-known fact that the epithelial layer is the protective one, it may easily be inferred that infection by some one of the ever-present pathogenic bacteria will result as soon as its integrity is broken.

Depletion of the blood vessels of the parts while under pressure must be followed by more or less congestion. Deranged nutrition ensues, and the foundation of many disease processes is laid in the injured parts.

The Allinghams, Bodenhamer, Kelsey, Mathews, Tuttle, and Gant refer to increased secretion and retention *in situ*, with maceration and exfoliation of the epithelial layer, as an etiological factor in the production of certain pathological conditions in the perianal region, but no one of them attempts to explain the cause of this increased secretion and retention. Of course, I do not presume to state that these great authors did not take cognizance of this etiological factor, but I do not think they assigned to it the importance to which it is entitled. Cushions have been used from time immemorial, and I suppose will be used for all time to come, but this is no reason why we should refuse to make known a recognized injurious result. In fact, the well nigh universal use of them makes it all the more necessary to point out the faults so they may be corrected. In my work as a specialist, I have had abundant opportunity of observing three classes of diseases, in which I regard the use of soft cushions as the chief etiological factor.

The first of these has its seat in the integument, or beneath the integument of the perineal, and perianal regions, and embraces such well-known diseases as eczema simplex, eczema marginatum, intertrigo, erythema simplex, pruritus ani, and abscesses —tugumentary and subtegumentary.

The second class has its seat in the mucous membrane, and submucous tissue, and embraces such disorders as simple urethritis, simple proctitis, anal ulcers, etc.

The third class has its origin in the blood vessels and glands, and includes such diseases as hemorrhoids, papillomata, adenomata, etc.

If the use of these cushions is the chief cause of these troubles, it may be asked, what are we going to do about it? I would answer, first, let us return to the old-fashioned hard-bottomed seat, or devise a cushion so firm that the tuberosities cannot sink down into it. This latter suggestion can be easily carried out and all the elements of beauty and comfort be conserved. The cushions can be made with firm tops and covered with some material through which evaporation can readily take place, thus instituting one of the very best forms of ***preventive*** treatment.

Treatment of the first class will depend upon which one of the class is present and its stage of development.

Eczema simplex in the first stage should be treated with such soothing, emollient preparations as Hebra's ung. diachyli, or a compound powder, consisting of powdered camphor, 10 grains; zinc zozoiodol, 30 grains; boric acid, 120 grains; talcum purified enough to make two ounces. The parts are to be thoroughly cleansed after each defecation, dried, and fully covered with the ointment or powder. This must be continued until all weeping surfaces are dried up. In the second stage, when we have not only weeping, but marked tendency to crust formation and itching, the treatment given for the first will be slightly modified. The crusts should be removed with warm olive or almond oil, plenty of time being taken to soften thoroughly, so that no granulations will be broken. A combination of antiseptic, astringent and protective should then be made, and a strip of soft absorbent gauze, or pledget of absorbent cotton, be placed between the buttocks. In the third stage, when the skin has become thickeined, indurated, and fissured, more drastic measures should be adopted. The parts must be cleansed with green soap, liquor detergens, or diluted caustic soda. If bleeding occurs during or after the cleansing, the parts should be rinsed with a one in four thousand solution of bichloride of mercury before applying the ointment, which should contain an astringent, antiseptic, stimulant, anodyne, and protective. Such an ointment is represented in the following compound: Resorcin, salicylic acid, 10 grains each; oil of cade, 10 drops; zinc ointment and cold cream, two drops each; mutton suet enough to make one ounce. This should be applied sufficiently often to protect the parts from exposure to the atmosphere.

Eczema marginatum, being, as is known, a disease due to the presence of the tricophyton, must be treated with a compound containing an ingredient that will destroy the germ. Such a compound may be found in the excellent formula suggested by Dr. Bulkley, of New York: Sublimed sulphur, liquid tar, each six drachms; green soap, three drachms; terra alba, three drachms; lard, one ounce. Apply to the excoriated parts. Intertrigo should be treated in the following manner: Thorough washing of the parts with soap and warm water, and, after drying, the application of some antiseptic dressing powder. If offensive ordor be present, some thymol may be added. Sometimes great benefit may be derived from the application of black wash—lotio niger—several times during the day. After it has stood for a few minutes, the parts should be dried with gauze or cotton, and covered with dusting powder. Pruritus ani is most frequently relieved by the use of the following ointment: Cocaine muriate, eight grains; antipyrin, fourteen grains; zinc oxide, two grains; cerate, five drachms. Apply to itching parts three or four times daily. Abscesses, tegumentary and subtegumentary, are to be treated with the knife. No palliative treatment of these is worthy of consideration.

Of the second class, urethritis and simple proctitis should be treated with astringent, antiseptic, and emollient solutions. Anal and rectal ulcers by the application of stimulants and antiseptic agents. The selection of these must be left to the experience and judgment of the physician.

Of the third class, it may be said that there is practically no local treatment, save the surgical, that is worthy of serious consideration. The hemorrhoidal tumors should be removed according to some one of the approved methods. The clamp and cautery, the ligature, the injection, the excision, and the crushing methods are well established by the highest authorities, and no individual operator should feel the least timidity in adopting any one of them. My preference is given to the clamp and cautery, with the patient under full anesthesia, for the reason that the stump is left in perfectly aseptic condition when the operation is completed. Papillomata may be excised or treated with the thermocautery, electric cautery, or fuming nitric acid. The adenomata should be treated with snare, electrocautery, or the knife.

The treatment of the above classes of diseases is given in rather cursory manner, no effort being made to go into detail. For more extended information the reader is referred to some one of the many excellent treatises upon rectal and skin diseases. If the reading of this article shall convince any one of the harmfulness of soft, warm, cushioned seats, I shall be amply repaid for the writing.

518 Missouri Trust Building.

On Some Obscure Cases of Cancer of the Stomach, in Which the Main Symptoms Have Been Unconnected with That Organ.—G. Newton Pitt reports a series of seventeen cases of cancer of the stomach in which the main symptoms were not connected with that organ. These cases have occurred at Guy's Hospital during the past twenty years. Most interesting are those cases in which there is rapid extension of the growth when once the peritoneal surface has been infected. Bits of the growth tend to become loosened and may find their way in two directions. They may drop into the pelvis, where they grow. In this way intestinal obstruction may be set up, and may be the affection for which the patient first comes under observation. Perhaps more often they are sucked upward by the diaphragm and grow on its under surface. In this way they give rise to ascites, and if the growth extends upward, to pleurisy also. Valuable information may sometimes be obtained by a systematic examination of the glands above the clavicle, especially those behind the left sternomastoid muscle. The most important gland lies behind the lower two roots of the sternomastoid. When the patient coughs it is pushed up. Unfortunately it is not often involved. Growth in this gland in more than half of the cases indicates primary disease of the stomach, less often in the uterus, and exceptionally in the pancreas, liver, kidney, or ovary, etc. The writer reports three cases of matted intestines secondary to sarcoma of the stomach. The peritoneal infection caused the intestines to be matted together instead of distending the abdomen with fluid. There are among these cases twelve, that is, about 10 per cent. of all the fatal cases of cancer of the stomach in the hospital, in which the symptoms were those of malignant disease of the peritoneum. Abdominal abscesses occurred in two cases. Profound anemia was noted in two other cases. In malignant disease the diminution in the hemoglobin is not extreme. The hemoglobin index is always less than 1, and the total number of red cells is not diminished to the extent that it is in pernicious anemia. An iliac tumor appeared in one case. The writer mentions thrombosed veins in association with cancer of the stomach, but it is of such rare occurrence that it is doubtful whether it should be included in this list. He concludes by saying that such obscure cases form about 60 per cent. of the total. Some of the cases are so obscure that no more than a conjectural guess can ever be given, while in others probably a more exact diagnosis can be arrived at in the future.—*The Practitioner.*

The Removal of Foreign Bodies from the Esophagus.—Glücksmann says that it is the first object of the physician on reaching a patient who has, or is supposed to have, swallowed a foreign body is to calm the excitement both of the sufferer and of the bystanders. As soon as most of the latter have been sent away on various errands, the physician should find out, first, the nature of the foreign body; second, its supposed situation, and third, the time when it was swallowed. Having obtained this information, the pharynx should be examined with the aid of a broad tongue depressor, the soft palate, tonsils, and posterior pharyngeal wall being closely scrutinized for scratches or abrasions, and then the laryngeal mirror is to be employed for inspection of the lower pharynx and pharyngeal folds. Finally, the ocular examination is completed by a posterior rhinoscopy. If these maneuvers are all negative, the next step is digital palpation, which is always of value, and may sometimes, by the vomiting reflexes set up, cause an object deeper down to be brought up into reach. For the instrumental investigation olivary bougies are most desirable, and for extraction of small bodies the old Fergusson horsehair probang is decidedly useful, whereas the traditional coin catcher is apt to do more harm than good. The various forms of forceps are dangerous to use, and the esophagoscope should always be employed for purposes of diagnosis and removal when the body is deep seated. It must not be forgotten that the pain due to abrasions of the pharyngeal mucous membrane may cause the patient to be convinced that this is the site of impaction, whereas in reality the substance may have already reached the stomach. The family should also always be warned of the rise of temperature, or esophageal fever is likely to follow manipulations of this sort.—*Zeitschrift für diätetische und physikalische Therapie.*

A Puzzling Case.—A. B. Dalgetty calls attention to the difficulty of deciding in certain cases in the Tropics whether typhoid fever exists or not, in spite of the serum and other tests. The patient whose history he cites was a teaplained of severe pains over the lumbosacral region, tennis, the man sat down between two doors in a cool place. Two days later the writer was called to attend him. He was slightly feverish, with a furred tongue, and he complained of severe pains over the lumbo-sacral region, which were much increased by movement. For the next ten days, the condition remained unchanged. He then had a sharp attack of diarrhea which he attributed to the overdose of Epsom salts which had been given him. Five or six weeks after the beginning of the illness he began to have regular attacks of fever, coming on about six o'clock in the evening and lasting nearly all night, but remitting in the morning. He now began to complain of sharp pains under the left ribs in the splenic region. These pains sometimes shot down the thigh. The spleen could just be felt. Estivoautumnal hæmamœbæ were found in the blood. So it was clear that he was suffering from malarial fever. But sulphate of quinine which was administered to him did not destroy all of these organisms, as they were found on many subsequent occasions. There was a considerable leucocytosis. Stiffness and pain in the region of the psoas muscle continued. Examination of the blood showed a strongly marked reaction for enteric fever. The highest point of the fever throughout the whole illness was 102.2° F. After the patient had been ill nearly three months, he began to suffer from night-sweats. He was finally removed to a hospital in Calcutta, where a large peritoneal abscess in the left loin was opened. He slowly improved, and finally recovered. The writer states that even now it is not easy to decide upon the original trouble. He believes that the patient had a chronic abscess accompanied by malarial fever, and that the positive Widal reaction was fallacious.—*The Journal of Tropical Medicine.*

MEDICAL RECORD.

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DIABETES MELLITUS.

THE presence of sugar in the urine is to be considered merely an indication of derangement of the bodily metabolism, which, when attended with certain other clinical phenomena, constitutes the symptom-complex—diabetes mellitus. The latter disorder has no uniform etiology, and its mechanism is, no doubt, correspondingly varied. Its morbid anatomy, likewise, is not constant, no gross lesions being at times discoverable, while at other times there is obvious disease of the central nervous system or of the pancreas. An interesting presentation of a number of phases of this important subject is given by Dr. W. Cecil Bosanquet in the Goulstonian lectures recently delivered before the Royal College of Physicians of London (*The Lancet,* April 8, 15, and 22, 1905). In summing up his views in explanation of the phenomena of diabetes and the arguments by which they were reached, he assumes that an excess of sugar in the blood, which is the condition precedent to glycosuria, may be caused by over-production of sugar in the system, or by deficient use of the same in the organism or of diminished excretion. Evidence of either of the latter processes is practically wanting, while convincing evidence exists that at one stage of diabetes, at all events, there is increased production. Over-production of sugar may depend upon some digestive irregularity, as a result of which more sugar than normal is thrown into the blood from the food, or upon the manufacture of sugar from the tissues of the body. There is sufficient evidence that both of these processes are operative in the case of diabetes, inasmuch as the output in the urine can at first be controlled by limiting the diet, while later this is not possible.

Under certain conditions sugar appears in the urine apparently as a result of absorption of additional sugar from the alimentary canal, but it is only in the presence of diabetes mellitus that there is at any time evidence of the formation of sugar from the tissue-cells of the patient. This autolytic formation of sugar is the characteristic feature of diabetes in so far as the production of sugar is concerned. It involves less of an assumption to suppose that this autolytic formation of sugar is present in cases of diabetes throughout the course of the disease than to suppose that it ensues after a time as a result of the presence in the blood of an excess of the substance, namely sugar, into which the cells finally break down. The absence of proof of the existence of this process in the early stages of the disease, when the glycosuria can be controlled by restriction of the diet, may be due to the possession by the body of a certain power of utilizing sugar in its nutritive processes so that only the excess above a definite amount appears in the urine.

There is sufficient evidence available to establish beyond the possibility of doubt the fact that there is some connection between the pancreas and diabetes. Although it has not yet been proved, yet it is becoming increasingly probable that the pancreas is diseased in all cases of diabetes mellitus. There is an accumulation of evidence showing that the function of the pancreas which is in abeyance in the presence of diabetes is normally performed by certain special groups of cells known as the islands of Langerhans, which are distinct from the ordinary cells of the gland, but which not improbably are formed from its acini. The special lesion of these islands, namely hyaline degeneration, which has been associated with diabetes by some writers, is not present in all cases of the disease, and may be found in a less developed degree in other conditions. The action of the pancreas may be exerted in the direction either of supplying a substance necessary for the assimilation of sugar by the cells of the body or of counteracting a poison that in some way leads to accumulation of sugar in the blood. There is little or no evidence in favor of the first possibility; in favor of the second are the results of experimental intoxication with phloridzin, with suprarenal extract, and with other substances, and a few inconclusive results obtained by injection of secretions derived from diabetic patients. It cannot yet be stated with any degree of certainty what tissue in the body gives rise to the sugar formed in diabetes. The theoretical possibility that sugar may be derived from fat is supported by certain observations proving that a serious disturbance of the adipose tissue exists in cases of diabetes. Further, if this hypothesis be admissible, a certain unity will be introduced into the conception of diabetes, the phenomena of which will be explicable as manifestations of a single process occurring in a single tissue. Finally, glycosuria, as opposed to diabetes, may be due to mere excess of sugar thrown into the blood from the alimentary canal beyond what the system is capable of assimilating; or it may be due to causes acting in an analogous manner to puncture of the floor of the fourth ventricle and leading to discharge of sugar by the liver from its stores of glycogen.

If the foregoing views are correct, it follows that in its earliest stage the diabetic process may constitute a predisposing rather than the actual cause of glycosuria, as the breaking down of the tissue-cells into sugar is at first not more than sufficient to saturate the sugar-assimilating powers of the system. At this stage a slight increase of saccharine food will produce glycosuria, an increase that in a normal person would not have this effect. Similarly a slight nervous shock sufficient to cause the liberation of only a comparatively small quantity of glycogen from the liver would also augment the amount of sugar present in the blood above the point at which it appears in the urine. The onset of true diabetes might thus be ascribed to a shock, when in reality it was previously existent, but unnoticed. Accordingly, in Bosanquet's opinion, diabetes mellitus can be defined as an increased internal dissociation of tissue, possibly fat, into sugar, caused by a toxic substance produced in the course of normal metabolism and normally neutralized by the pancreas.

DISINFECTION WITH FORMALDEHYDE.

Dr. Wallace Clark, Health Officer of Utica, recently read a paper on "Disinfection with Formaldehyde," before the Fourth Conference of Sanitary Officers, at Albany, which has been published in the *Medical Review of Reviews*, of March 25. Since April, 1897, formaldehyde alone has been used in Utica for disinfecting houses in which existed contagious diseases, and Dr. Clark is completely satisfied as to its efficiency. With regard to its penetrability, concerning which many bacteriologists have expressed themselves as sceptical, the author says that his experience of its use has convinced him that formaldehyde is a sufficiently penetrating disinfectant.

In the new library at Utica, the author says, there has been set aside a room for disinfecting books. The room contains about 720 cubic feet and is almost air-tight. In one corner is a heated exit flue, protected by a valve; at the other end of the room, similarly protected, is the opening of a flue which brings air from out of doors. Here the open pot method is used, the heat being supplied by a small gas stove, with stop-cock outside the room. The books are carried in on trucks with slatted shelves, back of binding up and loosely packed. The gas stove is lighted, on it is placed an iron pot, deep enough to prevent the fluid from boiling over, and in this pot ten ounces of formalin are placed. In ten minutes this solution is entirely evaporated and the gas is turned off from outside, and after several hours' exposure the inlet and outlet valves are opened. In twenty minutes the librarian can remove the trucks without discomfort. The same method is being used to disinfect the surgery in one of the Utica hospitals.

Dr. Clark's conclusions with regard to the value of formaldehyde as a disinfectant are as follows: It is a most potent disinfectant, and being of the same specific gravity as the air, will penetrate wherever air will, disinfecting at all levels of the room. It will injure nothing in the apartment but the microbes, and while a powerful germicide, it is non-poisonous to higher life, rats and cats having been submitted to the fumes with but little discomfort, and on several occasions Dr. Clark has placed a patient in an atmosphere fairly charged with this gas, for an hour or two, some slight irritation of the mucous membrane of the eye and nose alone resulting. It is inexpensive; indeed, it is by far the least expensive when we take into account the destruction and loss following the use of sulphurous acid, and also the fact that the disinfection of an ordinary residence costs less than half of the mere transportation of the goods to the steam disinfecting plant. With the new apparatus the work is very simple and convenient; there is an insignificant expenditure of time and labor, but one man being needed to do it; the fear of fire, as when sulphur is used, is avoided; the odors are quickly removed by opening the windows, and instead of arousing opposition, the process is welcomed by the householder, as nothing in the house is disturbed. Dr. Clark holds that this is the most practical method of disinfecting large buildings, such as churches, theaters, public libraries, and schoolhouses. With the greatest ease cars can be cared for, and for this purpose it was largely used last autumn in the yellow fever stricken region. Its powerful penetrating power is always taken advantage of in disinfecting the mails. This is valuable testimony in favor of formaldehyde for disinfecting purposes, and although in the opinion of some, it may seen somewhat too favorable, in the main it is doubtless correct, at least so far as the disinfection of buildings is concerned.

The Importance of Rectal Examinations in Children.

Dr. George Carpenter, in the *British Journal of Children's Diseases* for May, writes on the need of making rectal examinations in children, pointing out that bimanual examinations in pelvic and abdominal affections of childhood are of very considerable importance. He describes how such examinations should be conducted, and asserts that by following this course the whole of the pelvis can be readily explored, and abnormalities which occasion ill health and which would otherwise escape detection will be discovered with certainty. The author recites several practical examples which have come under his observation within the past few years. The fact is emphasized that there are a number of cases of localized gonorrheal peritonitis on record, the cases being incomplete by reason of the absence of a bimanual examination. Dr. Carpenter, therefore, thinks that all children suffering from a vaginal discharge should be examined per rectum as a matter of routine, especially if that discharge be gonococcal. Again, displacements of the ovaries and tubes into the inguinal and crural openings sometimes occur, and such a condition can be discovered by bimanual examination. Tuberculosis of the seminal vesicles in association with tuberculous peritonitis is occasionally discovered by a rectal examination. Bimanual examination of the abdominal cavity is, acaccording to Dr. Carpenter, of great importance in the diagnosis of affections of obscure origin. In tuberculous peritonitis this mode of examination is especially valuable. "If," says Dr. Carpenter, "on bimanual examination, there be an excess of tissue between the examining fingers, over that which can be accounted for by the abdominal parietes, there need be no hesitation in deciding in favor of tuberculous peritonitis." It is possible also sometimes to negative a diagnosis of tuberculous peritonitis by this method, and to interpret correctly the physical signs, which are apt to be misconstrued on abdominal palpation alone.

Latent or Dormant Plague.

Sir Henry A. Blake, Governor of Hong Kong in 1903, wrote a memorandum, in which he asserted that plague might be spread by animals of the most varied kind, and also concluded that there existed in Hong Kong, during the period of time intervening between June 23 and July 10, 1903, between eight thousand and nine thousand or more individuals among the native population in whom plague bacilli were present in the circulating blood in spite of the absence of all clinical symptoms of the disease. This was termed by the governor latent plague and considered an important factor in the dissemination of the disease, and one impossible to reach by the ordinary methods employed to limit the spread of and possibly to suppress plague. Drs. Maximilian Herzog, Pathologist in the Biological Laboratory of Manila, and Charles B. Hare, Assistant Bacteriologist, have been making investigations into this matter recently, and have published their results in a pamphlet issued by the Department of the Interior, Bureau of United States Government Laboratories. The results from blood examinations made by the investigators would seem to disprove entirely the hypotheses of Governor Blake, and they attribute the continued prevalence of plague in Hong Kong to the extremely insanitary conditions which exist there. From the investigations carried on in Manila the existence of latent or dormant plague in that city can be denied. Furthermore, the statements of those who have looked into the conditions in Hong Kong, likewise appear unfavorable to the theory of Governor Blake, and they offer an explanation more in accord with what is positively known as to the nature of plague infection, and as to the spread of infectious diseases in general.

THE PRESENCE OF INDOXYL IN THE URINE AS AN INDEX OF ACUTE MELANCHOLIA.

A WRITER in the *Hospital* for April 1, refers to an article on the above subject, by Dr. A. A. D. Townsend, which appeared in the *Journal of Medical Science* for January, 1905. Acute melancholia, says the author, is always associated with an intoxication of some kind, a foul breath, furred tongue, loss of appetite, anemia in some degree, and constipation. Furthermore, these appearances are always accompanied by an excess of indoxyl in the urine. Dr. Townsend, however, finds that this excessive indoxyl excretion, while universally present in acute melancholia, is almost invariably absent in acute mania. The author's main deductions are as follows: (1) In depressed states indoxyl is excreted in excess. (2) Patients excreting indoxyl in excess exhibit symptoms and signs of toxemia. (3) In states of mental elation there is seldom any increase, the amount excreted being normal or less than normal. (4) The more severe the mental attack the greater the excess of indoxyl. (5) Mental recovery is preceded by the reduction to normal of the amount of indoxyl excreted. As to treatment of melancholia characterized by an excess of indoxyl in the urine, Dr. Townsend has found no good results from so-called intestinal antiseptics. The best treatment, in his opinion, is free purgation, and a diet composed entirely of milk. He does not claim that indoxyl is the cause of acute melancholia, but professes his ignorance as to whether it stands to the mental state in the relation of cause or effect. The annotation in the *Hospital* draws attention to the fact that no proof is forthcoming that a particular poison is the origin of any group of mental disturbances.

The Pennsylvania State Commissioner of Health.—Gov. Pennypacker has appointed Dr. Samuel G. Dixon of Philadelphia as State Commissioner of Health. The place was created by the last Legislature, and carries a salary of $10,000 and the control of a department, with an appropriation of $150,000 a year. Dr. Dixon is executive curator of the Philadelphia Academy of Natural Sciences, a trustee of the Wistar Institute of Anatomy at the University of Pennsylvania, a director of the Zoological Society of Philadelphia, and a councilor of the American Philosophic Society.

Missouri State Medical Association.—At the annual convention of this society, held in Excelsior Springs, Jefferson City was chosen as the next place of meeting. The officers elected were: *President,* Dr. Gore of Marshall; *First Vice-President,* Dr. Avery of Lincoln county; *Secretary,* Dr. C. M. Nicholson; *Treasurer,* Dr. Welsh.

News of the Week.

For the New Bellevue Hospital.—After two years of consideration, the Board of Estimate and Apportionment has finally taken action definitely committing the city to the new Bellevue Hospital project. The original plans, which involved an estimated outlay of $10,000,000, have been modified so as to reduce the expected cost of the building to $8,500,000, and the Board has authorized an appropriation of $850,000 in corporate stock to be used for the erection of two pavilions. These are to form the northernmost sections of the new hospital and are to be erected on property recently acquired by the city between Twenty-eighth and Twenty-ninth streets, First avenue and the East river. These pavilions will meet the immediate requirement for additional space in Bellevue and alleviate the overcrowded conditions which now exist, and also accommodate patients from other buildings that are to be razed to make room for the next section of the new structure.

Permission to Build a City Sanatorium Refused.—Despite the efforts of the New York City Board of Health to secure permission to locate a tuberculosis sanatorium on the top of the Shawangunk mountains at Bloomingburg, the Town Board of Mamakating decided, by a vote of 4 to 2, against the project. The Blooming burghers were possibly influenced by an anonymous postal card received by the village Board of Trade, which read as follows: "Dr. Darlington and Dr. Biggs are trying to bunco you people. Look out for them. Will colonize Tammany Hall bums between election at your place as tuberculosis cases at the expense of New York's tax. They are running a game at present." The joker dated his card from the Riverside Hospital.

Rush Medical College Will Add a Fifth Year.—It has been announced by this college that, beginning with the session of 1905-1906, a fifth year will be added to the curriculum, which for the present will be optional. The work of this year will be that of (*a*) a fellowship in one of the departments of the college, or (*b*) an interneship in the hospital under the following conditions: (1) Each student taking such work will be under the supervision of the Faculty by whom the hospital in which the interneship is taken must be approved; (2) the student must present evidence of thorough clinical work and, if possible, an exhaustive study of a selected group of clinical cases involving original work; (3) he will be required to pass a special examination at the end of the year. On the successful completion of this fifth year he will receive the degree of *Medicinæ Doctor cum laude.*

Tuberculosis in Indiana.—According to the statistics obtained by Dr. J. N. Hurty, secretary of the State Board of Health, the mortality and morbidity from pulmonary tuberculosis were much greater during 1904 than during the preceding year. The total number of deaths was 4,436, as compared with 4,035 the year before. Of this number last year 1,816 were male and 2,620 female, as compared with 1,678 male and 2,387 female the year before. Of the females 1,001 deaths were between the ages of eighteen and forty, as compared with 790 in 1903. Of the male 538 deaths were between these same ages in 1904, as compared with 425 the year before. Children to the number of 2,801 under twelve years of age were made orphans, against 2,515 in 1903.

Wisconsin Medical Bill Passed.—After much opposition, the Dinsdale bill, empowering the state board of medical examiners to refuse to grant or to revoke licenses and certificates of registration of physicians found guilty of immoral or unprofessional conduct, was passed in the assembly by a vote of 63 to 28. The objections to the bill were based on the ground that it would give the medical board undue judicial authority.

The West Virginia State Medical Society, at the closing session of its recent meeting in Wheeling, elected the following officers: *President,* Dr. S. S. Wade, Morgantown; *First Vice-President,* Dr. P. G. Bruce, Moundsville; *Second Vice-President,* Dr. F. L. Hupp. Wheeling; *Third Vice-President,* Dr. A. S. Brimm, St. Mary's; *Secretary,* Dr. W. W. Golden, Elkins; *Treasurer,* Dr. V. T. Churchman, Charleston. Webster Springs was selected as the place for the next meeting.

Connecticut State Medical Society.—At the one hundred and thirteenth annual meeting of the society, held in Hartford, the following officers were elected: *President,* Dr. N. E. Wordin of Bridgeport; *Vice-Presidents,* Dr. F. A. Morrell of Windham, Dr. E. P. Flint of Holland; *Secretary,* Dr. W. R. Steiner of Hartford; *Treasurer,* Dr. J. H. Townsend of New Haven. Dr. George M. Sternberg of Washington and Dr. Francis Delafield of New York were elected honorary members.

New Excise Laws for Druggists.—The provisions of several changes in the excise laws which have been signed by Governor Higgins militate severely against retail druggists. The most important jeopardizes not only the druggist's liquor tax certificate, but also has his State license to do business as a pharmacist, for it provides that whenever a liquor tax certificate of a licensed druggist or pharmacist is canceled "such person shall, in addition to the other penalties prescribed by this act, forfeit the use of his license as such druggist or pharmacist for the term of one year, and be deprived of all rights and privileges thereunder during such period." The bill also provides for the revocation of a license if the holder or any of his employees be convicted of any felony whatever or of keeping a disreputable house. The other bill repeals the act of 1903 which establishes a special stamp tax permitting druggists to sell liquor in quantities of a pint or less without a physician's prescription.

Superintendent of Provident Hospital.—Miss Minnie H. Ahrens, of the Illinois Training School for Nurses, and a graduate of Clumbia University, has been appointed Superintendent of Provident Hospital, Chicago.

The Chair of Surgery at Rush Medical College.—Dr. John B. Murphy has accepted the Chair of Surgery and of Clinical surgery, Rush Medical College, but will continue to serve as attending surgeon at the Mercy Hospital, although he has severed his connections with the Northwestern University Medical School. Dr. Nicholas Senn will remain at the head of the surgical department, limiting his duties to clinical work in the fall semester, and Dr. Arthur Dean Bevan will also retain his position in the department.

Yellow Fever Still in the Isthmus.—The War Department received a dispatch last Saturday from Gov. Magoon of the Isthmian Canal Zone, stating that an American died on the Isthmus of malarial fever on May 28. He also reports two new cases of yellow fever occurring on the same date.

Dr. F. R. Dew has been nominated on the Republican ticket for coroner of Noble County, O.

Ohio State Dental Board.—Governor Herrick has reappointed the following men on this board: H. C. Brown, Columbus; J. K. Douglas, Sandusky; L. L. Barber, Toledo; Harry Barnes, Cleveland, and Stanley Smith, Cincinnati.

Ohio Medical College Commencement.—The eighty-sixth annual commencement of the Ohio Medical College took place at the Grand Opera House, Cincinnati. Thirty-three men were graduated, of whom eighteen secured hospital positions. The Faculty prize was awarded to Dr. Leslie W. Stacey, while Drs. E. O. Schwartz and F. F. Krann received honorable mention. Other prizes were awarded to Drs. Kramer, Schwartz, Heap, Zimmerman, Bertling, and Meek.

Miami Medical College Commencement.—The forty-fifth annual commencement of this college took place on June 1, at Cincinnati. Twenty-two men were graduated, twelve of whom secured hospital positions.

The Ohio Medical College Alumni Banquet occurred May 29, at Cincinnati, Dr. J. W. Rowe acting as toastmaster. Toasts were responded to by Dr. Chas. W. Dabney, Dr. Robt. Conard, Mr. Wm. Perry Rogers, and Drs. Millikan, Winn, Reed, Haines, and Rauschaff.

Ohio State Board of Health.—At a meeting held April 26, it was voted to add cerebrospinal meningitis to the list of diseases which physicians must report to the local Board of Health.

Miami Medical College Appointments.—Dr. E. W. Walker has been appointed Prof. of Principles and Practice of Surgery, Dr. O. P. Holt, Prof. of Pathology, and Dr. Frank Lamb Lecturer on Physiology. Dr. Robt. Ingram has been made Adjunct Prof. of Materia Medica and Therapeutics in the Miami Medical College, Cincinnati.

Keen Research Fellowship.—Dr. W. W. Keen, professor of surgery, has presented the sum of $5,000 to Jefferson Medical College to found a memorial to his wife and to be known as the Corinne Borden Keen Research Fellowship. The conditions of the Fellowship are that whenever the sum of $500 has been accumulated from the income it shall be awarded by the Trustees, on the recommendation of the Faculty, to a graduate of Jefferson Medical College who has been graduated not less than one nor more than ten years. The holder of the Fellowship shall spend at least one year in Europe, America, or wherever the best facilities exist in connection with the line of research that he may select after a conference with the Faculty. He will also be expected to prepare a paper embodying the results of his investigation. The first award of the Fellowship will be made in 1907 and every two years thereafter.

The George Washington University Commencement Exercises were held May 29, at Memorial Continental Hall, Washington, D. C. The Department of Medicine graduated 61, and that of Dentistry 23. The address to the graduating class in those two departments was made by Prof. Charles E. Munroe, Ph.D.

Association of Medical Librarians.—The eighth annual meeting of this association will be held in Boston, Saturday, June 10, under the presidency of Dr. James R. Chadwick of Boston. The meeting will be held in the new building of the Boston Medical Library Association. The secretary of the society is Mr. Albert T. Huntington, 1313 Bedford Avenue, Brooklyn N. Y.

The Montana State Medical Association terminated its twenty-seventh annual session, held at Butte, by elected the following officers: *President,* Dr. Donald Campbell of Butte; *Vice-Presidents,* Dr. W. W. Taylor of Kalispell, Dr. Earl Strain, and Dr. W. F. Cogswell of Livingston; *Secretary,* Dr. Grace Wilson Cahoon; *Treasurer,* Dr. I. D. Freund. Butte was again selected as the next meeting place.

The Portland (Oregon) City and County Medical Society at a recent meeting decided to give a smoker in honor of the medical visitors to the city in July. Officers for the ensuing year were elected as follows: *President,* Dr. H. W. Coe; *Vice-President,* Dr. W. H. Skenke; *Secretary,* Dr. A. D. Mackenzie; *Treasurer,* Dr. J. A. Pettit.

Obituary Notes.—Dr. Lawrence C. Swift, assistant medical examiner of Central Berkshire County, Mass., died at Pittsfield on June 1, of cerebrospinal meningitis. He was born in Geneva, N. Y., Feb. 24, 1852, and in 1878 was graduated from the College of Physicians and Surgeons in New York. Since 1887 he had lived in Pittsfield.

Dr. Thomas F. Steele died at Lebanon Hospital, in this city, on June 1, of pneumonia, at the age of thirty-five years. He was a graduate of the New York University Medical School in the class of 1888.

Dr. Thomas Xanten of St. Paul, Minn., died on May 16, of uremia, at the age of fifty-one years. He was born in Germany, but was brought to this country as a child. He was graduated from the Medical Department of the University of Iowa in the class of 1875.

Dr. Ira P. Smith of Bath, N. Y., died suddenly, on May 26, at the age of sixty-nine years. He was a graduate of the Albany Medical College in the class of 1859, and served with distinction as a regimental surgeon during the Civil War. He left a widow, a daughter, and two sons, one of whom, Dr. Douglass Smith, is a physician in Buffalo.

Dr. William K. Spiller of Bridgeport, Ala., died on May 25, at the age of sixty years. He was a graduate of the Medical Department of the University of Nashville in 1874.

Dr. Carl H. A. Kleinschmidt of Washington, D. C., died May 20. He was a graduate of the Medical Department of the University of Georgetown in the class of 1862. He was a former president of the District Medical Society and a member of the Board of Medical Examiners.

Dr. Edward Payson Drown of Malden, Mass., died, May 25, of appendicitis, at the age of thirty-nine years. He was born in Keene, N. H., and was graduated from the Harvard Medical School in 1893. He was city physician of Malden for three years, 1895-'98, past president of the Malden Medical Society, district censor of the Massachusetts Medical Society, and a member of the visiting staff of the Malden Hospital.

Dr. A. W. McClure of Mt. Pleasant, Ia., died May 20 at the age of seventy-seven years. He was born in Lebanon, O., and was graduated from the Medical College of Ohio in the class of 1853, going to Mt. Pleasant two years later. He served in the Union army as surgeon during the Civil War.

Dr. John Williams Streeter, a retired homeopathic physician of Chicago, died on June 5 at his country home in Lake Forest. He was born in Ashtabula, Ohio, in 1841, saw service during the Civil War in the Army of the Cumberland, and at the close of the war began the study of medicine at the University of Michigan. He was graduated from the Hahnemann Medical College in 1868. He was for many years president of the homeopathic staff of the Cook County Hospital. He was assistant surgeon-general, Illinois National Guard, and was a charter member of the Association of Military Surgeons of the United States. He was the author of "The Fat of the Land," a book in which the delights of farming under favorable circumstances and with abundant capital are charmingly set forth.

Correspondence.

THE AMERICAN MEDICAL ASSOCIATION; WAS IT REORGANIZED ON CORRECT PRINCIPLES, AND WILL IT, UNDER METHODS PURSUED, ACCOMPLISH WHAT IT OTHERWISE MIGHT?

To the Editor of the Medical Record:

Sir:—Organization is one of the fundamental and widely distributed laws of nature. It pervades all animal and vegetable life, and exists in every degree, from the lowest and simplest to the highest and most complex. Through its operation, stupendous forces are set in motion—forces capable of achieving wonderful and beneficent results. Man in establishing social, industrial, commercial, and political relations has sought to copy this potential law of Nature, and in proportion to the fidelity with which he has followed Nature's models has his work been characterized by order and stability, and crowned with fruitfulness. Medical men, above all others, are in position to adequately estimate the value of organization. The very nature of their studies qualifies them for such estimate. Searching into the structure of organized life, they find units, see these correlated into tissues and organs, and these in turn united into systems, all constituting one coherent, harmonious, and effective whole. Familiar with such models, medical men forcibly realize that the highest and best that can be achieved in their fields of action must come through organization upon logical and correct principles.

Having announced these general truths, which will be readily accepted, the writer will proceed to discuss the following questions:

Was the American Medical Association reorganized upon correct principles; and will it, under methods pursued, accomplish what it otherwise might?

The problems involved in the answers to these questions may be greatly simplified and clarified by first pointing out what always was, is now, and always will be the only logical, philosophical, and effective method of securing such national organization as will be fruitful, harmonious, and permanent. Inasmuch as a national body should obviously consist of a coordination of State organizations, the logical, legal, and politic method of procedure would be for a convention to be called composed of delegates appointed by State organizations for the purpose of deciding upon the principles according to which organic union could be effected, and of formulating these principles into a written constitution. After such convention had organized itself by electing officers, adopting rules for its own government, and fixing the basis of voting, it would be ready to proceed with its work.

Such an assembly would furnish a most favorable field for the display of cool and calm, and at the same time generous, judgment on the part of the delegates in an earnest effort to find common and correct ground upon which all could stand.

Among the earliest questions that would arise and demand exhaustive study and discussion would be the following:

1. What shall be the objects of national organization?
2. What shall be the representation in the national body?
3. What powers shall be conferred on the national body?

Some might insist that answers to the above questions would be easy, but such contention would reveal the most superficial comprehension of the magnitude and variety of the problems involved in the question of national medical organization.

A brief analysis of the interrogatories propounded will show of how much study and discussion they would admit. As answer to the first question—referring to objects of organization—it would be easy to write a few platitudes, such as: "To promote the science and art of medicine; to unite into one compact organization the medical profession of the United States; to foster the growth and diffusion of medical knowledge," etc.—all of which would be good enough as far as they go, but would utterly fail to touch one of the most vital and crucial questions connected with the objects of organization.

The question to which allusion is had would be: Shall the national body be so organized as to adapt it to the exercise of national public health functions? Shall it be a scientific body, pure and simple, or shall it endeavor to acquire the legal right to practically apply the teachings of science to the prevention, cure, and extinguishment of diseases?

In stating this question, the writer is aware that many will be ready to cry out, obsolete! and would attempt to justify the cry by pointing to the defunct "National Board of Health" and to the subsequent efforts made to obtain a place for a medical officer in the Cabinet of the President of the United States.

Without stopping to point out the obvious and just causes of failure in both of these efforts, it may be confidently affirmed that whenever the medical profession of this country so organizes itself as to be in position to promptly and intelligently exercise public health functions for municipalities, counties, States, and the Nation, it will be only a question of time when such authority will be conferred. Just as a judicial system, beginning with the jurisdiction of a justice of the peace and extending up to the Supreme Court of the Nation, is organized to prevent crime and see equity done, so, a sanitary system should begin with the smallest hamlet and extend in unbroken coherency up to a Supreme Council whose jurisdiction would cover the common interest of all. Had such organization existed ten years ago, the effort to obtain recognition of a national body as a public health power might have met with quite a different fate. In other words, had good machinery for doing national public health work stood ready for practical use, unaccompanied by the injudicious and extravagant demand for a place in the Cabinet, the Nation might have shown far more willingness to utilize such machinery.

Another question in connection with a discussion of the objects of organization would be entitled to thorough study and investigation, to wit: What influence should the national body attempt to exercise over the subject of medical education?

In face of the fact that under our concentric form of government the regulation of the qualifications of practitioners of medicine belongs exclusively to the States, it would be a nice and delicate question to so provide that the national body, though possessing no power whatever in the premises, might still exercise a wholesome and judicious influence in this important field. Without pursuing this subject further, it is easy to see what a wide range for debate as to objects would stand open in a convention of the kind under discussion. Indeed, the settlement of the first question would exercise a moulding influence over the entire plan of organization. Should it be decided to so organize the national body as to adapt it to the exercise of national public health functions, then the entire plan should be made to harmonize with that idea. If, on the other hand, it should be determined not to embody that principle, corresponding modifications of the plan might be desirable. The answer to the second question would depend so largely upon the solution given to the first that we pass it by for the present, and proceed to a discussion of the third: What powers shall be conferred upon the national body?

Here, a rich and fertile field for duty and discussion would unfold. Whilst the answer to this question would depend largely upon the answers given to the two preceding ones, yet, on the general subject of powers and how derived, some basic principles may be laid down. The spontaneous generation of power is just as much an impossibility in medical organization of the kind under discussion as in physics. Power exercised must always be legitimately derived from some source where power exists, or is generated. A number of doctors, each acting for himself, may assemble and enter into an agreement that will be morally binding upon themselves, but not on others. A number of delegates representing incorporated bodies may assemble and take action that, if authorized or ratified by the appointing power, will be binding, not only upon themselves, but upon all whom they represent. The application of these axiomatic truths to the point under discussion is direct and palpable.

A number of doctors assembled from promiscuous sources and calling themselves a national body—even though acting under a charter—cannot of their own volition generate power that can be legitimately exercised over State organizations, except in reference to such matters as the State organizations represented have conceded control. It is clear, therefore, that in the hypothetical convention described, the power to create a national organization would proceed from the State organizations taking part, and would be conveyed through delegates appointed for the work. Further, the authority of such delegates would naturally and necessarily be limited to formulating a plan of organic union, and of drawing up a constitution, all of which should be reported back to the several appointing powers for ratification. As germane to the point under discussion the following extract from a report submitted by the writer as Chairman of a Board to the Medical Association of Alabama, in 1902, is here introduced:

"Without undertaking to discuss at any length the New Constitution [of the American Medical Association], or the way in which it was adopted, the Board is of the opinion that a step in the right direction has been taken, and with such changes as may, from time to time, be made, the new Constitution will be a great improvement on the old one, thus paving the way for uniting the medical organizations of all the States into one coherent national asociation. One important principle, however, must be kept in mind, namely, that the State organizations create the national association, and not the national association the state organizations. With this principle kept clearly in view it will be seen that the national association can have such powsociation, and not the national association the State organitions. But, for the common good it may become wise for the several State organizations to concede such powers to the national association as can be more uniformly and efficiently exercised by it than by the State organizations acting independently of one another. To decide what powers should be conceded and what withheld will require close study and the exercise of calm and conservative judgment."

The principles embodied in the above extract were sound when enunciated, are sound now, and always will be sound.

In order to reduce this argument to its simplest and shortest terms let us suppose that a national organization does not exist, and that it is desirable to organize one. Would not the proper method of procedure be for the State organizations to appoint delegates for the purpose, and if so appointed, would not the power proceed from the State organizations and infuse itself into whatever national body might be organized? When the three questions propounded had been thoroughly debated and definitely settled, then, and not till then, would the Convention suggested be ready to proceed with the construction of a constitution. However many principles might be formulated in advance, the embodiment of these, together with all of the connecting details, into a written instrument to serve as the organic law of the body to be created would require close study, clear judgment, nice powers of analysis, and ability to arrange principles and details in logical and sequential order. During the progress of this work a clear conception of "organizers" and "organized" should be kept in mind, in order to avoid the mistake of incorporating into the organic law of the body to be organized excessive dictatorial powers over the organizing bodies. To draw the line of demarcation between powers that belong and should forever belong to the State organizations and those that for the public good should be conceded to the national body would require a happy combination of analytical distinction and generous judgment. The time required for constructing such an instrument would necessarily be problematical, but regardless of time the delegates upon whom such an honor might devolve, realizing the magnitude of the task to be accomplished, should cheerfully, conscientiously, and unselfishly devote themselves to the work until completed.

Think of what an organic law constructed under the conditions outlined ought to be: A model! broad, comprehensive and correct in principle, ideal in details, clear and concise in language—an instrument of which all would be proud and around which every State organization would loyally, enthusiastically, and harmoniously rally. With the medical men of the United States working under such an organic law who could set a limit to what might be achieved for science and humanity?

When the work of constructing a constitution had been finished, it would remain for the document to be engrossed, verified, and signed by the delegates, which document would forever stand as the original and only constitution, of which copies could be made, but they would be copies merely.

Before adjourning, it would devolve upon the Convention to formulate an application to the general government for a charter. In making such application several points should be kept clearly in view:

1. To ask for such powers only as harmonized with the constitution agreed upon;
2. To ask that the powers be conferred on the body itself and not on a board of trustees;
3. Not to ask for any powers that under our form of government belong exclusively to the States;
4. Not to ask for the privilege of undertaking impossibilities.

It will be seen that to adjust these questions wisely and judiciously would require scarcely less analysis and study than were needed in constructing the constitution itself.

Having entirely completed their work, the delegates would report the result to their respective State organizations. If ratified by such a number of these as had been fixed in the constitution as the minimum necessary for organization, the work of the Convention would be finished; if not so ratified, a second convention would be necessary in order to harmonize differences. Naturally, the constitution would contain provision for the admission of such State organizations as were not originally included, the admission of which should be attended by formalities corresponding with the dignity of such an event.

It will be observed that the plan of procedure suggested is essentially that which was pursued more than a century ago by our forefathers in laying the foundations of our present magnificent government. No better method could possibly be pursued, and if the highest wisdom in adjusting rights, prescribing lines of demarcation, and imposing duties were displayed, not only might a national medical association so constructed become as solid and permanent as is our government, but dangers growing out of differences in the interpretation of the organic law, which at one time came near disrupting the government, might be entirely avoided.

Is there anything illogical, impossible, or impolitic in the method suggested? On the other hand, is it not logical, just, and wise? In reorganizing the American Medical Association, could not this method have been carried out? Could it not be carried out now? Unquestionably. Were two or five years consumed in effecting organization upon this plan, would not the time be well spent?

Now let us contrast the method pursued in reorganizing the American Medical Association with the one suggested.

At the meeting of the Association held in 1900 provision was made for the appointment of a committee on organization, to be composed of one delegate from each State; and also for the appointment of a committee of three to revise the existing constitution. The official minutes of the meeting of 1901 tell us that the latter committee submitted a report, accompanied by a draft of a new constitution.

Without stopping to point out evident and grave irregularities that occurred in dealing with the report of the committee and without calling attention to the hasty manner in which the draft of the new constitution must have been considered by a committee to which it was referred, attention will be called to the alleged final adoption of the report of the committee of three, including as it did the proposed draft of a new constitution. On this point the minutes state: "The president then put the motion and declared the report adopted by a large majority."

Bear in mind that it was distinctly understood that in the adoption of the report the draft of the new constitution was included.

Article 11 of the old or existing constitution—then in force—reads as follows: "No amendment shall be made to any of these articles unless by unanimous consent, except at the annual meeting next subsequent to that at which such amendment has been proposed; and then only by the voice of three-fourths of all the delegates in attendance at the session when the vote is taken."

It will be seen by this article that the constitution then in force could be amended in two ways only; one, by proposing an amendment at a meeting and getting unanimous consent for its adoption; the other, by proposing an amendment at one meeting, letting it lie over to the next meeting, and then have it adopted by a three-fourths vote.

Applying this provision of the constitution to the facts as stated in the official minutes of the meeting referred to, the situation becomes clear. The draft of the proposed new constitution was first submitted at the meeting of 1901 and, as the record shows, was adopted at that meeting, not by *unanimous consent*, but by what was pronounced by the Chair "*a large majority*." Is it not reduced to a demonstration that the constitution alleged to have been adopted at the St. Paul meeting of 1901, was never legally and constitutionally adopted, consequently was then, and is now, null and void?

When the Association convened the following year (1902) at Saratoga, the old constitution was in force, and not the draft of one that was submitted at the St. Paul meeting of the year before and was erroneously supposed to have been adopted.

The committee of three, originally appointed to revise the old constitution, and which, as has been said, submitted a revision at the St. Paul meeting of 1901, reported at the Saratoga meeting of 1902, that it "was ordered to take the new constitution and by-laws and make such verbal and other alterations as might be necessary to secure a complete, harmonious, and well-constructed instrument. In accordance with these instructions, we submit a copy of the constitution and by-laws corrected in only a few particulars."

It will be seen that it was the "new constitution" that was to undergo revision. That document being, as already shown, null and void, any revision of it must likewise be null and void.

Further, the minutes of the Saratoga meeting of 1902 do not show that the second or revised edition of the "draft of a constitution," supposed to have been adopted the year before at St. Paul, was ever read to the Association, referred to a committee, or acted upon in any way by the Association, hence the second edition stands in the same category as the first—null and void. It is clear, therefore, that when the Association adjourned at Saratoga, in 1902, it still owed allegiance to the old constitution, that instrument having never been superseded by any other.

Following in chronological order we now come to the New Orleans meeting of 1903. The minutes of that meeting show that a number of amendments to the "constitution" were either proposed or acted upon, but the citations given, in order to locate these amendments, establish beyond doubt that they referred to a printed document claiming to be a "constitution of 1902." But, as it has been shown that at the meeting of 1902 no constitution was adopted or attempted to be adopted, any amendments made at the meeting of 1903 and applying to a constitution that had no legal existence must be mere surplusage and of no effect.

As the minutes of the New Orleans meeting of 1903 failed to show that any constitution was submitted or adopted at that meeting, it inevitably follows that at the close of the meeting the old constitution was still surviving as the organic law of the Association. In the minutes of the New Orleans meeting the following appears: "On motion, the committee on organization was authorized to codify the constitution and by-laws and to correct any typographic errors contained therein."

At the Atlantic City meeting of 1904 this committee submitted a document with the following title: "Proposed Revised Constitution and By-laws of the American Medical Association. Submitted for adoption by the House of Delegates of the American Medical Association, June, 1904, by Committee appointed May, 1903." This, therefore, was a new document, a proposed revision, which, as its title indicates, had never before been submitted to the Association.

As the old constitution was in force, any proposed revision of the "constitution" would be legally construed to mean the existing constitution, therefore, any revision of it must be done in accordance with the provision therein applying to amendments. The minutes further tell us that this proposed revision of the constitution and by-laws was submitted to the Association and referred to a new and larger committee, the number not being stated. The following day this committee made its report, which, after having been amended in one point, was adopted. The minutes fail to show that this proposed revision or any part of it was ever read to the Association. They also fail to show that when the motion to adopt was put, the writer raised the point of order that it was in open violation of an express provision of what was *then* believed to be the existing constitution, to adopt a revision of it under the conditions prevailing. The point of order being over-ruled by the president, the motion to adopt was put and carried.

Tried either by the provision in the old and real constitution, or by that in what was believed to be the existing constitution, prescribing the way in which amendments must be made, this action was illegal and void. Under the old and real constitution, unanimous consent would have been necessary to adopt the proposed revision. The minutes do not show that unanimous consent was obtained. Under what was believed to be the existing constitution, a three-fourths vote of all the members composing the House of Delegates would have been necessary for adoption. The minutes do not show that a three-fourths vote for adoption was obtained.

The conclusion cannot, therefore, be escaped that the proposed revision of the constitution as submitted at the Atlantic City meeting of 1904 was not legally or constitutionally adopted. We are inevitably driven to the conclusion, therefore, that the document which now purports to be the constitution of the American Medical Association is of no validity whatever—in other words, is null and void.

When the Atlantic City meeting adjourned, the old constitution still stood as the organic law of the Association, and will so stand when it convenes in Portland at the forthcoming meeting.

This review of the work of the Association in trying to adopt a new constitution has necessarily been somewhat tedious, but it has revealed with the force of a syllogism the actual situation, namely, that in respect to a constitution the Association stands now just where it did five years ago, when it convened in St. Paul, and undertook the work of reconstruction and of revising the constitution.

The history of these five years should teach a valuable lesson, and the importance of always doing things in a thoroughly constitutional, orderly, and parliamentary way.

In view of the fact that the Association is growing, that its revenues are increasing, that it has become a property owner, that it holds deeds, and may have occasion to make deeds, it would be idle, yea, criminal, to ignore the situation.

If the organization stands upon a false foundation it is far wiser to boldly face it and proceed promptly to correct the errors of the past. This can be done, and if all will work earnestly and harmoniously to achieve that end, it *will* be done.

MONTGOMERY, ALA. W. H. SANDERS, M.D.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MEDICAL SOCIETY'S CONVERSAZIONE AND ORATION—ROYAL SOCIETY—CONSUMPTION—REGISTRATION AND NURSES—INFLUENZA.

LONDON, May 19, 1905.

THE annual conversazione of the Medical Society took place on Monday, when the Fothergillian gold medal was presented to Sir F. Treves by the president, Mr. John Langton.

The oration was delivered by Mr. Henry Morris, who seized the opportunity of considering a subject which has excited a good deal of attention of late, viz., the financial relations of our hospitals and medical schools. I have kept you informed of the discussions that have ensued on this matter and of the action of the King's Hospital Fund. Mr. Morris maintained that there were good reasons why a portion of a hospital's income should be devoted to the medical school connected with it. The sick poor, he said, were greatly benefited by the training of our students—and that not merely within the walls of the hospitals, but to a much greater extent outside. The schools have been declared by Sir Arthur Rücker to be an integral part of the necessary machinery for helping the sick poor. But it has been officially announced that after the present year the King's Fund will not contribute to those hospitals which give towards their schools any of the hospital subscriptions. Mr. Morris hoped the hospitals concerned would at once establish separate funds for their schools. At the London Hospital a discretionary fund has already been opened, to which in the first week of its existence the sum transferred by the hospital supporters was more than double the amount ever contributed to the school from the hospital funds. No doubt a similar spirit will be shown by subscribers to other hospitals as soon as separate school funds are established.

The Royal Society's first soirée for the season was held on Wednesday evening, when the exhibits attracted great attention and were representative of the work of the year, especially in physical science. Thus, the effects of radium emanations on glass were shown to be similar to those of sunlight but to be produced in a fraction of the time, a few rays of radium equalling half a century of sunlight. Fleming's cymometer for the measurement of Hertzian waves, Sir W. Ramsay's actinium, and Sir O. Lodge's mercury vapor valves were also shown. Of the more medical exhibits, I may mention the so-called Plimmer's bodies.

The Lord Mayor presided on Wednesday at a meeting at the Mansion House in support of an appeal on behalf of the society for preventing consumption. Sir W. Broadbent and Sir J. Crichton-Browne were among the speakers. The former hoped the Metropolitan Asylum Board would take up the subject as it had been asked to do. £10,000 is asked for, but many are exceedingly doubtful of the plans proposed and not a few altogether discountenance them.

Sir V. Horsley yesterday gave evidence before a select committee of the House of Commons in favor of the registration of nurses and an examination by a statutory authority. He said it would be useless to register training institutions, as that would only perpetuate the present system which is unsatisfactory, as it leaves the control of the nurses with the private persons—the heads of nursing establishments. He would make it illegal to nurse for gain unless registered. The probable effect of this may be seen in the protection afforded to doctors by registration!

A discussion on influenza extending over two evenings would naturally elicit some practical clinical observations. This was the case in the recent debate arranged by the Hunterian Society, although theoretical considerations were also in evidence. Prof. Clifford Allbutt opened the discussion, a fact which drew an expectant audience. He said the disease had been known fairly well since the Twelfth Century, and he traced the progress through the world of the 1889-90 epidemic. Contagion is now generally accepted, but this was not so in 1890, when, as a commissioner in lunacy, he was able to notice its incidence in asylums. He then observed that the staff (medical and domestic) and visitors—people who went into the outer world—were attacked at the rate of about 50 per cent., but on the inmates—who did not go out—the incidence was slight. Dr. Allbutt thinks the contagion is in the sputum and springs from the respiratory passages, and unless a patient has some affection of these passages he is not contagious. He laid great stress on the suddenness of attack as a diagnostic point, especially in differentiation from typhoid. As to treatment, he emphasized the injunction that patience ought to do what they never will, viz., go to bed at once and stay there till the acute stage is over. During the long convalescence he advised a non-toxic diet, viz., milk, custards, and no meat. Dr. Allbutt reiterated his well-known opinion on angina pectoris; he holds the seat of pain to be not in the heart, but in the first part of the aorta. He mentioned an interesting case and dwelt on the complications and sequels of influenza. He gave an impressive warning against the administration of chloroform for some time after influenza.

Dr. Franklin Parsons followed with a paper on the Epidemiology of Influenza. In the course of it he showed a diagram of the course of the disease, so far as it is recorded in the mortality tables since the causes of death were tabulated by the Registrar General in 1847. Another diagram showed the course of the epidemic in London, 1889-90.

Dr. Bulloch discussed the bacteriology of the disease and admitted that no new facts have been added to Pfeiffer's discovery of 1892. A practical point as to his bacillus is its parasitic nature, rendering cultivation difficult. It is very susceptible to drying—which is against the idea of its being carried far in the air. The extreme temperatures at which it grows are 27° C. and 42° C., so that in temperate climates it does not multiply outside the body. It must in most cases be spread from man to man. Of late years the bacillus has become less frequently met with, although epidemics of catarrh called influenza are not less prevalent. Dr. Bulloch holds that clinically influenza is not one disease but several—caused by different microbes, among them micrococcus catarrhalis and allied cocci being prominent.

Dr. Glover Lyon referred to the multiplicity and varying combination of symptoms. Before 1889 respiratory symptoms were most prominent, then the nervous, and from 1892 the gastrointestinal. He thought the increased strain and hurry of modern life accounted for the last phase, and perhaps also for the increase of appendicitis.

Dr. Ford Anderson demurred to the special infectiousness of catarrhal cases and thought temperature the best indication. Whenever there was a rise he found the disease go through the house, and that in nervous and gastrointestinal as well as catarrhal cases. But he thought, too, that sprays and gargles were preventatives. Quinine, 3 grs. t. d. or as much as the patient could stand, gave good results. He distrusts salicylate of soda, and prefers salicin in 20 gr. doses. A coal-tar product to reduce fever if necessary, but the sooner antipyretics were discontinued the better. In bronchopneumonia quinine does not seem to suit, and he resorts to digitalis, ammonium chloride, and nux vomica. The digitalis increases the ventricular contraction, but if the arteries are also contracted nitrites are called for.

Dr. Humphreys thought the cardiac trouble the most important. Patients who seemed well in bed, fell down on assuming the upright posture. The remedy he used in these cases of weak or dilated hearts was digitalis.

Dr. Shadwell thought all cases in which angina pectoris was present were essentially neurotic. By running the finger along the spine, a tender spot will often be felt. The posterior root of a nerve is affected. A blister on the spot will relieve it in twenty-four hours or less, and in two or three days the neuritis or neuralgia is cured.

The president, Dr. F. J. Smith, of the London Hospital, said when it was a question of treating symptoms or the patient, the wishes of the sufferer should be considered. A cup of tea was often the first thing a patient improving asked for, and when he got it he felt on the way to recovery. He used it often in the wards, when the patient had been fed on milk and beef tea. The word neurotic should be reserved for cases in which the will power was most at fault. He was not quite satisfied that in cases called meningitis real inflammation existed, though the pain seemed too persistently severe for neuralgia.

Progress of Medical Science.

Boston Medical and Surgical Journal, June 1, 1905.

A Case of Hemorrhagic Disease of the Newborn.—C. W. Townsend reports the case of a male child who presented at birth a slight ecchymosis on one finger. On the following day he cried considerably and vomited some bloody mucus. An ecchymosis appeared under the chin and on the back of the neck. On the third day several more hemorrhagic spots appeared, and when the child was sixty hours old copious bleeding began from the base of the cord at the navel. At this same time also was passed a large, tarry stool made up of decomposed blood, it vomited fresh blood, bled slightly from the nose and from a minute scratch on the scrotum, and several more ecchymoses appeared on the body. The temperature was 101°. The child now presented a desperate appearance, and the outlook was of the very worst. Nitrate of silver and styptic iron gave but temporary relief. A heaping teaspoonful of gelatin was then dissolved in an ounce and a half of water and given in a nursing bottle, while a 1/1000 solution of adrenalin was applied to the navel. The gelatin was repeated, thumb pressure was made from time to time on the navel, and the patient made a good recovery.

A Description of Pfeiffer's Disease (Glandular Fever), with a Report of Two Cases.—The description is given by A. H. Wentworth who says that the disease is characterized by an elevated though brief febrile movement and a rapid enlargement of the cervical glands especially those along the upper third of the posterior border of the sterno-mastoid muscle. The course is mild and suppuration is rare. The etiology is unknown. It occurs most frequently between the ages of two and eight years. It begins suddenly with a high fever (104°), possibly body pains, usual febrile symptoms, occasionally a reddened throat and a slight nasal discharge. Duration may last from two to ten days. Acute nephritis of the scarlet fever type has been observed as a complication. The location of the glandular swellings is a most important point in differential diagnosis. Prognosis is always favorable. Symptomatic treatment is all that is called for. We should be careful to distinguish the malady from parotitis, tuberculosis, and septic infections.

New York Medical Journal, June 3, 1905.

The Medical Treatment of Gastric Ulcer.—The plan advised by J. Friedenwald consists in rest and a liquid diet gradually thickened, for it must be remembered that an absolute milk regimen may cause anemia. Nitrate of silver in solution may be given (to patients who cannot rest) in solution one-sixth to one-third grain doses for 3 weeks or a drachm of bismuth may be given three times a day. The bismuth may be given suspended in water after lavage of the stomach, the patient being required to lie on his right side half an hour. Another plan is to give olive or almond oil before meals. Oil forms a coating over the stomach and thus assists in relieving pylorospasm. By relieving friction it lessens pain. It checks the excessive secretion of acid and improves the general nutrition. Hemorrhage calls for rest in bed, ice bags, and morphine by hypodermic injection; adrenalin and ergot and gelatin are also at our disposal. For the acidity we may give alkalies with codeine or belladonna. Enemata or oil and Carlsbad water will relieve constipation. Evidences of a healed ulcer are entire absence of pain after eating, no pain on pressure in the epigastric region, and continued absence of blood traces in the stools. Indications for surgical intervention are perforations, perigastric adhesions, hemorrhages, either profuse or small and frequent, persistent nausea and vomiting, and recurring ulcers.

Loss of the Sign Language in a Deaf Mute from Cerebral Tumor and Softening.—The patient of C. W. Burr was a woman of fifty-six years, who had become deaf in early childhood, and had never learned to talk. After her first stroke she recovered consciousness with retention of the power to use the sign language. Three other strokes followed, all within two months of the first, and after the last one she permanently lost the sign language. In about three months from the first attack, she was seized with sudden dyspnea and quickly died. Her general condition was one of right hemiplegia and right homomymous hemanopsia with loss of all power of expresssing or comprehending thought by verbal speech, sign language, writing or pantomime. At the autopsy the left hemisphere was found to be a little larger than the right and the anterior convolutions were flattened. The mesial surface bulged in the region of and just in front of the paracentral lobules. At one point over an area of about one inch in the posterior part of the superior frontal and superior part of the ascending frontal was a dark red soft spot. Palpation over the entire surface gave a feeling of fluctuation beneath. On section the reddish spot spoken of above was seen to belong to a tumor, which extended to the basal ganglia. The tumor was soft and not encapsulated, and was surrounded, except on its cortical aspect, by an area of softening which involved almost the entire white matter of the hemisphere. The basal ganglia on the left side were almost destroyed by softening. The softening was due in part to hemorrhage, in part to thrombosis. Histological examination showed the tumor to be a very vascular glioma.

The Prevention of Insanity in Its Incubation by the General Practitioner.—The plea is put forth by J. T. W. Rowe that the general practitioner should and can prevent much insanity by preventing the toxemia which follows abeyance of function which results from too close application and overwork in unsanitary surroundings. The proper advice should be given to families. The laborer, in his ignorance of the laws of nature, sweats in the darkness. The workers in the factory and the slums; the professional man overconfident in his intellectual powers and well ordered nervous system; the lad at school weighed down by too close application and not enough open air exercise; the shy, retiring boy just yielding to evil inclinations; the worried business man and father bearing a heavy load and seeing no way of lightening it—all these patients are very near the borderland of mental affection, and this is the very time when proper medical advice could avert disaster. Every possible step should be taken to help the sufferer before he is sent to an asylum. Many cases of nervous and mental disease remain for a long time in a curable condition, and it is just at this period that the family doctor's advice and help is of the utmost value. Children, especially, should be carefully watched for the crowded curriculum of the modern school is a potent factor in sowing the seeds of what in after years may develop as an incurable mental disorder.

Medical News, June 3, 1905.

The Prophylaxis of Lobar Pneumonia.—From a study of various municipal statistics and other material bearing on the matter, J. M. Anders concludes that the most efficient prophylaxis for pneumonia must have reference to the accomplishment of four principal ends, viz., (1), the overcoming of individual predisposition; (2) the prompt and thorough disinfection of the sputum and secretions of the upper respiratory tract; (3) isolation of the patient especially from those who are debilitated; (4) the disinfection of the sick room together with its contents after either death or recovery; and (5) the observance of certain public measures. The disease is more common since influenza began a few years ago. Predisposing factors are degenerative lesions of the cardiovascular system and kidneys. Under the head of public measures we must include means to prevent dust from accumulating, and its daily removal from home and the city streets are imperatively demanded. Public health authorities should be given full executive power to carry out rules and regulations relative to pneumonia looking to the prevention of its spread, as in the case of other infectious and contagious diseases; they should also carry on a campaign of public education. Measures of prophylaxis must accord with intelligent public opinion before they can be rendered wholly efficient either by municipal or private authority.

A Plea for Medical Treatment of the Inflamed Appendix.—A. L. Benedict believes that the surgery of the appendix has been carried to an unjustifiable point. In reply to the assertion that the cases subjected to medical treatment usually relapse, he replies that the statement is based largely on the consideration of cases that are really not treated at all, but recovering under the use of anodynes. Probably 99 per cent. of fatal cases are due to sepsis within the bowel. In probably 90 per cent. the chief bacteria are the ordinary colon bacilli and other regular inhabitants of the bowel whose virulence has been increased by constipation and opportunity for growth. Now the medical treatment should be based on this conception of the nature of the disease process. The author holds strongly to the belief of the great advantage of free catharsis and if indicated bowel and stomach irrigation. If the patient is so situated that operation is out of the question, it is wise to relieve his suffering by morphine, to splint the bowel with adhesions in the hope that there will be no perforation or migration of bacteria to the peritoneal surface. But in any community in which ordinary conditions prevail it is not necessary to do this. If the case is mild, the prime indication is to keep it so by getting rid of the bowel contents. Calomel should be given in divided doses by a Seidlitz powder. Saline or boric acid injections may be used if there seems to be lodgment in the large intestine, low down. But there seems to be some danger of increasing the trouble by enemata. The patient should fast and drink plenty of water for two or three days. Credé ointment or pipe-clay and glycerin poultices may be applied over the lower abdomen. They do no harm and are really adjuvants. Hot poultices and ice bags seem to me inadvisable. Pain due to spasm, internal irritation and apprehension can usually be relieved by atrophine, cannabis, indica, etc. If severe enough to require morphine, which rarely occurs, in the author's experience, it is severe enough to suggest the need of operation. Septic and gangrenous cases should be at once operated on. The author's plea is for proper discrimination and rational treatment, not neglect under morphine in cases in which operation is unnecessary.

The Effect of Intestinal Antisepsis on the Excretion of Hippuric Acid in the Urine.—From a series of experiments on dogs, J. B. Prager offers the following conclusions: (1) The feeding of gelatin alone increases the excretion of hippuric acid. (2) When putrefactive changes are increased the excretion of hippuric acid is increased and *vice versa.* (3) When the intestinal canal is made antiseptic with calomel there is practically no hippuric acid excreted. (4) Intestinal antisepsis has no effect whatever on the excretion of nitrogen. (5) No matter how much gelatin is fed it is completely burned and some of the body's proteid with it. (6) Therefore gelatin never builds up any tissue, although it may to a certain extent protect the body's proteid from decomposition.

American Medicine, June 3, 1905.

Ischochymia and Its Treatment.—Max Einhorn describes some cases of benign ischochymia with intense peristaltic restlessness of the stomach which were cured by medical treatment. He also reports cases of ischochymia with a short history of diseases which were benign in character. Two cases are described in which tumors of the pylorus and stomach were seen and palpated during operations and left untouched—the patients, however, recovering entirely and remaining well for many years. The indications for medical and surgical treatment of ischochymia are given as follows: (1) Benign ischochymia requires first medical treatment; if this be unsuccessful, *i. e.* if after a longer period of treatment, the fasting stomach, or a fluid diet, is not empty, but contains food remnants, an operation is advisable. (2) Surgical intervention is also indicated in benign ischochymia which has developed subsequent to a condition of continuous hypersecretion of gastric juice (preceded by hemorrhage or not). (3) Malignant ischochymia or one of dubious nature in which, however, a thickening of the pylorus is found, should also be treated surgically (gastroenterostomy, and, if possible, resection of the pylorus).

Bright's Disease in High Official Circles at the Nation's Capital.—T. L. Macdonald says the strenuous life, excessive mental activity and the corresponding degree of physical quiescence, and years of overindulgence in rich foods, with its associated high blood-pressure, are the essential causes which render Bright's disease frequent in the high official circles at Washington. In conclusion, he emphasizes the following facts: Unemployed food products become toxic irritants and menace the structural integrity of the kidneys. Man is an organism built round an eliminative system; when that is abnormal he cannot be normal. When the balance between ingestion, metabolism, and elimination is absent, danger is present. Apparently nutritional excess is the germ of nephritis. Mental activity and physical quiescence aid in its production. Carking care and the corrosive influence of worry and mental strain render prominent aid in producing it. It is prone to attack the intellectual and the anxious. Alcohol, while affording it encouragement, has been given a too conspicuous place as a causative agent. It is an extremely insidious disease, and is often well advanced when discovered. It is so far-reaching that its first noticeable effects may be visited upon organs and tissues remote from the original disease. The conditions which lead to it are quite amenable to correction if efforts are made sufficiently early. It occurs somewhat frequently at the nation's capital because the congregation of eminent public men means a concentration of worries, wealth, and official feasting.

The Office of the Spleen.—Edward T. Williams, fixed ox and hog spleens with sublimate-salt and stained with hematoxylin-casin. He invariably found nucleated red blood corpuscles, many of them with dividing nuclei. Arteago, by the same method, found them in the spleens of cats and dogs. Proper observations in human spleens are still wanting. The proof is almost complete that the spleen is the true organ for making red corpuscles. No doubt the marrow shares this function, but the marrow is a tissue, not an organ, deriving its property of making blood cells from the primitive mesoderm, of which it is a remnant. In warm-blooded animals it serves as a subsidiary spleen, to supply the extra number of red blood corpuscles required for the maintenance of their bodily heat and increased respiratory activity.

Malarial Infection Presenting Symptoms of Multiple Neuritis.—George E. Price reports a case in a girl, aged 8, who had multiple neuritis of 18 months' duration, following malarial infection. The symptoms were pain, paresthesias, tremor of hands, diminished power in all extremities, particularly marked in the flexors of the ankles, and giving the characteristic "foot drop." There was also a slight intermittent rise of temperature. The malarial parasite, of the estivoautumnal variety, was found in the blood. This corresponds to the findings of Spiller and other observers, in various forms of malaria of the nervous system. Recovery followed the administration of quinine.

Journal of the American Medical Association, June 3, 1905.

Conjuctival Irritation from Animal Emanations.—W. C. Posey gives the history of three cases in which temporary conjunctival irritation was induced by proximity to horses. In all three of the patients there was also more or less nasal irritation, and in one, handling a cat caused similar symptoms, though to a slight extent. One patient was also subject to hay fever. Posey has found no reference to this condition in opthalmologic literature, but finds that nasal irritation from animal emanations has long been noticed by rhinologic specialists. Dr. S. Weir Mitchell, in a personal communication to the author, reported that he had come across many cases of conjunctivitis caused by proximity to cats, and Kyle also informs him that he has seen a number of cases of nasal and conjunctival affection, clinically, almost identical with hay fever, that were excited by animal emanations. Kyle's theory of hay fever is that it is due to some chemical change in the mucous secretions, and he found that in nearly all these cases the secretions showed an excess of the ammonia-salts. While this theory may explain the susceptibility, it gives no light as to the nature of the agents which excite the irritation in the susceptible individuals.

Ice Applications in Lobar Pneumonia.—P. A. Aurness outlines as follows a method of treatment that he claims to have used for a number of years with great success in lobar pneumonia: As soon as a diagnosis is made, the patient is given a full warm bath for cleansing purposes, put to bed and given a laxative dose of calomel and soda. The chest area of the lung tissue involved is carefully outlined, and one or more, as required, specially constructed ice bags are moderately but evenly filled with crushed ice and applied accurately over the parts inflamed. Each bag is wrapped in a thin layer of gauze and is furnished with a drainage pipe, the lower end of which empties into a basin below the bed. The main and important feature is this draining off the water as fast as it is formed, thereby establishing constant and uniform ice application and utilizing the remarkable heat-absorbing quality of melting ice. Examinations are made each morning and evening, and the ice applications adapted to the changing areas of involved lung. There is no danger, he claims, to the vitality of the parts, and the ice applications are kept up as long as the disease appears to be progressing and no threatening signs of collapse appear. In the latter event, ice applications are promptly removed, and stimulation is at once resorted to. The internal treatment throughout the disease, aside from stimulants, includes free use of some mild alkaline mineral water, and five to fifteen-drop doses of creosote every four hours. The bowels are regulated by saline laxatives and enemas, the diet is guided by the digestive capacity, and free ventilation of the sick room is secured. It is claimed that this treatment lowers the pulse while regulating and strengthening the heart, relieves respiratory difficulty and chest pains, and shortens the duration of the disease in the majority of cases. If begun within the first twelve hours, the disease may be aborted.

Large Dose of Quinine in Pneumonia.—F. H. Poole reports that he has recently treated thirteen consecutive cases of pneumonia among Indian school children with large doses of quinine according to the method advocated by Galbraith without mortality. The initial symptoms common to all cases were intense frontal headache, epigastric distress and vomiting, and in eight cases epistaxis also occurred as an initial symptom. Three of the five boys had epistaxis at the onset and all had it repeatedly during the quinine treatment. Of the eight girls, five had it as an initial symptom. Two of these had never menstruated, but the menses appeared during the treatment; in the other three they also appeared, though not due, and in spite of the fact that the patients had always previously been regular in this respect. In none of the girls did epistaxis appear after the initial symptoms. Poole asks: "Was this hemorrhagic tendency a part of the disease and peculiar to this epidemic, or were the epistaxes of the onset due to the infection and the later hemorrhages to the treatment?" The minimum single dose of quinine given was fifteen grains, the largest thirty-six grains. These large doses proved a genuine stimulant to the heart and circulation, and appeared largely to allay the anxiety of the patient and to secure sleep.

The Lancet, May 27, 1905.

Two Cases of Idiopathic General Cataract in Children Closely Related.—T. Hunter reports the cases, one being in a healthy boy of twenty-two months, with complete cataract in the right eye. The other patient was a healthy girl of five years, with cataract in the left eye. The children were natives of India, and first cousins, the father of one and the mother of the other being brother and sister.

Acute Aortitis.—The patient of W. Broadbent was a man of forty-five years, who complained of pain across the left chest after meals, which had come on about three months previously. Examination showed some cardiac hypertrophy, weak impulse, short diastolic murmur, while at the pulmonic and aortic cartilages there were soft second sounds and a short diastolic murmur. There had been no rheumatic fever and no specific history was obtained. Epigastrium was tender, but stomach was not dilated. The patient did poorly under treatment, and died suddenly about a week later. At the post-mortem, the aorta was of a bright red color inside and outside, for its first three inches. The valves were competent by the water test, but were thickened and atheromatous. Areas of old atheroma were scattered over the aortic walls. The intima was bright pink and swollen in patches. No bacteriological investigation was made. The heart muscles seemed firm. The microscope showed a perivascular infiltration of the aortic wall with leucocytes around the vasa vasorum, more marked in the outer coat. As in previously recorded cases of this nature, the lesion was an acute inflammation attacking an aorta already damaged by atheroma. The duration of the disease from the first symptom which could be called true cardiac pain, was only seventeen days, an unusually short period.

On the Resemblances Existing Between the "Plimmer's Bodies" of Malignant Growths and Certain Normal Constituents of Reproductive Cells of Animals.—The researches forming the basis of this paper were made by J. B. Farmer, J. E. S. Moore, and C. E. Walker. The "Plimmer's bodies" are found in many cancers, most commonly in the younger and growing regions of the neoplasm. They appear as vesicles with a fairly well defined wall containing a clear space in which is suspended a small granule staining darkly. They are most common in tumors of a glandular or glandular epithelial origin. They are regarded as peculiar to cancer cells. Some regard them as parasitic, more or less concerned in the etiology of the disease, while others look on them as a differentiation of the cytoplasm of the cell itself. The authors find analogous structures in the reproductive cells of man and other mammalia. The authors suggest that it is possible that malignant elements are the outcome of a phylogenetic reversion, but the matter is obscured by the disturbing influences which have been operative during the actual ontogeny of the cells and tissues from which these elements have sprung.

On Pneumococcal Sore-Throat with Notes of a Fatal Case.—W. Pasteur reports the history of a boy three and a half years old, with a severe sore throat, but no exudation and no plugging of the tonsillar crypts. Antitoxin was given in large dose. Swab cultures showed many cocci but no bacilli. The course of the disease was that of a severe general infection. The case proved fatal at the end of the third week. The uvula and palatal arches had sloughed before death which was due to bronchopneumonia. Post-mortem cultures from the throat showed the presence of the diplococcus pneumonia in predominating numbers. Gangrene is prone to occur in pneumococcal inflammations of mucous membranes. The local signs of pneumococcus throat inflammations are in no sense distinctive. The culture test alone can decide. The severity of the onset is strikingly like that of pneumonia itself. The disease is generally a short one, from two to five days. The majority of recovered cases have been in adults.

British Medical Journal, May 27, 1905.

Operation for Catarrhal Deafness: Recovery of Hearing After Ten Years of Almost Total Deafness.—F. Faulder White reports this case. The patient was very deaf in the right ear, but with the left ear she had heard nothing at all for about ten years. The writer removed at operation the left membrane with the malleus. There was little pain or other disturbance. Asepsis was carefully preserved and the ear was carefully syringed once or twice daily with a solution of salufer in boiled water. There was some improvement in the hearing in three weeks. About a month after operation the hearing had so improved that the patient could understand what was said by any one six feet away without much raising of the voice. About four months after operation, the writer examined the ear which he found quite healthy. Still four months later, the patient heard more distinctly than she had at any time since the operation. The result was so satisfactory that the writer has thought the case worth reporting.

Two Cases of Unilateral Convulsions and Paralysis in Young Subjects Associated with Exudative Erythema.—T. K. Monro describes these cases. The first patient was a boy of twelve years who, apart from rheumatism, had never been ill before the present attack. Possibly as a result of prolonged bathing, he began to suffer from pain and stiffness in his joints on June 12, 1903. After subsiding, these symptoms were followed by severe pain, vomiting, and diarrhea which continued for two weeks and caused extreme wasting and exhaustion. The patient became almost comatose, and at this time convulsions began. They involved the right angle of the mouth, the right arm, and the right leg simultaneously, and were strictly confined to the right side. The attacks became fewer, and finally in two weeks they ceased. The development of the right hemiplegia and aphasia dated from the convulsive seizures. Sensation was not affected. Striæ atrophicæ were noted on the left leg. On December 26, the temperature began to rise, and on January 4, an eruption of erythema nodosum developed on the legs. A few appeared on the lower parts of the thighs, and one on the right forearm. This attack of erythema was not associated with arthritis or with subjective symptoms. As to the theories concerning the pathology of such cases of hemiplegia, on the one hand it is supposed that the cerebral lesion results from vascular obstruction. Gowers favors the idea of thrombosis in the artery or in a vein on the surface. Moreover, Strümpell has suggested that the disease is acute polioencephalitis. The linear atrophy seen in this case is a very interesting feature. The second patient was a girl eighteen years old. Convulsions were followed by right hemiplegia. Sensation was preserved. Erythema multiforme appeared. Optic neuritis was noted. The writer believes that it is likely that in cases of hemiplegia of this nature the lesion is not a constant one. It is reasonable to suppose that in many of them the primary condition is thrombosis, which may or may not from the outset or at a later period be infective in its nature, and thus liable to give rise to inflammation in its neighborhood. He states that the association of exudative erythema with this disease does not find mention in the textbooks.

Some Experiments in the Treatment of Trypanosomiasis.—H. Wolferstan Thomas has used in his experiments an aniline compound, containing 37.69 per cent. arsenic, and claimed to be forty times less toxic than Fowler's solution. It is very suitable for subcutaneous or intravenous administration. It causes no pain, and no necrosis, and much higher doses of arsenic can be given without producing toxic results. The results of the administration to various animals infected with trypanosomiasis, of this drug, were very successful, and the writer declares his belief that treatment is indicated in cases of trypanosomiasis in man with this drug in high doses administered intravenously, and for a long period, pushing it to the maximal amount that the case can stand without headache and nausea, at the same time building up the patient in every possible way, that will tend to lessen the anemia. The writer adds that he does not believe that sodium arseniate alone will be found of great practical value nor does he think that the present is a perfect preparation, but it is an advance on arsenious acid. If further efforts be made to produce a substance like trypan red, but less irritating in action, the combination ought to be of service in the treatment of trypanosomiasis in man.

Berliner klinische Wochenschrift, May 15, 1905.

The Combination of Excision and of X-Ray Treatment for Exophthalmic Goitre.—Carl Beck says that although precise knowledge in regard to exophthalmic goitre is still lacking, the consensus of opinion among observers is that the condition is one of systemic intoxication dependent on defective chemism of the thyroid gland. The results obtained by Kocher, who relieves the exalted vascularity of the region by ligation of the enlarged vessels, together with extirpation of one-half of the gland, are excellent but still leave much to be desired. The expected benefits do not follow in a considerable proportion of the cases, and in about three-quarters of all cases severe sequelæ are observed, such as a tendency to psychoses, increasing nervous excitability, facial congestion, palpation, tremor, vomiting, fever, cold sweats, cyanosis, etc. The author's observations on the effect of the *x*-rays on new growths of the circulatory system led him to note their specific effect on the vessel walls and induced him to try their application for the relief of the extreme vascularization of this disease. In order to secure the greatest effect unilateral extirpation is an advisable preliminary, and the author mentions two cases in which radiotherapy produced very beneficial result over a year after the partial operation had been done with only partial relief of the symptoms. Another case is described at greater length, and in this the rays were employed about a week after the operation. The result was extremely gratifying, the tachycardia and dyspnea promptly subsiding so that a week later the pulse rate was only 80, the exophthalmos had almost completely subsided, and the general condition was excellent. Some months later a perfect cure had been effected. Beck accordingly advises, for mild cases that have resisted internal therapy, general treatment combined with the *x*-rays, while in those of great severity unilateral extirpation should also be done.

Changes in the Nails After Acute Diseases.—Eger calls attention to the fact that changes in the finger nails are much commoner than it would appear from the scanty comments on this subject to be found in the literature. The few writers who have interested themselves in the subject have usually tried to establish a specific relationship between ungual alterations and certain diseases, such as typhoid or scarlatina, but the author considers that this is far-fetched. He says that the various transverse ridges or furrows appearing as the nail substance is pushed forward into view from the matrix simply represent a stage of defective nutrition during the period of illness. The groove indicates a certain degree of death of the nail, and the succeeding ridge is probably due to a reactive cellular proliferation intended to dispose of the dead portion. He describes three cases of widely different nature, viz., multiple neuritis, typhoid fever, and toxic gastroenteritis, in all three of which the nail markings subsequently appearing were similar in appearance.

Münchener medizinische Wochenschrift, May 16, 1905.

The Treatment of Acne by Means of a New Operative Procedure.—Kromayer has already advocated this method for the purpose of removing superfluous hair, and he now lauds it highly in the treatment of acne. A special form of rotary cutter is employed which consists of a minute steel tube with a sharp edge at one end. This can be made to revolve rapidly after the manner of a dental drill. The cutters are used in different sizes; those ranging from 0.7 to 1. mm. in diameter, cause wounds of the skin which heal without any scar formation. The operative technic is very simple, the rapidly rotating cutter is pressed vertically into the skin at the site of the pustule until the subcutaneous connective tissue is reached. On withdrawing the cutter a tiny plug of tissue is left behind which may easily be drawn out with forceps. In this way the acne lesion is treated surgically as an abscess should be, by drainage, a plan that has heretofore not been feasible owing to the scarring that would be produced by any ordinary method of incision. The author says that the treatment may be used as a prophylactic measure to prevent the formation of acne lesions in indurated comedos, as an abortic measure in beginning pustules and as a curative procedure in those already fully formed. The pain caused is not more severe than that of a pinprick, and most patients do not require any local anesthesia. The punctures heal promptly, so that ladies who have been operated on in the morning have appeared in public in the evening without presenting any traces of the treatment.

A New Field for Radiotherapy in the Treatment of Goitre.—Görl has tried radiotherapy in goitre, with what he considers very encouraging results. Seven cases were treated, and in all there was marked diminution in the size of the growth as well as improvement in the other symptoms. The author believes that it is primarily the parenchyma cells that are affected by the rays, and not the blood vessels, as the diminution in size of the gland begins so promptly and takes place so uniformly. Medium soft, or soft tubes were employed, and at a comparatively short distance from the skin. Care is necessary to prevent burns; in one case the author found that the patient's skin was unusually sensitive to the rays, and he suggests that this condition may be one of the symptoms of the disease.

Hebotomy.—Hammer describes two cases in which this procedure yielded excellent results both for mothers and children. The one patient had a generally contracted rachitic pelvis with a true conjugate of 8 cm., and a very large child. The other pelvis was of the flat rachitic type with a true conjugate of 7 cm. In each instance the operation was easily carried out, though there was some difficulty in performing the forceps extraction. In the one case as there was no cause to suspect infection, a cesarean section might have been done to secure a living child, but in the second case perforation was the only alternative, as the earlier part of the labor had been conducted under unfavorable conditions and the mother already had a rise of temperature. The author considers as an advantage of hebotomy over symphyseotomy the fact that after the former the severed bone ends separate but slowly, so that there is less danger of injury to the soft parts. The incisions were drained from below in both instances, the upper wound being entirely closed by suture.

Deutsche medizinische Wochenschrift, May 18, 1905.

Karlsbad or Kissingen?—Boas takes these two baths as types of the two great classes of such resorts, Karlsbad representing the hot springs and Kissingen the sodium chloride waters. He first points out the general difficulties in selecting cases likely to profit by treatment of this form, and accentuates the fact that while many almost miraculous cures are effected by drinking cures, or by baths, on the other hand injudicious recommendation of patients to such places often results in bitter disappointment. A rule too often neglected is that no patient should be sent to a watering place if there is any uncertainty as to the nature of his illness. Hyperchlorhydria and ulcer of the stomach are most apt to be beneficially affected by sojourn at one of the sulphate springs, like Karlsbad, but not every case is suitable for this form of treatment. Karlsbad is especially useful in completing the cure of gastric ulcer. The sodium chloride waters are especially adapted for the gastric conditions characterized by deficiency in hydrochloric acid, but care is essential not to overlook carcinoma or other contraindications. Disturbances of motility and neuroses are not proper conditions for these baths. Of the enteric diseases, chronic catarrhal conditions do best at Karlsbad, while constipation requires the cold, sulphate waters of the Kissingen type. Patients with hemorrhoids also are better sent to the latter class of resorts. In perityphlitis the cold sodium chloride and the sulphate springs are preferable, but nervous affections of the intestines, like those of the stomach, derive little help from water cures.

The Treatment of Epidemic Cerebrospinal Meningitis.—Franca is greatly pleased with his results in the treatment of this disease by means of intraspinal injections of lysol. His method is to withdraw 25 to 50 c.c. of the cerebrospinal fluid and then to inject one per cent. lysol solution into the canal. The amount is graded according to the age of the patients, adults receiving from 12 to 18 c.c. and children 3 to 9 c.c. In severe cases the injections are continued every day until the cerebrospinal fluid becomes sterile, a result that is usually obtained in a few days. The injection gives rise to slight pain which soon subsides, and the only sequela of the treatment is the development eight to ten days after the first injection of a yellow discoloration of the palms of the hands and soles of the feet, which is followed by active desquamation. In cases in which the fluid is very purulent the canal is flushed with salt solution before injecting the lysol. The treatment is said to shorten the course of the disease, to prevent the occurrence of relapses and to cause rapid disappearance of the diplococci. There is less emaciation and fewer trophic disturbances, while mental disorders, paralysis, and disorders of the sensory system are rare. Of forty-seven cases treated by lumbar puncture thirty died, of nine in which cyanate of mercury was injected six died, and of fifty-eight in which lysol was used, only seventeen died. In several cases of tuberculous meningitis the method was found to be ineffectual.

Artificial Respiration.—Herter discusses the various methods in vogue for carrying on artificial respiration, including those of Marshall Hall, Sylvester, Howard, and Brosch. He points out that certain defects, either in effectiveness, in the possibility of injury to the patient, or in the great fatigue of the operator produced, are inherent in all of these. His own procedure is a combination of the best features of all four and comprises the following steps. The mouth and pharynx are quickly cleared with a handkerchief over the forefinger, and the patient with his chest exposed and the clothing about the waist loosened, is laid with the hypogastrium over a firm pad made of any available material. By several rapid pushes on the back an attempt is made to force any existing fluid out of the stomach or air passages, and the patient is quickly turned on the back so that the pad causes the costal arch to project. The tongue is drawn forward and entrusted to an assistant to hold by means of a handkerchief, and then the costal border is rhythmically compressed according to Howard's method while the arms are manipulated in the way described by Sylvester, the downward pressure of the elbows being made as near the middle line of the body as feasible. If possible four persons should be engaged in the work, one to hold the tongue and give the tempo by counting out loud his own respirations, one to compress the ribs from below, and one to each arm, but if needs be, the number may be reduced to one, who must then confine himself to placing the patient's arms above his head and kneeling astride his body while he holds the tongue with one hand and with the other compresses the costal arch.

French and Italian Journals.

Tuberculous Meningitis Ending in Recovery.—Claisse and Abrami report this case. The patient was a man thirty-four years old, with a good personal and family history. The symptoms were vague at first, and seemed more like those of ordinary grippe. But rapidly and suddenly there appeared very clear and distinct symptoms of meningitis: delirium, violent hallucinations, obstinate constipation, headache, pupillary disturbances (inequality, paradoxical reflex, and so on). Lumbar puncture, made on the second day, showed an bundant and pure lymphocytosis. In spite of the absence of the Koch bacillus in the preparations, these men believed that they were authorized in making the diagnosis of tuberculous meningitis of the delirious type. The case was considered hopeless, and a new puncture was not made. After eight days, however, improvement which was progressive and distinct took place. It was complete at the end of a week and now for two months there has been no relapse. On account of this unexpected course of events, these investigators believed that an error in diagnosis had been made. In order to verify this, they practised a second lumbar puncture at the beginning of the period of improvement, and a third, fifteen days after the complete disappearance of every morbid phenomenon. But while the first puncture, that of the second day, had revealed a very clear lymphocytosis, the second and the third did not show any. There was proof then of both a clinical and an anatomical recovery. On the other hand, inoculation of a guinea pig, with the liquid from the first puncture, resulted in a tuberculous sore at the point of inoculation. The authors believe that the prognosis of tuberculous meningitis ought to be revised.—*Le Bulletin Médical,* May 17, 1905.

Appendicitis and Tuberculosis of the Appendix.—Maurice Letulle declares that the occasion is very rare for the surgeon to operate on an appendix that is both inflamed and infected with the tubercle bacillus. Two cases have recently come under his observation, however. In the first instance, a surgeon operated on the patient and removed a tuberculous appendix. The appendix also showed that the patient had been suffering from chronic follicular appendicitis, the organ being dotted with tuberculous foci. In the second case, the patient had acute attacks of non-tuberculous appendicitis with a caseous-bacillary background. The patient was also a victim of pulmonary tuberculosis. The appendix showed two distinct kinds of lesions. There was advanced tuberculosis of the appendicular mucosa, with caseous pus and giant cells. In the places where the mucosa was not destroyed by tuberculosis, it was easy to recognize the non-tuberculous lesions of acute follicular appendicitis. Although acute appendicitis is not rare in the course of chronic tuberculosis of the appendix, it rarely comes under the hand of the surgeon, sometimes because of its habitual mildness, and at other times because of the fact that the patient is suffering elsewhere from tuberculosis. Tuberculosis of the appendix, commonly ulcerative, does not appear to favor the development of acute secondary infections which are apt to give rise to attacks of acute non-tuberculous appendicitis. —*Revue Française de Médecine et de Chirurgie,* May 15, 1905.

Cutaneous Syndrome of Gastrointestinal Origin.—M. L. Jacquet describes the case of a young woman who consulted him in September, 1901, for a combination of complex cutaneous disturbances—alopecia, seborrhea, hyperidrosis, pityriasis, hyperesthesia, and pruritus. The patient had suffered from gastric disturbances for a long time, for she had eaten in a gluttonous manner without masticating her food. Believing that this cutaneous syndrome was due to the traumatic excitation of the gastrointestinal mucosa, an excitation reflected and propagated by means of the great sympathetic and the vagus, Jacquet tried the following experiment: The only treatment instituted consisted in the regulation of the patient's food (in the beginning, an exclusive milk diet; later, four small ordinary repasts taken very slowly). The cutaneous symptoms improved rapidly and the patient made a complete recovery.—*La Presse Médicale,* May 13, 1905.

Cancer of the Cervix Treated Successfully by Radiotherapy.—Haret describes this case. The patient was sixty-five years old, and had been refused an operation on account of her age and the invasion of the vaginal wall. Radiotherapy was tried, with one sitting a week. The lesion was treated with the direct rays, while the vaginal was protected by a glass tube impermeable to the x-rays. After the second sitting the pain decreased, and after the sixth, not a trace of the primitive lesion could be either seen or felt. The ulcerated parts were cicatrized. Cases of this kind are rare, according to Haret, for surgeons are not apt to subject cervical cancer in the first stages to treatment by the x-rays. Early treatment is an important factor in radiotherapy.—*La Presse Médicale,* May 13, 1905.

Results of Serum Therapy in Syphilis.—A. Risso and A. Cipollina publish the results of experiments in the treatment of syphilitics in the secondary and tertiary stages, who had never had any specific treatment, by the use of a serum obtained from injections of animals with the blood serum of syphilitic cases in the secondary, or contagious stage. The injections were made three or four times during five or six days, and after an interval, the animals were killed and the serum prepared from the blood and solid organs. There were 16 cases treated, 14 secondary, 2 tertiary. Of these nine were definitely cured without any other treatment. In all the eruptions, macular or papular, disappeared with greater rapidity than under mercurial treatment. In two cases the result was doubtful. One of the cases had gumma of the nose, cured after 12 injections. Two cases, still in the early stages of treatment, are improving at the time of writing. The disadvantages are not greater than in the use of the other sera: slight rashes, temperature reaction and local pain. The action of the serum is probably specific, or the serum may act as a stimulator of the tissue changes, as mercurials do. The cases should be followed up for a year or more, in order to give a definite opinion of the results.—*Annali dell' Istituto Maragliano per lo Studio e la Cura della Tubercculosis,* October, 1904.

Serum Therapy of Pneumonia.—E. De Renzi gives us his conclusions as to the effect of the antipneumococci serum of Pane, after its use in several cases. It has of late been demonstrated that this serum produces the formation of antibodies in the blood of the patient, which affect the infecting microbes. These antibodies are specific against the bacteria producing the disease. The author's conclusions are as follows: (1) The general condition of the patient improves after the injection. (2) The temperature falls rapidly and the pulse and respiration decrease in number. (3) The serum has little effect on the local condition in the lungs. (4) Resolution occurs by lysis instead of by crisis. (5) Vascular pressure is lowered for a few days.—*La Riforma Medica,* May 13, 1904.

Vaccination Against Tuberculosis.—Maragliano recommends to all physicians an effort to vaccinate patients of tubercular families, in order to test the value of such inoculation, which can only be determined after years of observation. The inoculation should be practiced in country districts, where the practitioners know the people intimately, and know which families have a tendency to tuberculosis. The injections are made with a hollow lancet, which makes a circumscribed lesion. The result is an infiltration, which suppurates in the center; the suppuration reaches its height in three days and is ended on the eighth day. The thermic reaction is not constant, and lasts three or four days. The axillary glands are swollen, and there remains a slight local infiltration. The procedure is entirely harmless, and agglutinines are produced in all cases. The author has injected 24 subjects in the past year, mostly babies.—*Annali dell' Istituto Maragliano per lo Studio e la Cura della Tuberculosis,* September, 1904.

Earth Temperature and Diarrheal Diseases in Dublin During 1904.—Sir John W. Moore first refers to Ballard's work in relation to this subject. During the last year a Climatological Station has been established within the precincts of the University of Dublin. Diagrams have been formulated presenting the results of the observations made in 1904. In the epidemic season, weekly measurements of an inch or upwards of rain on two occasions seem to have been followed by a decline in the number of deaths from diarrheal diseases. Diarrheal mortality was trifling till the week ended August 6, that is, the third week after the subsoil temperature at four feet had passed above 56° F. The mortality, as the writer states, rapidly increased till the week ended August 27, in which thirty-five deaths from diarrheal diseases were registered. This maximum of mortality followed the maximum of warmth of the soil at four feet (58.5°) by an interval of just a fortnight. Diarrhea is rapid in its course, killing very young children usually within a week. In the months of July, August, and September, the deaths from diarrheal diseases are a noted feature of the mortality statistics. From July 3 to October 1, 1904, there were two hundred and forty-three deaths recorded in the Dublin Registration Area. The mean of the readings of the 4-foot earth thermometer during these months was 57°. The writer declares that this was a remarkable coincidence, to say the least, as this figure is only one degree above the "critical" temperature of 56° F. It has been observed that breast-fed infants are notably exempt from fatal diarrhea. The type of bacillus most commonly found in diarrheal diseases along the Atlantic seaboard of the United States is that known as the Flexner-Harris. An interesting point in regard to food is, as Ballard's observations go to show, that the exposure of food to telluric emanations tends to render it liable to cause diarrhea, especially when it is stored in places dark and ill-ventilated.—*The Dublin Journal of Medical Science.*

The Use of Iodide of Silver in Urethritis.—E. H. Siter and A. A. Uhle find that solutions of this remedy cause absolutely no burning and no irritation. Excellent results have been secured in cystitis of prostatic origin and after prostatectomy. The remedy is suspended in a five per cent. solution of quince seed mucilage. The advantages over the various proprietary silver salts is that it is not proprietary, and that the exact strength can be controlled as the strength of nitrate of silver can be controlled. Their experience with the proprietary salts is that they vary considerably in strength, in addition to which is the fact that their exact composition is unknown. The advantages over the nitrate are that the iodide does not stain and is less irritating, which permits of stronger solutions being used and the resulting benefits obtained thereby. They do not put forth the claim that it will work wonders, or that urethritis is reduced by it to the class of trivial complaints; but it can be said for it that it does reduce the acute stage to a minimum, and that it relieves the acute symptoms almost immediately. It is possible to commence the local treatment at once, and with no bad results. Histories are given of eight cases.—*University of Pennsylvania Medical Bulletin.*

Book Reviews.

Surgical Diagnosis. A Manual for Practitioners of Medicine and Surgery. By Otto G. T. Kiliani, M.D. New York: William Wood & Co., 1905.

This book constitutes the most recent as well as the most extensive work of its kind in the English language; indeed, we may say it is the only work of its kind, previous works dealing solely with the diagnosis of surgical affections being now out of print. Its object as stated by the author is two-fold: to describe as exactly as possible the symptoms peculiar to a disease on which the diagnosis can be based, and wherever feasible to teach how to observe these symptoms. The book is addressed primarily to the general practitioner, who is often called upon to decide whether or not a disease needs surgical interference, but may lack the technical diagnostic experience acquired by the surgeon in his routine work. These claims are well met. The author, a pupil of Volkmann and Schede, has had an extensive operative and clinical experience and aims to present the consensus of opinion of the recognized authorities in addition to his own views. These, as regards operative interference in various conditions, are in no way extremely radical, which is an excellent feature. Thus, for example, in the case of a movable kidney, he claims that operation is only indicated when there is sufficient mobility to produce a kink in the ureter or if the condition seriously interferes with the individual's occupation. In acute appendicitis he wisely adheres to the idea that this is a strictly surgical disease for which there is no internal treatment. In other conditions his views are likewise marked by common sense and will undoubtedly appeal to the reader.

In the introductory chapter, the various methods of examination and their application are fully discussed. The special part of the book is arranged in anatomical sequence, beginning with the head, all the organs being considered in detail. Excellent schemes for rapid differential diagnosis are introduced in various parts of the work, and at the end are presented tables of identical symptoms found in various diseases, and of the diagnosis of the various forms of trembling and coma. The book is well illustrated with a large number of plates, many of them being skiagraphs and exceedingly well done. The general construction of the book, its printing, and binding are all excellent.

Diseases of the Heart and Aorta. By Thomas E. Satterthwaite, M.D., Professor of Medicine in the New York Post-Graduate Medical School; Consulting Physician to the Post-Graduate, Orthopedic, and Babies' Hospitals; President of the Medical Association of the Greater City of New York. New York: E. R. Pelton, 1905.

This volume of about three hundred pages represents the author's views and deductions founded upon long experience in this special field. Throughout the work he cites examples, tables and records taken from his histories, and thereby gives a personal stamp to his text.

His endeavor to be clear and yet concise has been successful, and to gain space for the more common cardiac affections he has entirely sacrificed the uncommon, thus affording a book which can be helpful to the ordinary practitioner.

In the diagnosis of the valvular lesions, the newer and more accurate points are given, and the usual errors of the text-books are eliminated.

The most original portion of the work is noted under the chapters on treatment. Here the author gives in detail not only the medication suitable for different conditions, but also the treatments by aërated baths and resistant movements. He has modified these in accordance with American demands, and has given an exceptionally large number of illustrations of the muscle movements which otherwise might not be accurately followed.

The portions allotted to the aorta are not as satisfactory as are those on diseases of the heart. The author, however, disclaims any intention of writing an encyclopedia on the subject, but rather a guide to the general practitioner of a concise and practical nature. In this he has succeeded, and the work can be recommended as accurate and helpful.

The Thyroid and Parathyroid Glands. By Hubert Richardson, M.D., Late Pathologist to Mount Hope Retreat; Pathologist to Maryland Asylum and Training School for Feeble-Minded Children; Demonstrator of Physiologic Chemistry, University of Maryland. With seventy-seven half-tone illustrations made from special drawings by F. P. Wightman. Philadelphia: P. Blakiston's Son & Co., 1905.

It is a distinct pleasure to read a book like the one before us, so replete is it with the latest researches and clinical proofs. The subject has been treated in a masterful and interesting manner, and is bound to interest all medical men from the physiological chemist to the general practitioner. The author sketches the history of our developing knowledge of the typhoid gland, and follows with the embryology, histology, and anatomy of that organ, together with the parathyroids. Then two interesting chapters on the physiology and chemistry of these glands immediately precede the bulkier part of the volume which is of special use to the clinicians. Goitre, the surgery of the thyroid, its behavior in infectious diseases, its diseases and their treatment, are all excellently handled chapters, and contain much that is new and practical. Many illustrations of cretins, exophthalmic goitre, simple goitre, etc., add interest to a subject fascinating in itself, but doubly so in view of the fact that it is developing along lines which relieve human suffering. This work should be read, digested, and its lessons followed out by all who are interested in advancing the art of medicine.

Leçons de Clinique Obstétricale, par le Dr. Queirel, Professeur de clinique obstétricale à l'école de médecine et de pharmacie de Marseille, Membre correspondant de l'Académie de Médecine. Deuxième série. Avec une Préface du Professeur Pinard. Paris: G. Steinheil, 1905.

This is an interesting collection of clinical lectures on various subjects more or less connected with obstetrics. About one-fourth of the volume is on syphilis (viewed from various standpoints); other subjects treated are: ventrofixation, nephropexy, hysterectomy, version, cesarean section, symphyseotomy, and various complications of pregnancy and labor.

A Handbook of Nursing. Revised Edition. For Hospital and General Use. Published under the direction of the Connecticut Training School for Nurses connected with the General Hospital Society, New Haven, Conn., Philadelphia, and London: J. B. Lippincott Company, 1905.

Rarely have we seen a book so unpretentious and yet so thoroughly good and reliable. Both hospital and private nursing are considered; and the nurse's duties from the standpoint of herself, the patient, and the physician, are clearly and pleasantly enunciated. All the directions are practical, intelligible, and comprehensive. Not only is the instruction given both accurate and up to date, but we have not discovered the omission of any important topic concerning which a nurse would be likely to seek information. We have read the book through with much interest, and can cordially recommended it to physicians and nurses.

A Reference Hand-Book for Nurses. By Amanda K. Beck, Graduate of the Illinois Training School for Nurses. Philadelphia and London: W. B. Saunders & Company, 1905.

This little book contains the notes made by the author as a probationer and as a trained nurse; there are also a few articles by physicians and superintending nurses. In spite of the author's statement that while rewriting her notes for the fourth time, "the inspiration followed that my notes in a book form would be of general use to most nurses and of some use to many physicians," we think that the book has too many errors, both of omission and commission, to be considered a satisfactory reference handbook for nurses.

Wharton and Stillé's Medical Jurisprudence. Vol. I. Mental Unsoundness. Legal Questions by Frank H. Bowlby of the Publishers' Editorial Staff. Insanity; Forms and Medicolegal Relations, by James Hendrie Lloyd, A.M., M.D., Neurologist to the Philadelphia Hospital; Physician to the Methodist Episcopal Hospital; Consulting Neurologist to the State Hospital for the Chronic Insane at Warnersville, Pa. Fifth Edition. Rochester, N. Y.: The Lawyers' Co-operative Publishing Company, 1905.

The first volume of this well-known system of legal medicine, devoted to a consideration of the jurisprudence of insanity, has undergone a very thorough rejuvenation. The general plan of the fourth edition has been followed, but twelve new chapters have been added to the purely forensic department of the work, and while the substance of the former editions has been preserved the material has been brought to date by the incorporation of the numerous decisions lately rendered. The second part of the volume, comprising thirty-nine chapters, is entirely new and comes from the pen of Dr. Lloyd. This is an extensive exposition of the medicolegal bearings of mental disease from the standpoint of the alienist, and the complex problems involved are covered in admirably clear and logical fashion. Although perforce more or less philosophical in tenor, the subject matter is skilfully handled and may be read with pleasure and profit even by those less interested in the practical application of the legal points at issue. Seen from this point of view, the study of psychiatry takes on fresh aspects which cannot be neglected by the clinician, and this exhaustive treatise may be warmly commended to all interested in the branches discussed.

Society Reports.

THE PRACTIONERS' SOCIETY OF NEW YORK.

195th Regular Meeting, April 7, 1905.

The President, Dr. Charles Stedman Bull, in the Chair.

On a Case of Hemophilia, with Special Reference to the Joint Symptoms.—Dr. Francis P. Kinnicutt read this paper. (See page 881.)

Dr. Virgil P. Gibney said the joint lesions of hemophilia might readily be mistaken for a tuberculous or other form of arthritis. He could not recall many such cases, but had never before had his attention so forcibly called to the matter. In one case that was now under his observation in the hospital, the patient was under treatment for what was supposed to be a tuberculous arthritis of the knee. Instead of following the usual methods of treatment, however, the joint was simply being protected with a perineal crutch, this conservatism being deemed wise because the patient was known to be a bleeder. He recently had a loose tooth extracted, and the hemorrhage from the gum persisted for several days. The blood count also showed a marked improvement from week to week.

Dr. Kinnicutt, in reply to a question, said that so far as he could recall, the urine showed nothing abnormal during the absorption of the large masses of blood. The absorption, as a rule, took place very rapidly.

Dr. Robert Abbe said he had never seen an abdominal hemorrhage in hemophilia. Such an occurrence, he thought, must certainly be very rare. The possible joint complications of the disease should always be kept in mind by the surgeon, because cutting into such a joint would menace the life of the patient. The speaker thought that chloride of calcium was the most efficient therapeutic agent in the constitutional treatment of hemophilia, as it was also valuable in the treatment of patients before operation for gallstones to prevent hemorrhage.

Dr. Edward G. Janeway mentioned the case of a boy, a hemophiliac, who had a hemorrhage into the spinal canal. There was gradually increasing paralysis, extending upwards, and death occurred in the course of a fortnight. An autopsy showed that the hemorrhage was subarachnoid, but in the lower section of the canal the blood had burst through the arachnoid and partly invaded the dura. The speaker said this was the only case of the kind he had ever heard of.

Dr. Beverley Robinson said he had seen a number of cases of hemophilia, but none exactly similar to the one reported by Dr. Kinnicutt. In a case under treatment in St. Luke's Hospital some years ago the patient was a woman who bled from the uterus, gums, nose, and various other organs, and the hemorrhage was very difficult to check. Cases of recurrent and severe nosebleed were comparatively common, and often difficult to control permanently.

A Tumor of the Eyelid Treated with Radium.—Dr. Robert Abbe presented a man, 45 years old, who had been referred to him by Dr. Peter A. Callan on account of a suspicious tumor involving the right lower eyelid on its free border and both surfaces. It was originally about the size of a hazel-nut, *i. e.* one and one-half centimeters long by one centimeter thick and one centimeter deep, and had resisted six weeks of *x*-ray treatment. It had been there one year, and was gradually growing larger. It had all the clinical appearance of epithelioma. It was itchy, gave rise to a disagreeable discharge, and bled freely on contact. Three applications of the radium had been made one month ago, and one recently, and under its influence the tumor had almost disappeared, being now, after six weeks, not more than a fiftieth of its former size. Dr. Abbe said he hardly thought any further applications would be necessary, but he would report the final result later. The radium used was in three sealed tubes, one of ten centigrammes of Curie radium chloride (300,000), one of 5 cg., same strength, and one of ten mg. German radium bromide (1,000,000).

A Tumor of the Jaw Treated with Radium.—Dr. Abbe also reported the case of a woman, 86 years old, who had been referred to him by Dr. Janeway about two months ago. She had a fracture of the lower jaw on the left side, while the other side was occupied by a growth involving the bone and extending into the mouth. The growth was fungous in character, bled readily, resembled sarcoma, and had involved the bone to such an extent that shortly afterwards a spontaneous fracture of that side of the jaw occurred. A small incision was made into the growth; into this the tube of 10 cg. strongest radium was inserted and tied and allowed to remain for over six hours. As a result of this single exposure to the action of the radium, the growth had shrunk to a comparatively small size; it had become fibrous in character, and had ceased to bleed. The growth had not yet been examined microscopically, but it had all the appearances of a giant-celled sarcoma.

A Case of Apparent Addison's Disease, with Cure.—Reported by Dr. W. Gilman Thompson. The patient was a young man of 26, who came under the speaker's observation at Bellevue Hospital with all the classical symptoms of Addison's disease. He was very dull and languid, and while his face and hands showed very little pigmentation, the rest of the body was of a walnut or brown color, with leucoplakia on the chest. The buccal muous membrane and hard palate also showed patches of pigmentation. The internal organs, so far as could be made out, were normal. He was suffering from an ordinary secondary anemia, the red blood cells being reduced to less than 2,000,000 and the hemoglobin to 20 per cent. He had constant vomiting, a very feeble pulse, and great prostration.

In addition to proper rest and died, the patient was given adrenalin chloride by mouth, and gradually his nutrition improved, he gained in strength and became lighter in color. He remained in the hospital eight months, when he was discharged entirely cured, with a white skin and normal blood count. During his stay in the hospital the tuberculin test was applied three times, and each time there was a decided reaction to the injection, but there was no evidence of any tuberculous process unless the adrenal bodies were involved.

The question naturally arose, Dr. Thompson said, whether this was a true case of Addison's disease, or one of vagabond's disease simulating Addison's. The man had been a tramp for five years prior to his admission to the hospital, and admitted not having had a bath for two years. On the other hand, vagabond's disease would hardly have presented such a group of symptoms as were observed in this case, including the mouth pigmentation and tuberculin reaction. Under treatment, the red blood cells increased from 1,900,000 to 6,800,000, and the hemaglobin from 20 to 90 per cent.

In a somewhat similar but less extreme case observed at the Presbyterian Hospital, some years ago, the patient improved markedly under the administration of adrenalin, and most of the pigmentation disappeared. That patient also reacted to tuberculin, although no evidence of tuberculosis could be demonstrated in the lungs or elsewhere in the body.

Dr. Charles L. Dana, who had seen the case reported by Dr. Thompson, said the patient had been repeatedly examined by members of the staff, and all had agreed that it was an example of Addison's disease. The speaker said he recently saw a woman whose skin over the entire body was almost as black as a negro's as the result of the repeated application of plasters to the skin. After such an application, the pigmentation of the skin would immediately develop and become permanent. In addition to this, the patient had many symptoms of a lack of vascular tonicity, and the case was regarded as one of renal inadequacy. She was given adrenalin, and under this the pigmentation soon disappeared, and the patient's general condition improved very much. Possibly, Dr. Dana said, there were cases of suprarenal inadequacy, or borderland cases, that had not yet developed into Addison's disease. This idea had first been suggested to him by Dr. Joseph Fraenkel, who was quite firmly convinced that in suprarenal inadequacy we had to deal with a pathological condition that could be recognized and effectually treated.

Dr. Janeway mentioned a case of supposed Addison's disease that was kept under observation for a long time at Ward's Island. The pigmentation gradually cleared up, and the physicians came to the conclusion that it was vagabond's disease. The speaker also referred to the possibility of arsenic being the cause of a brownish discoloration of the skin in certain cases.

Dr. Thompson, in closing, said that patients with Addison's disease did not invariably show discoloration of the skin of the face. In one case coming under his observation, in which the diagnosis was confirmed at autopsy by the presence of tuberculous adrenals, the face remained white, although the body was almost as dark as that of a negro. In another case treated at the Presbyterian Hospital, the face had become so dark that the patient had been refused service at different restaurants, under the supposition that he was a negro.

NEW YORK ACADEMY OF MEDICINE.

Section on Pediatrics.

Stated Meeting, Held April 13, 1905.

Dr. L. E. La Fétra in the Chair.

A Case of Congenital Defect of Some of the Muscles of the Shoulder Girdle.—Dr. Charles Herrman presented photographs of a patient, a child two years old, of healthy appearance, whose mother had given birth to two other children, both normal. The patient was breast fed and cut his first teeth when eleven months old. There were no signs of rickets and the patient was of fair intelligence and without previous illness. Almost immediately after birth it was noticed that the child could not raise the arm above a right angle to the chest. The congenital muscular defect was noticed in the trapezius, the serratus magnus, the rhomboid and possibly the clavicular portion of the pectoralis major. There were no fibrillary twitchings or other congenital defects. These cases seemed to resemble the progressive muscular dystrophies of Erb, the juvenile form. Dr. Herrman advanced the hypothesis that they began in intrauterine life and ceased after birth.

A Case of Hemophilia in a Girl of Eleven Years.—Dr. Matthias Nicoll, Jr., presented this child whom he had observed since last December. There were no other cases of hemophilia in the family. When she was six years old it was noticed that the slightest trauma produced certain spots of ecchymosis. In January, 1904, she had a severe epistaxis lasting several hours; this recurred at intervals of about one week, for about three months. In December, 1904, she had an attack of so-called "brain-fever," which the doctor thought possibly might have been due to a cerebral hemorrhage. Five months ago she menstruated profusely but not since. She now occasionally had nose bleeds which were readily controlled by plugging and styptics. Following the extraction of a tooth she bled profusely for several days. At the same time she also had a hemorrhagic retinitis. The gums were like those of scurvy. The coagulation-time of the blood was about fourteen minutes. In this case there was absolutely no hereditary history. This disease occurred ten times as often in males as females.

Dr. Sara Welt-Kakels referred to the case of a boy who had hemophilia. There was no history of heredity. When six years old he began to bleed. Three years ago he passed a basinful of bloody urine. He frequently bled from the nose and mouth. After the extraction of a tooth he bled for fourteen hours. The body was simply covered with ecchymoses and the gums looked like those of scurvy.

Dr. George H. Bell said he had examined the eyes of the girl whose history was reported by Dr. Nicoll, and said she had poor vision when first seen, about 22/100. She had a hemorrhagic neuroretinitis. There was an extravasion of blood all over the retina, and it first looked like a thrombus of the central vein. The patient first got better and then worse. The last time he had examined her she had a 20/20 vision and the blood had nearly all been absorbed. He called attention to the interesting fact that the retina might become diseased when there were any marked changes in the blood itself.

Dr. George D. Scott said that in many cases that he had seen there was the suspicion of a specific disease acquired prior to birth.

A Case of Non-Closure of the Foramen Ovale and Ductus Arteriosus.—Dr. F. L. Wachenheim presented this case. The lesion described was discovered accidentally while going through a routine examination of the child. The most interesting feature regarding the case was that the child was not at all cyanotic and there were no reasons to suspect any cardiac lesion.

A Case of Intrauterine Amputation.—Dr. William L. Stowell presented photographs of a boy 20 months old, who was an abandoned infant and, therefore, with no previous history. He had the following deformities: On the right hand the distal phalanx of the index finger was absent; on the middle finger only the distal phalanx remained; the ring finger was amputated about the first phalanx which reached nearly to the bone. The left hand showed all the fingers partly webbed together, of normal length, but the third and fourth had contractions which made them look like little knobs; the second finger was also contracted towards the palm; the thumb was nearly normal. The right leg presented a groove at the lower one-third directed obliquely from within outwards and downwards. The left leg presented a deep groove below the knee with sharply defined edges. On the left side there was a marked talipes varus. The great toe was normal but the others were webbed almost to the tips.

Dr. Elisha M. Sill reported an instance of the entire left hand missing on a little girl; there was a perfect amputation at the wrist.

The Fat Question in Its Relation to the Production and Cure of Infantile Marasmus.—Dr. Heinrich Stern read this paper. He said that it was well understood that infantile marasmus was not the result of the same cause in every instance. Food, however, which was physically, chemically, or biologically unfit for the delicate infantile organism was the most common cause of the gastrointestinal disorder preceding the athrepsia infantum. The reader said further that marasmic conditions occurred comparatively rarely in breast-fed children, and that most instances of malnutrition and marasmus were observed in artificially nourished babies. He said that a much neglected factor in infant feeding, a factor which was frequently at the bottom of athrepsia infantum, was the fat-factor, *i.e.* the chemical and physical character of the fatty substances contained in the food of the infant. He said the amount of the fat-aliment had found frequent consideration, its quality and character on the other hand hardly ever. Fat of mothers' milk should, of course, be the physiological fat-aliment of the healthy nursling as it did not yield low fatty acids to the extent of giving occasion to intestinal disturbance and as it was absorbed in quantities guaranteeing normal and continuous development. The fat of cow's milk was liable to vary to a greater extent than that of human milk, being dependent upon the breed and race of the animal, its individual characteristics, its age, how often it had calved, the time of lactation, the hour of milking, etc., but principally, it differed from the fat of human milk on account of its widely discrepant chemical composition. Especially did the fat of the cow's milk differ from that of the human milk on account of its very large amounts, about 10 per cent., of volatile fatty acids. It was evident that a fat-compound consisting of 10 per cent. of volatile acids could not be a rational substitute for a fatty nutrient into the composition of which these volatile acids entered in but comparatively small amounts. The most important of these acids was butyric acid, the very presence of which in human milk was doubted by some investigators. As the fat of cow's milk always contained such large amount of butyric acid, and as this was the mother substance of the aceton bodies, the milk cream did not represent the ideal type of a fatty nutriment. Furthermore, the occurrence in the feces of absolutely and relatively larger amounts of the fat of the cow's milk than of that of mother's milk was sufficient evidence of the better utilization of the latter. He said further that it would lead him too far were he to take up the aceton question on this occasion. He merely wanted to mention that aceton of supposedly intestinal formation had been frequently accused of being the forerunner of periodical vomiting in children, of infantile eclampsia, etc. The butyric acid in amounts large enough to give rise to such quantities of aceton bodies must have been ingested as such. Hence it was not more than rational than to assume that the real cause of many of the so-called autotoxicoses were nothing less than simple fat-toxicoses. Withdrawal of milk fat, he said, frequently had helped the child wonderfully, especially in all those cases where there existed a distinct gastrointestinal affection. However, the infant could not exist for any length of time without a fatty substance of some kind. This fat, however, must be assimilable and must not contain a high percentage of volatile fatty acids. Yolk-fat was the only fat which exhibited all the good features of an assimilable fat without having any of the pernicious features of the milk-fat. He said that yolks should be substituted for milk-fat. His reasons were the following: yolk-fat in its native state was well-borne by the majority of infants, the so-called idiosyncracy for eggs was due to the white and not to the yolk of the egg; the great absorbability of yolk-fat; the fat-components of yolk-fat, palmitin, stearin, and olein, did not yield any aceton bodies; the large amount of lecithin contained in the yolk; the occurrence of a diastatic ferment in the yolk; the property of the yolk to stimulate the digestive secretions. Yolks, the speaker continued, had hardly ever been extensively tried in pediatric practice. They must be fresh and should be given in very small amounts when beginning the treatment. They should be added to the carefully skimmed milk in doses of about one-quarter of a teaspoonful for each feeding. However, later on, larger amounts of the yolk might be given.

Dr. Louis Fischer said that he had observed instances of athrepsia infantum and that he was not willing to say that all of them were due to excess of fat, to disturbances caused by fatty acids, or chemical results of fat in the body, but that he considered it more likely that the condition was due to improper quantity or quality of the fat. Most cases of athrepsia he believed were caused by faulty assimilation of the fat due to faulty hygiene as well as to faulty feeding. Many cases might be due to disturbances following proteid feeding rather than to the fat *per se.* That disturbance of the gastrointestinal tract due to excess of fat in the food all had seen and it had been noted in breast-fed children as well as others. He had reported several instances in which there was less than one per cent. of fat in breast milk. He had also used the yolk of an egg where it seemed to be well born, but in some instances there was gastrointestinal disturbance after taking it. He did not think it should be given to a child under six months of age when suffering from severe gastrointestinal disturbance. In regard to the presence of fat in the feces being a guide as to the assimilation of fat, he said that he had examined a great many stools and that in most cases, a great deal of fat was excreted and some of the children did not gain in weight when a small amount of fat appeared in the stools.

Dr. Louis C. Ager said that there were a large number of cases which some believed to be marasmus, which were simply cases of malnutrition. There were also a number of cases thought to be due to infection of some kind, which were striking cases of athrepsia or atrophy of certain parts of the intestinal canal; these latter cases would not recover under any kind of treatment. Theoretically, the yolk of an egg seemed a good thing, and it had occurred to him that in some instances it might be combined with buttermilk, but if one considered the subject from the standpoint of the pathological findings, yolk of egg feeding did not seem to be so encouraging. Both in Europe and in this country, it had been stated that athrepsia was due to an acid autointoxication, and again it had been pretty conclusively proven that this was not an acid intoxication at all. There was undoubtedly a large increase in the nitrogen of the ammonia in the urine or some disturbance in liver metabolism. In these cases there was not the ordinary disturbance which was due to aceton or acetonuria or diacetic acid, which was found in true intoxication. When there was a disturbed liver function, there was a diminution in the secretion of bile and a considerable amount of lecithin in the bile. If the organism was secreting less lecithin than normal, he saw no reason for giving more.

Dr. T. S. Southworth said that he saw distinctly fewer cases of marasmus now than formerly, and he thought it was due to better milk supply in this region. He thought that much could be done in these cases by careful feeding. He had neve thought that fat was a causative factor in the production of marasmus. Marasmus might be caused by too strong milk or perhaps by too frequent changes of proprietary foods. He said that he had had great difficulty in getting children to take the yolk of an egg; it seemed to cause gastric disturbance and vomiting. He had given the whites of eggs in marasmus, although he realized that the whites did not contain all the elements of nutrition. In many cases the milk was not to blame; the absorption of fat was poor, and it was necessary to stimulate assimilation. It was not so much gastric digestion as it was intestinal assimilation.

Dr. L. E. La Fetra said that he had tried the subcutaneous injection of fat without much success. He had also tried the yolk of egg, but many instances of abscess formation followed. He then used the yolks by way of the mouth with orange juice, giving the mixture every four or five hours, and there was much to say in its favor. If the child could not take the yolk raw, he cooked it to a powder and then it could be taken without disturbance. He did not attribute marasmus to fat; there was difficulty in the absorption of fat after marasmus began.

Dr. Stern, in closing the discussion, said that he had been misunderstood. He did not mean to say that every case of malnutrition was produced by the non-absorption of fat, but that there was a certain class of cases indirectly due to the non-absorption of the fat. In every case of marasmus he said if one could substitute another fatty compound which would not yield poisonous material in the body, the patient would be benefited without doubt. The yolk of egg should be administered as frequently as the patient would tolerate it. Where all the milk fat had not been removed before adding the yolk, some gastrointestinal disturbance followed. It was rather difficult to remove all this fat from milk. Dr. Stern said he could not give clinical reports of this method of feeding in infants, but that statistics would be forthcoming later.

Important Differential Points in the Diagnosis of Sporadic Cretinism, Mongolism, Achondroplasia, and Rachitis.—Dr. Charles Herrman read this paper. He said that at first sight it might seem remarkable that conditions so widely different in their pathology should offer difficulties in the way of differential diagnosis. These conditions offered a striking illustration of how different causes acting in different ways might produce similar results. In defining these terms Dr. Herrman said that a number of different conditions had been grouped under the head of fetal rickets. The term should be dropped or applied only to those very rare cases in which the rachitic process developed in utero and ceased before birth. The rachitis considered in this paper was the ordinary form so frequently seen in infants and children. Under cretinism he considered only the sporadic cretinism or infantile myxedema. By mongolism he would have understood that form of congenital idiocy of unknown origin in which the patient presented the Mongolian slant of the eyes. Under achondroplasia or fetal chondrodystrophy he considered the condition as it occurred in infants and children. The reason that all the cases of one group resembled each other was that certain features were so accentuated. In sporadic cretinism it was the depressed bridge of the nose, the puffy eyelids, thick lips, prognathous jaw, and idiotic expression. In mongolism it was the peculiar slant of the eyes. In achondroplasia the marked disproportion between the head, trunk and extremities. The development of the nasal and superior maxillary parts was dependent upon the growth at the base of the skull. When there was a premature synostoses of the tribasilar bones or a lack of growth of the cartilaginous structures between the bones, the nasal and superior maxillary arts were not pushed forward sufficiently, so that a depressed nasal bridge resulted. This might also occur as the result of insufficient growth of the cartilaginous structures anterior to the tribasilar bones, without any change of the normal development of the bony or cartilaginous structures at the base of the skull. In chondrodystrophy either of these conditions might be present; in sporadic cretinism there was usually in insufficient growth at the base of the skull; in mongolism there was probably an arrest of development of the structures at the base of the brain. Mongolism and chondrodystrophy were always congenital conditions and the characteristic features were evident at birth. Sporadic cretinism was often a congenital disease in that the thyroid gland was abnormal and its secretion defective from birth, though the symptoms might not appear immediately. In all of these conditions the patients were undersized, though this was most marked in cretinism and achondroplasia. In all there was a deviation from the normal growth at the junction of the ephiphysis and diaphysis. In rachitis and mongolism all the parts were nearly uniformly affected while in sporadic cretinism the extremities were somewhat more affected and in chondrodystrophy the extremities were almost exclusively affected, the growth of the head and trunk remaining nearly normal. All these children began to walk late, showed lack of muscular power and of the power of coordination. In cretinism, mongolism, and rachitis there might be anemia. The anemia of cretinism had often a yellowish or greenish hue, with marked reduction in the percentage of hemoglobin. In rachitis we had all grades of Von Jaksch anemia. A marked persistent subnormal temperature, reacting immediately to thyroid treatment, was characteristic of sporadic cretinism. These patients were cold, cyanotic, with slow pulse, defective heat production and radiation, and torpidity of all the vital processes. In mongolism the temperature was sometimes subnormal, but never so marked or persistent as in cretinism. Uncomplicated cases of rachitis and chondrodystrophy had a normal temperature. In cretinism the skin often presented a characteristic myxedematous infiltration. In cases of infantile myxedema and chondrodystrophy there was often a redundancy of the tissue about the legs. In all of these conditions there was delayed closure of the fontanelles. In rachitis the head was large and square, with prominent frontal and parietal bones. In mongolism the head was brachycephalic, the anterioposterior and lateral diameters being nearly equal. The occiput was flattened and frequently the temples hollowed. The sutures as well as the fontanelles remained open much longer than normal. In cretinism the head was small but presented nothing characteristic. The hair as against mongolism, was coarse, dry, and scanty. In chondrodystrophy the head was relatively large. Adenoid vegetations were frequently present in these conditions on account of the depressed nasal bridge and high arched palate. The nose is chondrodystrophy had a bulbous end. In cretinism the tongue was increased in size, and protruded partly. In mongolism the tongue was not enlarged, though on the dorsum the fungiform papillæ were increased in size, and the tongue was sometimes fissured. The high-arched palate was especially frequent and marked in mongolism. The teeth appeared late in all, but especially so in cretinism. In cretinism the rings of the trachea could be distinctly felt. In rachitis the chest showed characteristic changes: the rosary, due to an inreased growth of cartilage at its junction with the osseous portion of the rib, a prominent sternum, and Harrison's groove. In chondrodystrophy there might be beading of the ribs, otherwise the chest was well formed, of normal dimensions, and in striking contrast to the short extremities. Curvature of the spine, kyphoscoliosis, was present in rachitic cretinism. In chondrodystrophy there was usually marked lordosis in the lumbar region. In all these conditions the extremities, especialy the lower, were shorter than normal. This was especially marked in chondrodystrophy. In all, but especially in cases of mongolism, the joints were extremely lax. In cretinism the hand was flat and spadelike, cold and cyanotic, the fingers short and stumpy, and the radiograph showed a delay in the appearance of the ossification centers, a point which would make clear a diagnosis in a doubtful case. In well-marked cases of rachitis the hand was long and narrow with the thumb flexed. The fingers showed a peculiar beaded appearance. In chondrodystrophy the hand was small and square, the fingers of nearly equal length with blunt ends. The radiograph showed short, thick metacarpal bones with large heads and a normal or premature junction of the epiphyseal ends. The hand of mongolism approached more nearly to the normal. In cretinism the genitals were often unusually large and the skin of the scrotum thickened, though sexual power was deficient. In rachitis there was often profuse sweating, while in cretinism never. A persistent obstinate constipation in a breast-fed infant dating from birth, was characteristic of sporadic cretinism. This would disappear under thyroid treatment. In rachitis the intelligence was only retarded in so far as the children did not go about and mingle with others so early. In chondrodystrophy the intelligence was not markedly affected, though it was not normal. Cretins untreated were sluggish, apathetic or idiotic. The earlier treatment was begun the better the chances for an approach to normal intelligence. In mongolism there were all grades from the mildest form of imbecility to complete idiocy. These patients were usually lively and restless. He had noted no improvement, however, under thyroid treatment. The prognosis in uncomplicated rachitis was good; in chondrodystrophy if they survived birth they seemed to grow stronger as they grew older, but remained undersized. In sporadic cretinism if treatment was begun early, the mental as well as the physical improvement was pronounced. Cretins were less resistant to pulmonary disease. Mongolian imbeciles were also especially prone to pulmonary diseases. In chondrodystrophy the principal change was a defective formation of the rows of cartilage cells, which prevented growth in length. In rachitis the enlargement of the ends of bones was due to an abnormal development of the epiphyseal cartilage; in chondrodystrophy, to a periosteal overgrowth. Microscopically, in rachitis the proliferating zone between the bone and cartilage was wider and more vascular. The bowing of the bones in rachitis was due to softening of the bone; in chondrodystrophy, to peculiarities in the joint, or to resistance offered to growth in length by the periosteal intrusion. In rachitis all the bones of the skull were affected, while in chondrodystrophy only those of the base. In sporadic cretinism there was an absence of atrophy or sclerosis of the thyroid, and a delay in the appearance of the ossification centers. Treatment with the thyroid extract was specific only in cases of cretinism.

Dr. P. W. **Nathan** said that within recent years the pathology of achondroplasia had been studied by Kaufmann and his pupils, and that these cases had been divided into three classes, one of which showed a disease of the primordial cartilage. There might be a hyperplastic process in which the cartilage was uniformly enlarged, or again there might be another change in which the cartilage became softened. The disease probably began at an early age of fetal life, and ran more or less of a rapid course, with the result that there was more or less of a complete cessation of the cartilaginous growth; and instead of remaining in the cartilaginous state underwent ossification, which precluded further growth and this was the cause of dwarfism. The same condition of affairs took place at the base of the skull which developed, as all knew, from cartilage and not from membrane. The same changes occurred here as occurred at the ends of long bones and a complete synostosis was noted. When this synostosis occurred at this site growth discontinued while the vault of the skull continued to grow. A particularly striking feature was the retraction noticed at the root of the nose, caused by the cessation of growth at the base of the skull. He said Kaufmann had claimed that in a certain percentage of the cases the bones anterior to the ethmoid and sphenoid, instead of ceasing to grow, became hypertrophic, which made up for the deficiency of growth of the bone posteriorly, and there was, as a result, no retraction at the root of the nose at all. Therefore, one might see a flattened nasal region. A diagnostic point in chondrodystrophy was a lack of uniformity in the length of the limbs and trunk, the legs always remaining behind in size. Again in chondrodystrophy, there might also be a disturbance in the growth of the cartilage in the bones of the trunk and bodies of the vertebra besides the other dystrophic changes.

Dr. L. PIERCE CLARK showed some pictures of ancient historical monstrosities, idiots, Eygptian gods, etc., which he had shown in connection with a paper recently read by him before the New York Psychiatrical Society.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held April 18, 1905.

DR. CHARLES H. LEWIS IN THE CHAIR.

Report of a Case of Cerebrospinal Meningitis.—Dr. CHARLES H. LEWIS reported this case in which the points of interest were (1) the rapid course of the disease and (2) the source of the infection. If one started from the first symptom of the illness, which was in no way diagnostic in particular, the duration of the disease, from chilly feeling to death, was 29 hours; but if one counted from the appearance of characteristic symptoms from the time the clinical picture at all resembled the real disease, the duration would come well under twenty hours. As relevant to the source of the infection, it was well to state that the patient had not been off the floor on which his room was located for six months. During the past year, two cases of cerebrospinal meningitis had been treated on this floor. The first occupied a room directly opposite to this patient's room. The second occupied a room opposite a corridor in which this patient was daily wheeled, and where he spent a good part of the day. The first patient was admitted March 15 and died in two days. The second was admitted April 5 and died in twenty-four hours. If the infection came from either of these two cases, it would seem that individual susceptibility must play about the entire rôle in infection by the diplococcus intracellularis meningitidis.

Dr. J. FINLAY BELL reported a case of cerebrospinal meningitis in which the pneumococcus was the infecting agent; this was found in pure culture.

Pernicious Anemia with Exhibition of Case.—Dr. THEODORE C. JANEWAY presented this patient because he had had him under his personal observation for five years, during three of which he had been in excellent health. The history of the case dated back even nine months prior to that time. In looking over the literature he was impressed with the fact that so few cases had been followed any length of time, very few having been observed even as long as one year after discharge. The patient he presented was a man, 47 years old, who came to him at the University and Bellevue Hospital clinic in March, 1900. He had a good family history. He had specific disease 20 years before. The only previous history he gave was that of having had malaria when 11 years old, and typhoid fever 13 years ago. This was followed by jaundice which persisted for two or three years. He lost weight from 165 to 87 pounds. In 1899 he began to have diarrhea, ten or twelve passages a day; he became yellow and remained so until he saw him at the clinic. There was no blood or mucus in the stools. There was no pain. When first seen he was moderately emaciated and he had a slight jaundice. The liver was not enlarged, but there was noted a nodule on the lower border. He also had a palpable spleen. The case was first considered to be one of gumma of the liver and he was treated with bichloride and the iodides under this assumption. On that treatment the jaundice disappeared, but a rapid anemia developed within two weeks. At this date, April 16, 1900, there was 40 per cent. hemoglobin and 2,333,000 red cells. He was placed upon arsenic and sent to the hospital. No parasites were found. He made a fairly rapid recovery, gaining 10 pounds and on May 19, 1900, the hemoglobin was 62 per cent., 3,488,000 red cells and 8,500 white blood cells. Another examination made February 9, 1901, showed 75 per cent. hemoglobin, 3,376,000 red cells. He then began to have exactly the same kind of diarrhea that he had before, became tired on exertion and again came to the clinic with a dilated heart, palpable spleen, slight subcutaneous edema, but with no retinal hemorrhages. On December 31, 1901, there was found 40 per cent. hemoglobin, 1,756,000 red cells and 4,200 white blood cells. On January 13, 1902, there was 50 per cent. hemoglobin, 1,956,000 red cells and 2,200 white blood cells. There was no hydrochloric acid or pepsin in the gastric juice. He was given calomel purges and irrigations of the colon in the knee-chest position, and he again made a rapid recovery. On January 23, there was 63 per cent. hemoglobin, 2,524,000 red cells. On March 4, there was 75 per cent. hemoglobin and 3,444,000 red cells. On December 4, 1902, there was 85 per cent. hemoglobin and 3,800,000 red cells. On April 14, 1905, there was 80 per cent. hemoglobin and 3,432,000 red cells. The blood picture to-day showed a deficiency in the red cells. The patient was in perfectly good condition now, nearly six years after he had his primary pernicious anemia.

Report of a Case of Hemophilia.—Dr. HARLOW BROOKS reported this case mainly on account of certain observations that had been made concerning the blood which he thought might have a bearing on the true nature of the disease. This patient had been under his care for two years. He was 21 years old, a clerk, with a poor family history so far as the hemophilia went. For two generations the males of the families were the subjects of severe hemorrhages at times. Subcutaneous hemorrhages were often noted. The mother of the patient was alive and was 43 years old, mother of five children. At this early age the menopause had become established. The father was the subject of occasional nose bleeds. The family seemed to be very sensitive regarding the subject of bleeding. The patient was one of five children. Two of them died before the age of nine months from incontrollable hemorrhages, both having been under the care of very good men. One brother was the subject of very severe bleeding following the most trifling injury. At the age of 16 he was supposed to have an acute miliary tuberculosis starting in the knee joint, but this diagnosis was not verified by autopsy. A sister, now 14 years old, was always well except for tuberculous glands in the neck; she apparently had no tendency to unnatural bleeding. The patient had his first bleeding when nine months old, when he bled for twenty-one days. A second attack occurred when he was 18 months of age, and was uncontrollable for fourteen days. Nothing used seemed to have any effect. He finally began to have profuse hemorrhages from the gums. When three years old the chief seat of the hemorrhages was the nasal mucous membrane. Now such hemorrhages do not last more than two or three hours and seem to respond readily to adrenalin. Examination of the sputum was negative. The pulmonary changes noted he believed were due to hemorrhages within the lungs; this condition was often diagnosed as tuberculosis. The heart was slightly enlarged and the arteries were soft, but evidently not the seat of any arteriosclerosis. The muscles were wasted, especially after any severe hemorrhage. When the fingers were pressed in the skin deeply, blue spots of ecchymosis would develop. Now the joints showed the sites of the chief seats of hemorrhage especially the left wrist and left knee. Orthopedic surgeons had diagnosed them as being tuberculous. The *x*-ray examination showed the ends of the bones to be natural so far as could be told. The urine contained at times large quantities of blood. With Janeway's instrument the blood pressure was, on an average: systolic, 112; diastolic, from 60 to 70. The blood after severe hemorrhages showed such changes as occurred in moderate secondary anemia. The hemoglobin was 60 per cent., red cells 3,500,000 and leucocytes 6,000. Clot formation occurred in from six to seven minutes. The boy had been placed on colcium chloride in the hope of increasing the coagulability but without result. He was placed on ergot hypodermically, and this gave a slight temporary change, but soon it passed away. When there was bleeding from kidney, ergot did well for three or four hours, when the bleeding would return. Adrenalin usually controlled the hemorrhage when given continuously. This case he said represented fairly clearly that hemophilia was not due to any deficiency in the blood itself. There must be some deficiency in the quality of the blood-vessels. The amount of blood lost now was less than that of last year; each year the amount lost seemed to be less than the preceding year. Therefore, in this case, the prognosis should be fairly good.

Analysis of Forty Cases of Arthritis with Special Reference to the Diagnosis of Gout and Rheumatism.—Dr. Chas. C. Ransom read this paper. He said that the differential diagnosis of gout, rheumatic arthritis and gonorrheal arthritis would be a comparatively simple matter if these cases were seen in their initial attacks and if these happened to occur in the typical manner, but it was the misfortune of the clinician to see them in various stages of development, when many joints were involved and when none of the rules that we were taught to measure them by seemed to apply. He endeavored to demonstrate the difficulties of diagnosis and to show how vastly different from the book cases many of them were, as regarded their mode of onset, the joints first attacked and those ultimately affected, and to tabulate them in reference to these features. In 40 cases of arthritis which he had analyzed, 6 were of arthritis deformans, and these he omitted as not coming within the scope of the paper. The remaining 34 cases were divided as follows: gout, 20 cases; rheumatic arthritis, 6 cases; gonorrheal arthritis, 7 cases; septic arthritis, 1 case. With the exception of one case of rheumatic arthritis, all these cases were polyarticular. With reference to the joints implicated he found the metatarsophalangeal joint of the great toe affected in 40 per cent., the knee in 25 per cent., ankles in 15 per cent., instep in 5 per cent., shoulder in 5 per cent., hip in 5 per cent., phalanges in 5 per cent. These figures were at variance with those given by most writers. Ewart calls attention to a rare case in which the small joints were not first affected, whereas 55 per cent. of these cases had their beginning in the large joints. Of the joints ultimately affected the disease was limited to the small joints in 15 per cent., to the large joints in 20 per cent., and affected both large and small joints in 65 per cent. of the cases. Here were found more cases limited to the large than to the small joints. Of the rheumatic cases the joints first affected were the ankle in 50 per cent., the knees in 33 per cent., and the hand and wrist in 16 per cent. Of the joints ultimately affected the disease was limited to large joints in 50 per cent., to small joints in no instance, and affected both large and small joints in 50 per cent. In none of these cases were the great toe joints involved. The small joints involved were those of the upper extremities. The cases of gonorrheal arthritis gave the following: Joints first involved, hand and wrist in 43 per cent., knees in 28 per cent., ankles in 14 per cent., and great toes in 14 per cent. Of the joints ultimately involved in gonorrheal arthritis it was limited to the large joints in 43 per cent., to the small in no case, and affected both large and small joints in 67 per cent. Among these cases the vertebræ were affected in two instances, temporomaxillary joint in one instance. It could readily be seen that from the physical condition alone in a large number of these cases a diagnosis would be impossible. This was especially true where gout affected the large joints. Dr. Ransom cited the history of the onset in four cases as illustrative of his statement that it was much easier to diagnose these cases in the beginning than later and also to show that the classical picture might be wanting even at that time. He cited one case as illustrative of the necessity in all cases of arthritis to make careful inquiry into the presence of urethral or vaginal discharge, and when any existed to supplement inquiry by personal examination. Of the four acute cases cited two were in their mode of onset and history sufficiently obscure to make a wrong diagnosis possible. If in 50 per cent. of acute cases and 65 per cent. of chronic cases of arthritis it was impossible to make a correct physical diagnosis, we might ask what chance of relief there was for these sufferers. Fortunately, we had two remedies which aided us without working any injury to our patients, and which would enable us to make a correct diagnosis within a few days. He referred to salicin in rheumatism and colchicin in gout. He gave the following conclusions based upon several years' experience with these drugs: In true rheumatic inflammations salicin was a specific. The average duration of an attack of acute rheumatic arthritis, when treated with salicin, was 50 hours. To get its specific effect it must be administered in five doses, at least 20 grains every hour. It was non-toxic and non-irritating, and large doses were followed by no ill effects, consequently it was vastly superior in these affections to salicylic acid or any of the salicylates. It could be used in subacute and chronic cases with equally good effect, though its action was not so prompt. It had very little, if any, effect in arthritis due to gout, and was, therefore, of great value in differentiating these conditions. In a doubtful case of arthritis after 72 hours' treatment with salicin, if the symptoms had not materially lessened, it was safe to assume that the disease was not rheumatic. In true gouty arthritis colchicin was a specific. Its effect in acute cases of gout was quite as prompt as that of salicin in rheumatism. It was also of great value in subacute and chronic conditions. In large doses it was a toxic and a decided irritant to the gastrointestinal tract, but to get its full effect it was not necessary to carry it to the point of active purgation. In heart disease and nephritis it might be used with safety. Colchicin had absolutely no effect upon either rheumatic or gonorrheal arthritis.

Dr. Wisner R. Townsend believed that the *x*-ray examination gave no data of value in differentiating between rheumatic and gonorrheal joint affections. But in the more chronic cases there were very valuable data to be had. The treatment in all cases seemed to be immobilization of the joint involved; this not only would tend to relieve the symptoms, but it would prevent any complications which so often followed, *i.e.* ankylosis or false positions.

On the Impossibility of Differentiating So-called "Paratyphoid" from Typhoid Fever Except by Bacteriological Examination of the Blood.—Dr. Warren Coleman presented this paper, in which he endeavored to prove that paratyphoid and typhoid fevers were identical clinically and that they could be differentiated only by the recovery of the bacillus concerned from the blood. He had expressed the opinion that there was as great a diversity among the different types of typhoid fever as between typhoid fever and paratyphoid infections and that the idea of specificity of typhoid fever should be abandoned and the scope of its etiology should be broadened to include

B. alkaligenes fecalis, B. typhosus, B. paratyphosus, and certain numbers of the paracolon group. Further experience had convinced him of the correctness of this opinion. He included *B. alkaligenes fecalis,* lying just without the group on the typhoid side, because it had produced typhoidal symptoms. The other members of the group were *B. typhosus,* the paratyphoid bacilli, which were not identical either in biological or serum reactions, the paracolon bacilli, which likewise differed among themselves, *B. enteritidis,* consisting of different strains, *B. pstittacosis,* and *B. coli communis.* All of these had produced diseases characterized by typhoidal symptoms, with the possible exception of *B. coli communis.* These were distinct diseases from the bacteriologist's standpoint, but were not necessarily clinical entities. The pathological anatomy of the cases of infection which had come to autopsy had differed from that of typhoid fever. Peyer's patches had escaped, though four of six cases showed intestinal ulcers. A positive clinical diagnosis of even a typical case of typhoid fever was beset with difficulty, as no case was typical until it had finished its course. Some of the reported cases of paratyphoid infection had been described as typical attacks of typhoid fever. Some had been mild and some severe. There had been no symptom of typhoid fever constantly absent and there had been no symptom constantly present that we might not get in typhoid fever. All that it could claim as a distinct disease was that the cases were milder and of shorter duration, that the mortality was lower, and that some complications, as myositis and purulent arthritis, were more frequent. He thought that the majority of short duration cases were caused by some member of the typhoid-colon group of bacilli. The time had even come when we must take into consideration the possibility of the occurrence of primary systemic infection by the colon bacillus itself. The argument that cases of paratyphoid fever had been of short duration would not distinguish them from typhoid clinically. In a number of cases of short duration the diagnosis was placed beyond dispute by the recovery of typical typhoid bacilli from the blood. One lasted ten days and another fourteen, and their symptoms corresponded perfectly with those of some of the reported cases of paratyphoid. A negative serum reaction in a case of suspected infection by some member of the typhoid colon group meant only that the agglutins had not developed in sufficient quantity to give the reaction. Variability in the time of appearance of the reaction was well known. Even a positive reaction with a paratyphoid bacillus at higher dilution than with *B. typhosus* did not prove that this bacillus was the cause of infection. Grünbaum and Jolly had recently published a paper on the inconclusive nature of the results of the agglutination reaction in cases of typhoid fever. He tested the reactions in the blood of positive typhoid cases against paratyphoid bacilli and obtained agglutination in 70 per cent. of the cases examined. In some cases the paratyphoid bacilli agglutinated at higher dilution than typhoid bacilli. In 55 per cent. of the cases a colon bacillus reacted with the sera and *B. enteritidis* (Gaertner) in 22 per cent. He said this only confirmed what had been demonstrated some years ago, that the reactions of the typhoid-colon group were special and not specific. It was necessary to exercise caution in drawing conclusions even from positive reactions. The diagnosis of paratyphoid infections concerned the bacteriologist more than the physician. A successful bacteriological examination of the blood became then the only final criterion of diagnosis in the differentiation of infections by various members of the typhoid-colon group of bacilli. The following conclusions were drawn: (1) That paratyphoid infections could not be distinguished from typhoid fever except by the recovery from the blood of the bacillus concerned, and its proper identification. (2) That the present state of our knowledge made it advisable to consider typhoid fever, clinically, as a disease which might be caused by several members of the typhoid-colon group of bacilli. (3) That the term "paratyphoid fever" was not only unnecessary, but misleading.

Drs. W. Gilman Thompson, S. J. Meltzer, Morris Manges, James Ewing, William H. Park, and E. Libman discussed this paper.

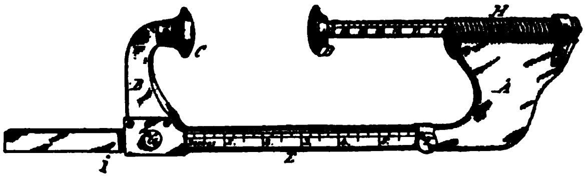
New Instruments.

A NEW TENSION METER.

By A. G. Field,
Des Moines, Iowa.

In atrophy of limbs from paralysis or traumatic injury it is customary to grasp the limb and depend upon the sense of pressure to determine the extent of softening.

The accompanying illustration shows an instrument devised to determine with mechanical precision the extent or degree of softening by measured resistance to pressure. It is applicable in diagnosis and prognosis, and also in normal athletic development. It consists of a shaft, upon one end of which is mounted a coiled wire spring, *h*, the strength of which is ascertained and represented in pounds by numbers upon the rod extending through the spring which carries the knob, *d*. The other end of the shaft carries the sliding arm, *b*, with knob, *c*. The thin brass scale, *e*, is graduated in inches. It is pivoted to the sliding band with set screw *f*, at one end, the other passing through the clasp of the arm, *b*, terminates with a clip, *i*, behind the clasp, to hold the arm.



For use hold the instrument in the right hand by the pistol-like handle, *a*, with knobs up, both set screws *f* and *g* loose, and adjust the knobs loosely to opposite sides of the limb to be examined. Secure the sliding arm *b* in position by tightening the set screw *f*. The muscles being relaxed, slide the arm *b* along the scale one inch and tighten the set screw *g*. The rod carrying the knob *d* gives the force in pounds required to make the one inch indentation in the limb, of which make note. Without moving the instrument, require the subject to contract the muscles of the limb. The rod will give the expansion force in pounds resulting from the muscular contraction, of which again make a note. We thus have the measure of resistance in both the passive and active condition of the muscles.

While a paralyzed limb registers very low, proportioned to the extent of atrophy, that of an athlete will register up to or possibly beyond the capacity of the instrument.

The Sterilization of Women.—Reifferscheid says Küstner has recently reported two cases in which he performed vaginal fixation of the uterus, combined with sterilization by the excision of a short piece of each tube at its uterine extremity and shallow excision of the uterine stump. Notwithstanding these apparently radical procedures, both patients became pregnant, and, owing to the nature of the uterine operations that had been done, abortion had to be induced. The author's case was that of a woman at whose second cesarean section a portion of each tube was similarly excised, but some years later she returned pregnant and indignantly presented a written statement given to her on her discharge from the hospital, to the effect that further conception would be impossible. It is apparently essential in order to prevent such accidents to remove the entire length of each tube and to excise a deep wedge from each uterine cornu.—*Zentralblatt für Gynäkologie.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 3, 1905:

	Cases	Deaths
Measles	727	17
Diphtheria and Croup	320	27
Scarlet Fever	152	14
Smallpox	1	.....
Chickenpox	113	.....
Tuberculosis	393	142
Typhoid Fever	38	4
Cerebrospinal Meningitis	71	60
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,815	264

Digestive Disturbances.—J. Henry Schroeder states that digestive disorders may be the result of organic disease of the digestive organs, of functional disturbance, either primary or secondary, or of faulty diet. They may be associated with psychic conditions which have a depressing influence upon the body functions. When these disturbances are present, there does not necessarily exist any interference with the chemical process of digestion, either in the stomach or intestines, for the disorder may show itself chiefly by subjective symptoms, such as pain and discomfort. Examination of the patient may prove that the trouble is intestinal, or a reflex manifestation of disease or anomaly in other organs. Chronic digestive disorders that are the object of special observation usually occur in adults. However, children are not exempt. In childhood, the diet is more easily controlled than it is later, and the environments are better, thus urgent symptoms do not always arise. The writer describes a case of chronic gastritis with atony and dilatation in a child. Treatment consisted of lavage and withdrawal of all food for twenty-four hours. Later, lavage and properly regulated bland food were given. The stomach symptoms rapidly subsided. Functional disturbances of the stomach, which are similar to those associated with organic diseases, are classified as neuroses. Disturbances of the secretory function of the stomach, due to neuroses, according to the writer, may, or may not, be accompanied by gastric symptoms. A hypersecretion of acid or gastric juice may be associated with very distressing symptoms. "Heartburn" is familiar to all. At some times the symptoms are very suggestive of gastric ulcer. Subjective symptoms in these troubles may be suggestive, but conclusions concerning the case cannot be based upon them alone. The methods of careful examination which have been so carefully worked out should never be neglected.—*Lancet-Clinic.*

An Undescribed Form of Ulceration of the Large Intestine, Probably of Amebic Origin, Causing in Some Cases Abscess of the Liver.—T. G. Mugliston and G. D. Freer describe the condition of patients suffering from this affection as follows: There may be little or no fever in uncomplicated cases. The patient as a rule states that he has not felt well for a week or more, and that he has undefined pains in the abdomen, and that his motions are more frequent than usual. The temperature is generally about 99° in the morning and 99.5° at night. It some cases it is normal all day. The stools are not offensive, but are full of jelly-like slime, with a few streaks of blood. Some tenderness exists over the ascending and transverse colon. If the patient stays in bed, and adheres strictly to a milk diet, the motions will generally become healthy within three weeks. If, however, he keeps about, he is finally attacked by rigors, accompanied by a rapid rise of temperature to 104° or 105°. Severe pain, which increases day by day, is felt over the hepatic region, and other symptoms of liver abscess develop. Although an abscess may be present at this stage, it may be very difficult to find, and if found, difficult to treat satisfactorily. The writers believe that these cases are more common than is supposed. Some may even be of the ambulatory type and entirely escape notice. All of the noticed cases have been so far in Europeans. The writers describe two cases, both of which were fatal. The dysenteric condition was associated with liver abscess, and toward the end with uncontrollable hemorrhage from the bowel. At the post-portem examination, instead of the ragged, irregular ulceration affecting a considerable part of the large intestine as would have been expected, there were present in the cecum and adjacent part of the ascending colon a few symmetrical ulcers, round or oval in shape, with raised rounded edges somewhat undermined. They resembled typhoid ulcers of the small intestine. Examination of the liver of the second patient after death revealed the presence of amebas in the necrosed tissue at the edge of the abscess. —*The Journal of Tropical Medicine.*

Protection Against X-Rays.—It has been found by Barrett that certain substances or bodies of high molecular weight are opaque to the rays. He proposes gloves with a space filled with iodoform as lighter than those leadlined and quite as efficient. It would seem, however, that the odor might be almost as objectionable as a mild burn.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending June 3, 1905:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Arkansas, Fort Smith	Mar. 11–Apr. 22	8	..
Florida, Jacksonville	May 20–27	1	..
Illinois, Chicago	May 20–27	26	..
Galesburg	May 20–27	2	..
Louisiana, New Orleans	May 20–27	11, 2 Imp'td.	
Massachusetts, Lowell	May 20–27	5	..
Quincy	May 13–20	1	..
Michigan, Detroit	May 21–28	2	..
Grand Rapids	May 13–27	41	8
Missouri, St. Joseph	May 20–27	12	..
St. Louis	May 20–27	3	..
Montana, Butte	May 14–21	1	..
Nebraska, Omaha	May 20–27	3	..
South Omaha	May 12–19	3	..
New Hampshire, Manchester	May 20–27	1	..
Nashua	May 20–27	2	..
Pennsylvania, Lebanon	May 20–27	1	..
York	May 20–27	16	..
Tennessee, Memphis	May 20–27	5	..
West Virginia, Morgan County	Oct. 31, 1904–May 25, 1905	200	..
Wisconsin, La Crosse	May 20–27	2	..

SMALLPOX—INSULAR.

Porto Rico, San Juan	Apr. 1–30	(Present.)	

SMALLPOX—FOREIGN.

Africa, Cape Town	Apr. 8–15	4	..
France, Lyon	May 6–13	1	..
Paris	May 6–13	20	2
Great Britain, Bradford	May 6–20	9	..
London	May 6–13	2	..
New-Castle-on-Tyne	May 6–13	7	..
Nottingham	Apr. 29–May 6	..	1
South Shields	Apr. 29–May 6	2	..
India, Bombay	Apr. 25–May 2	..	63
Karachi	Apr. 16–30	27	11
Italy, Catania	May 11–18	..	4
Cosenza Province	Apr. 30–May 4	2	..
Lecce Province	Apr. 20–May 4	7	..
Milan Province	Apr. 20–May 4	2	..
Messina Province	Apr. 20–May 4	1	..
Mazzarino	Apr. 20–May 4	1	..
Palermo	Apr. 29–May 13	12	3
Potenza	Apr. 20–May 4	2	..
Siena	Apr. 20–May 4	2	..
Syracuse	Apr. 20–May 4	5	..
Villenza	Apr. 20–May 4	2	..
Russia, Moscow	Apr. 29–May 6	5	2
Spain, Barcelona	May 1–10	..	6
Cadiz	Apr. 1–30	..	1
Turkey, Constantinople	May 7–14	..	2
West Indies, Bridgetown	May 9	1	Probably imported.

YELLOW FEVER.

British Honduras, Belize	May 25–June 4	4	4
Honduras, Puerto Cortez	May 25–29	5	3
Mexico, Tierra Blanca	May 14–20	..	1
Panama, Panama	Jan. 1–May 13	63	22

PLAGUE.

Africa, East London	Mar. 18–25	3	..
Egypt, Tukh District	Apr. 15–22	..	1
	Apr. 22–29	2	..
Great Britain, Leith	May 6–13	3	1
India, Bombay	Apr. 25–May 2	..	822
Karachi	Apr. 16–30	483	422
Madras	Apr. 22–28	..	1
Japan, Formosa	Apr. 20–30	238	210

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Original Articles.

THE CARBON FACTOR IN GOUT: "HYPERPYREMIA."

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IF we take as an average normal diet the mean of Moleschott's, Ranke's, Pettenkofer's, and Voit's diets for a man in ordinary work, we obtain proteid 4.31 ounces, fats 3.35 ounces, and carborydrates 11.71 ounces (B. Yeo).[1] One-third of the proteid (1.43 ounces), containinng a little carbon and practically all the nitrogen, is rapidly discharged as urea (M. Foster).[2] The remaining two-thirds of the proteid (2.88 ounces), together with all the fats and carbohydrates, contain carbon but no nitrogen. Thus, 93 per cent. of the total food supply is non-nitrogenous: neglecting the hydrogen, we may refer to it more conveniently as "carbonaceous."

In ordinary circumstances, the carbon income of the blood depends upon the carbon intake and upon the efficiency of the functions of digestion and absorption (oral, gastric, and intestinal)—functions which it will be convenient to speak of conjointly as "carbonization."

In ordinary circumstances, the carbon expenditure of the blood comprises combustion, which is a catabolic function of the nitrogenous tissues; various constructive processes, such as fat formations, uterogestation, and the formation of certain secretions (milk, bile, sebum, etc.), all of which may be classed as anabolic functions of the nitrogenous tissues; and a certain amount of direct loss in the physiological process of menstruation. All these processes may be spoken of collectively as "decarbonization,"[*] and separately as catabolic, anabolic, and hemorrhagic decarbonization.

We may fairly suppose that a near approach to uniformity in the composition of the blood as regards its contained carbonaceous material is a physiological essential; and such must depend upon accuracy of balance between carbonization and decarbonization. Such accuracy is always assumed. It is said, for example, that carbonaceous material absorbed but not utilized in the development of force and heat, is of necessity stored extravascularly mainly in the form of fat; and, conversely, that carbonaceous material absorbed but not stored extravascularly, is of necessity oxidized and excreted as carbonic acid. This assumption implies an invariable adequacy of the physiological functions concerned. But it seems a larger assumption to postulate an invariable adequacy than an occasional inadequacy. And a long consideration of the laws of carbonaceous metabolism (in so far as they are known) has served to convince me that not infrequently the metabolic balance referred to is inaccurate—that in many circumstances, decarbonization is prone to fall behind carbonization, with the result that carbonaceous material accumulates in the blood to an ultra-physiological or pathological degree. The à priori probability that this occurs at times seems to me extreme, but the arguments in support cannot here be considered through lack of space. To the hypothetical blood state implied, I have for convenience applied the term "hyperpyremia" (Greek πυρεῖα-fuel). Consistently we may use the term "pyremia" to denote the condition of the blood which contains carbonaceous material not in excess of the physiological capacities of the organism.

The chemical constitution of the hyperpyremic load is of course matter for surmise. It may consist of a mere quantitative increase of the compounds which constitute pyremia; it may consist of a complex condition including quantitative departures from pyremia; and it may vary in different cases. All we have a right to suppose is that the hyperpyremic load is primarily carbonaceous. But it is certain that hyperpyremia is not identical with hyperglycemia. The latter is stated to lead in all cases to glycosuria; and glycosuria, as I shall point out, is for the most part antagonistic to the presumed clinical manifestations of hyperpyremia.

It is inconceivable that a progressively increasing hyperpyremia can continue indefinitely. We have to consider therefore by what means the increase is checked or the condition dispersed. It is useless to search in the domain of physiology, since the term hyperpyremia implies the failure of physiological action. Manifestly we have to prosecute the search in the domain of pathology.

The number of pathological processes which would be capable of dispersing hyperpyremia is large. But it will suffice to refer to a few, namely, bilious attacks, migraine, gastralgia associated with anorexia, asthma, major epilepsy, and acute articular gout. All these recurrent processes can be shown to arise in some cases under conditions which would tend to cause hyperpyremia, and it can be shown that they are susceptible in many cases of mitigation, in some cases of complete suspension, by conditions which would be capable of dispersing hyperpyremia. Further, it can be shown that they themselves tend to disperse hyperpyremia. To this end they operate in different ways. Bilious attacks, migraine, and gastralgia, associated with anorexia, operate mainly by means of restriction of income. Asthma, major epilepsy, and acute articular gout operate mainly by means of increase of expenditure; the first two through exaggerated muscular exertion, the last through pyrexia.

All these affections, therefore, may be regarded provisionally in some cases as pathological capacities—as pathological reinforcements of inadequate physiological function. We could not indeed term them all pathological *de*carbonizing processes, because, as pointed out, some operate, not through increase of expenditure, but through restriction of income. We might, however, group them all under the more inclusive term "pathological *a*carbonizing processes."

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[*] The term decarbonization has been applied to the excretion of carbonic acid from the blood through the lungs. In this article, it is of course used in a different sense, namely, to include all the processes whereby the blood is relieved of the unoxidized carbonaceous material constantly being supplied from the alimentary canal.

The evidence in support of this conception is in the main clinical, and therefore circumstantial. But it is extremely large, covering as it does the literature of medicine from the time of Hippocrates to the present day. In a work shortly to be published,[3] I have extracted and endeavored to arrange in logical sequence a small portion of this evidence. To attempt more would necessitate at least one lifetime and a work of encyclopedic dimensions.

Meanwhile the evidence which applies to acute articular gout may be briefly sketched. This, as will be seen, consists of long known and well authenticated observations looked at from a new standpoint and rearranged accordingly.

Evidence that Acute Articular Gout Depends Upon Hyperpyremia.—This may be generalized: Conditions presumably tending to cause hyperpyremia whether through increase of income or through restriction of expenditure, are favorable to the development of gout and may increase the gouty manifestations; conditions presumably tending to disperse hyperpyremia, whether through restriction of income or through increase of expenditure, are hostile to the development of gout, and may succeed in diminishing or dispersing the gouty manifestations.

Food and Dietetic Treatment.—As already stated, the carbonaceous income of the blood depends upon the carbonaceous intake and upon the efficiency of the carbonizing functions. The efficiency of the carbonizing functions depends on the efficiency of all functions, and fundamentally upon the proteid intake (Parkes).[4] As is well known, "when an animal is fed simply on non-nitrogenous food . . . the food rapidly ceases to be digested and starvation ensues" (M. Foster).[5] Hence the diet most certain to cause hyperpyremia would contain proteid in amount sufficient to maintain efficient the carbonizing functions, together with an excess of carbonaceous material. Such would constitute not an almost purely animal diet, nor an almost purely vegetable diet, but a heavy mixed diet, just such a diet indeed as has always been regarded as the worst for gout. Conformably, Woods-Hutchinson has recently pointed out that "an excess of starches and sugars with a moderate amount of nitrogenous elements in the diet will promptly produce gout in susceptible subjects;"[6] and that the only lower mammal in which gout occurs is the omnivorous pig. It is needless to multiply evidence of the influence of a heavy mixed diet in gout, such being generally admitted.

The prejudicial influence on gout of alcohol *per se* is disputed. But all are agreed that alcoholic beverages containing soluble carbohydrates are especially harmful. Malt liquors are now condemned by all. Port wine is notoriously bad: it contains glucose, the variety of sugar requiring least peptic change for absorption; and alcohol increases the absorption of sugar from the stomach (Schäfer).[7] The sugars generally seem more prejudicial than the starches. Probably this depends in part on their more facile absorption. All these observations are consistent with the view that gout depends upon hyperpyremia.

Consistent also are two seemingly opposed plans of dietetic treatment which have been advocated in gout. It is generally recommended to restrict very largely the intake of meat and other nitrogenous food-stuffs. Besides diminishing the intake of uric acid-forming material (an effect to be considered later), such would diminish the carbonization of the blood and thus tend to disperse hyperpyremia through an *impairment of function.* But Cantani and others have advised the restriction of sugars and starches, and prescribed a diet consisting largely of meat and green vegetables.[8] Such would involve, not an impairment of any function, but a marked diminution of the carbonaceous intake. Thus hyperpyremia would tend to disappear through a *diminution of supply.*

Exercise.—Foster says: "One hour's hard labor will increase five-fold the quantity of carbonic acid given off within the hour."[9] This is due not merely to increased exhalation of pre-formed carbonic acid from the blood, but to an increase in the rate of combustion whereby more carbonic acid is produced. Hence exercise promotes catabolic decarbonization, and is an efficient means of preventing or dispersing hyperpyremia. And it will be admitted by all that a physically active life is a preventive of gout. Gout "shuns the stout and healthy laborer . . . it seldom visits the active and athletic sportsman" (Gairdner).[10] But instances are recorded in which a fit of gout, impending or actually developed, has been aborted by exercise. Cullen, Gairdner,[11] and Duckworth[12] refer to cases in point.

On the other hand, gout "seizes the fat and dull farmer" (Gairdner).[13] Sydenham said: "The omission of any customary exercise brings it on," and "whenever I returned to my studies, gout returned to me."[14] Fothergill points out that indolence, whether voluntary or enforced, as by an accident, is an important factor in gout.[15]

Temperature.—Cold bathing is a powerful stimulant to combustion; and it seems probable that at least in some circumstances hot bathing tends to exert an opposite influence. If so, hot bathing would tend to precipitate hyperpyremia. Conformably Bannatyne has more than a suspicion that the acute arthritic outbreaks which so often follow spa treatment depend upon the "thermal action of the mineral waters when used externally."[16] He has seen them determined by plain hot water baths in those who were having no mineral treatment at all. Garrod has "seen a severe attack of gout brought on by taking a hot bath soon after dinner";[17] here the sudden diminution of expenditure would immediately succeed a sudden increase of income. And Henry Rayner, speaking of a stuporous lunatic with suppressed gout, says: "Hot air-baths were given . . . under their use, he soon developed severe acute attacks of gout."[18]

Diurnal Pyremic Fluctuations.—There is a regular fluctuation in the rate of combustion throughout the diurnal cycle. This may be gauged with probable accuracy by the temperature. At noon, and for some time thereafter, the temperature is at its maximum; during the small hours of the morning it sinks to its minimum (Jürgensen, Liebermeister.)[19] But the fluctuation in combustion is rendered certain by estimating the heat production. During the day from 216,960 to 140,000 calories, according as the subject is working or resting, are produced per hour; while during sleep the hourly production falls to 40,000 calories., (Lockhart Gillespie.)[20]

On the hyperpyremic theory, the time of onset of the acute gouty paroxysm—2 A. M., Sydenham; 1 to 4 A. M., Ewart—is readily explained. In ordinary circumstances, the carbonaceous income of the blood from the ailmentary canal is continuous though not of course uniform. Hence the tendency to hyperpyremia would depend in large degree inversely upon the rate of expenditure. Combustion is the most important form of expenditure, and therefore, hyperpyremia would most probably attain its climax at such time as combustion sinks to its minimum.

Menstrual Pyremic Fluctuations.—It has been stated that the menstrual flow is one form of carbonaceous expenditure; and did space permit, a long series of facts* could be adduced to show that nonpregnant adult women depend upon this hemorrhagic decarbonization to avert a recurring menstrual tendency to hyperpyremia. Conformably Hippocrates said: "Mulier podagrâ non laborat nisi ipsi menstrua deficerint."[21] And Garrod admits "that it is not uncommon to find . . . the sudden stoppage of the catamenia immediately followed by a paroxysm."[22] Again, gout in women is most liable to arise shortly after the menopause (Garrod).[23]

Fat-formation.—A powerful anabolic capacity for fat-formation would be an important safeguard against hyperpyremia; and gout has been known to disappear from an erstwhile meager patient who as a result of change of air or other tonic influence has increased his capacity to construct fat and become obese. Savill records the case of a man who had suffered severely in past years from gout, but who became obese and thereupon ceased to suffer from arthritis.[24] It may be, of course, that the gout disappeared as a result of a change of diet, which change led to the obesity; but it is open for us to look upon the sequence of events as above suggested. Under this view rapid fat-formation and acute gout would both be acarbonizing processes (physiological and pathological respectively), capable of replacement, the one by the other.

Hemorrhage.—Hemorrhage other than that of menstruation would tend in the first place to disperse hyperpyremia; and Celsus pointed out that bleeding at the commencement of the attack caused some patients to remain free from gout for a year, some even for life.[25] Gairdner made a similar remark.[26]

Much evidence could be adduced to show that some persons (male not less than female) come to depend upon recurrent hemorrhage—epistaxis, hematemesis, hemoptysis, hemorrhoidal bleeding, hematuria, etc.—in order to meet a tendency to hyperpyremia. And Garrod says that the sudden suppression of an accustomed discharge of blood is often the immediate antecedent of a gouty paroxysm. Trousseau called attention to the danger—well recognized in his time—of interfering with habitual fluxes which he regarded as supplementary functions.[27]

Glycosuria.—We may suppose that in glycosuria the organism has acquired a new outlet for one form of carbonaceous material. On this view glycosuria would tend to antagonize hyperpyremia. It certainly tends to antagonize acute articular gout. Garrod saw several cases in which the supervention of glycosuria terminated gouty attacks which had been long recurrent.[28]

Plumbism.—Broadbent suggests that in this affection, the lead salts form compounds with organic matter, "albuminates of lead."[29] Such occurring in the active nitrogenous tissues, would in all probability damage the decarbonizing capacities, catabolic and anabolic, and so conduce to hyperpyremia. And the frequent occurrence of gout in plumbism is too well known to demand further evidence.

Paroxysmal Neuroses.—The inverse relations between acute gout and the paroxysmal neuroses have been recognized by a long series of physicians, including Henry Horland, Scudamore, Trousseau, Todd, and Livering.[30] Tissot referred to the relation of gout to migraine "as a matter of general observation."[31] Trousseau spoke of the two affections as "twin sisters," and referred to a case in which "attacks of asthma periodically alternated with attacks of articular gout."[32] Van Swieten related a case in which regular attacks of gout completely replaced recurrent epilepsy, which had followed recurrent gastralgia.[33] Garrod saw similar alterations, and quotes a remarkable case in point of Robert Wilson's. "A gentleman had suffered from epilepsy from the age of 20 to 52; the fits were frequent, sometimes occurring as often as once a week. He then had distinct articular gout in one great toe and afterwards experienced attacks of the same kind from time to time up to his death at the age of 72. From the first manifestations of decided gout, there was an entire cessation of the epileptic convulsions."[34]

As already stated, much evidence can be adduced to show that migraine, asthma, and major epilepsy own in some cases a common factor in hyperpyremia and constitute acarbonizing processes. On the hyperpyremic view of acute gout, but not so far as I can see on any other, all the inverse relations above enumerated can be explained. The four affections depend upon a common cause and exert a common effect. Their long-recognized affinity depends upon their common cause; it may be regarded as the affinity of blood relationship. But they are in a sense antagonistic, since, having a common effect, there is a certain improbability that more than one of them will be demanded in the one case; this antagonism may be regarded as one of mutual rivalry. There is a task open for competition and the successful competitor will be determined by the personal and environing factors of the individual. In other words, these diverse affections represent pathological capacities of different individuals.

Evidence that Acute Articular Gout is an Acarbonizing Process.—There is sufficient evidence to show that acute gout would be capable of dispersing hyperpyremia. It has been demonstrated experimentally that pyrexia depending on several different causes increases the rate of combustion and the output of carbonic acid (Liebermeister, Leyden, Fränkel.[35] Acute gout is a pyrexia lasting from two to ten days (Duckworth).[36] This suggests that acute gout increases the rate of combustion, and such has been demonstrated. "During the acute attacks, Magnus Levy has shown that the oxygen intake may be increased by 5 to 10 per cent." (I. Walker Hall.)[37]

Now the salutary influence of the acute gouty paroxysm has long been recognized. After such an attack there is often "a total or permanent cessation from those symptoms which are supposed to depend upon impurity of the blood" (Ewart).[38] In short, in the words of Laycock, gout is an excretory fever (Duckworth).[39] And further the patient can safely count thereafter upon a considerable period of immunity from arthritic attacks.

That the pyrexia is essential to the salutary action is shown in many ways. "The improvement which succeeds the attack is, as a rule, proportionate to the degree of febrile reaction" (Braun).[40] In acute asthenic or *subacute articular* gout there is "little heat or redness and all febrile disturbance may be absent" (Garrod).[41] This form, most common in women, is, Garrod avers, much more injurious than acute sthenic gout.[42] In *chronic articular* gout in which there is commonly neither redness, increased heat, nor pyrexia, the patient remains as a rule frankly cachetic; and Klemperer, Levy, and others have failed to demonstrate any material variation from the normal rate of combustion (I.

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* These are set forth in the work already referred to.

Walker Hall).[43] Again, "it is . . . a well-known observation that gouty patients often remain for a long time free from paroxysms after a febrile malady of however foreign a nature" (Braun).[44] "In this way various acute febrile diseases and inflammations, like tonsillitis, bronchitis, rheumatism . . . afford great relief from the constitutional symptoms of arthritism" (Henry M. Lyman).[45] And finally it has been frequently pointed out that drugs, more especially colchicum, which cut short the arthritis and so the pyrexia, tend to prevent the amelioration in the general health which usually succeeds the uninterfered with acute attack, and to shorten the ensuing period of immunity from arthritic paroxysms (Trousseau,[46] Gairdner,[47] Fothergill,[48] and others).

Mechanism of Acute Articular Gout.—Garrod showed that "in true gout uric acid in the form of urate of soda is invariably present in the blood in abnormal quantities, both prior to, and at the period of, the seizure";[49] that at this time the elimination of uric acid as measured by the twenty-four hours excretion, is diminished;[50] "that the acid is thrown out in much larger quantities as the disease is passing off, and that then amounts even above the patient's daily average may be excreted, forming the so-called critical discharges; and that after a time the uric acid is again lessened, although not to the extent observed prior to, or at the commencement of, an attack.[51] Some more recent observers (Lecorché,[52] Futcher[53]) place the maximum excretion of uric acid earlier in the attack. These differences are of degree only, and may be neglected here. All it is necessary to admit is that uric acid is being retained in the blood prior to, and at the onset of, the attack, and is excreted in excess later.

We have seen reason to assume that in gout hyperpyremia is an essential factor, and that the paroxysm is an acarbonizing process. How, then, bearing in mind the facts demonstrated by Garrod, can we avoid the inference that the hyperpyremia is in some way responsible for the uric acid retention in the blood, and that the acarbonization permits of the free renal elimination of the uric acid. To me the inference seems almost irresistible, even though we remain long ignorant of the mechanism of such retention and releasement. Garrod sought to explain the retention of uric acid by assuming a temporary failure of excretory power on the part of the kidney. But this explanation seems inconsistent with the rapid recovery of free excretion which ensues under pyrexial conditions. We are now called upon to assume that the overloaded condition of the blood is of such a nature that the kidney is unable to exert fully its selective function upon it, in so far, that is to say, as concerns the contained uric acid. In short, we transfer the blame for the excretory failure from the kidneys to the blood.

Normal secretion or excretion depends upon at least two conditions: (1) a proper quality of the blood—supply; and (2) a proper capacity on the part of the organ concerned—function. In the event of an unexplained failure arising, it is as reasonable to blame the one as the other—the supply as the function. Our assumption then is not more audacious than that of Garrod, while it has this clear advantage, namely, that it explains, as no other assumption hitherto has explained, why and how the temporary renal disability comes to a natural termination.

The renal disability, depending on hyperpyremia, is terminated by acarbonization of the blood. Acarbonization depends upon the pyrexia; for when pyrexia is absent, as "in very chronic gout, the blood, even in the intervals between the exacerbations, was always discovered to be rich in uric acid" (Garrod).[54] The pyrexia depends upon the arthritis, for the intensity of the febrile reaction is proportionate to the degree of local pain (Braun),[55] and contrary to what obtains in rheumatism, to the number of joints affected (Charcot).[56] As regards the arthritis, we may continue to believe that it depends upon the sudden precipitation of biurate of soda in the sensitive articular structures. And the precipitation may be regarded, now as heretofore, as in the nature of an overflow from the sanguineous accumulation. I am aware that it has been stated that the blood is never saturated with uric acid in gout. That possibly applies to normal blood; but it by no means necessarily applies to the blood in hyperpyremic conditions. If hyperpyremia diminishes the excretability of uric acid, it is certainly not inconceivable that it may diminish also its solubility.

On the view adopted in this article, the steps in acute gout may be epitomized as follows:

1. Hyperpyremia from excess of carbonaceous income or deficiency of carbonaceous expenditure.
2. Progressive accumulation of uric acid in the blood—uricemia.
3. Deposition of a portion of the uric acid in a joint.
4. Acute arthritis.
5. Pyrexia involving increased combustion.
6. Acarbonization of the blood.
7. Free renal elimination of uric acid retained in the blood.
8. Recovery by the blood of its solvent power for uric acid.
9. Reabsorption of the extravascular articular deposits of uric acid.

Thus the acute gouty paroxysm may be regarded as a "pathological function"—as a conservative reinforcement of inadequate physiological function; and uric acid may be regarded as an essential instrument therein.

The weak point in this hypothesis as above stated is the unsupported assumption that hyperpyremia and its dispersion are responsible for uricemia and its dispersion respectively. But a considerable amount of quite independent evidence can, and later will, be brought forward to show that all conditions tending to cause hyperpyremia tend to cause uricemia, and that all conditions tending to promote acarbonization tend to cause free renal elimination of uric acid. Such evidence must be deferred, however.

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REMOVAL OF THE LENS IN MYOPIA.

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ABLATIO lentis, or removal of the lens in high degrees of myopia, is now a well-established feature in ophthalmic surgery. This article will deal with a case of bilateral ablatio lentis and enter upon a somewhat detailed study of the subject in general.

Mary F., age 16, was first seen by me when 9 years of age. The degree of myopia present was very high, amounting, as nearly as I could estimate, to not less than 25.D. With the best correction I could find her vision and refraction were: R.V.=5/200; 20/70—with—20.D.—1., cyl., axis 15°. L.V. =6/200; 20/70 with—22.D.—1., cyl., axis 165°. Owing to the excessive amount of myopia I advised her to withdraw from school, to avoid the use of her eyes at short range and to live out of doors as much as possible.

In October, 1903, I proposed to try and arrest the further progress of her myopia and also attempt to place her in a condition whereby she might hope to resume her education and fit herself for usefulness. Of the various operative methods for removal of the transparent lens, I chose, as I would not to-day after further experience and wider research, direct linear extraction. I first operated upon the right eye, as being the one having the poorer vision of the two. There were no serious fundus lesions contraindicating, marked posterior staphyloma and some choroiditis alone being present. With a keratome, under cocaine anesthesia, I made a linear section inferonasally (to counteract by cicatricial contraction her astigmatism) and lacerated the capsule, being very careful not to injure the posterior capsule. By gentle pressure I withdrew, so far as I could judge, the major part of the lens and by careful manipulation succeeded in not evacuating any vitreous humor. Then instilling atropine, I bandaged both eyes. Next day the anterior chamber was seen full of swollen soft lens matter. After a couple of weeks this had nearly absorbed, and a little later I needled the remaining membrane. Subsequently cyl., R.V.=20/30—W.—2.D.—1., cyl., axis 35°, a vision of two and one-third times what it was previous to the operation.

In February, 1904, I performed direct linear extraction upon the fellow eye, but with this difference in technique: I practised lavage with the Lippincott irrigator. After six days there was very marked reaction involving the eye in an iridocyclitis, even to the extent of a severe exudate and hypopyon. The eye appeared to be lost, the projection becoming almost entirely abolished. I was naturally greatly disappointed, but persevered in treating her vigorously with atropine, hot water compresses, inunctions and rest in bed. After the eye got well I sent the patient into the country with instructions to report in the fall. When she reappeared, I was astonished to find that the eyeball was sound, tension normal, iris-color restored, projection perfect, but a dense membrane to which the iris, with irregularly and laterally elongated circumference was attached, shutting out all sight except light perception. Moreover, there was a marked convergent strabismus, of which I will speak later. Having nothing to lose and much to gain, I determined upon an attempt to open this membrane. Under cocaine anesthesia I introduced a Gräfe knife up to the proximate pupillary margin and elevating the handle of the knife to a nearly vertical position, punctured the near periphery of the membrane. Then with the DeWecke scissors I made a longitudinal section of the membrane, when instantly the pupil became black and the pupil almost perfectly circular. After an uneventful recovery I found L.V.=20/30—W.—1.D., cyl., axis 180°, also a vision of two and one-third times that previous to the operation. At this writing, nearly a year after the last operation, her binocular vision remains 20/30.

Two points of great interest are to be considered. (1) She can read Jäger No. 1 at eight inches, with her nearly emmetropic correction and also without glasses. (2) The patient is still afflicted with convergent strabismus. Later in this article I shall discuss aphakic accommodation. The matter of her strabismus remains a subject of quandary to me. I found that she could at will fix with either eye and also that she could exhibit binocular vision. Instructing her to report monthly, she shows a gradual lessening of convergence. Now, previous to the operations this patient did not have divergent strabismus, so common in myopia. This indicates that she had some converging power, but on account of her high degree of myopia it could hardly have been associated with accommodation. If the eyes converged on account of the second eye having been amblyopic, by virtue of the presence of a dense membrane, then we might expect that the eyes would straighten when the second eye was placed on a par with its fellow, through the opening of the obstructing membrane as described, especially under the stimulus of the binocular vision present. This seems to be proven by the lessening of the convergence. It remains to be seen whether ultimately parallelism and binocular single vision will result. But the question ever presents itself: Why did convergent strabismus supervene? Is it perhaps to be explained by the new effort at accommodation (aphakic) which she plainly shows, operating as in all accommodative acts with the associated convergence in all eyes? If the convergence continues to lessen and binocular vision (diplopia) persists long enough, I am convinced that binocular single vision and parallelism will probably follow. At any rate, it is proper to wait and see what transpires before considering any further surgical interference.

History.—In looking over the history of this operation, it appears that it was probably first proposed by Desmonceaux, an abbe, who, in 1776, suggested the idea to Wenzel. The latter removed a lens, but the result was unsatisfactory and nothing more of real value (although it is claimed that Beer did the operation in 1817) was heard of the matter until 1858, when Mooren of Düsseldorf, attempted the operation. Unfortunately it was likewise a failure. It was reserved for Fukala, whose brilliant work, begun in 1889, brought the matter into prominence. There has been some controversy as to Fukala's claim to be the practical originator of the operation, but I agree with Fukala who himself says: "That he is the true founder who brings about this result through really and successfully acting through a recognition of the laws of optics." There is no question that the operation has been previously performed, sometimes for the correction of myopia and also that myopia has been corrected incidentally through cataract extraction. But for the neutralization of myopia, *per se,* and with success and for bringing the operation into perfection of detail, we must give Fukala the chief credit. Oswald in 1891, Operon in 1895, Hirschberg in 1897, and many others have followed in Fukala's footsteps, until today the operation is widely performed, especially in Europe.

Rationale.—As is well understood, the raison d'être for ablatio lentis lies in the fact that the need of the great strength of the myopic concave correcting lens is immensely reduced by the removal of the convex crystalline lens. This reduction amounts to a sum total of from fourteen to about twenty-two dioptres, some authors claiming even more. If, by the removal of this high degree of refractive error, the vision is greatly improved, the necessity for wearing heavy and powerful lenses avoided, and the patient better fitted for his occupation, it cannot be denied that the rationale of this procedure is evident. To this operation may be attributed the fact that there are now a large number of persons successfully engaged in various pursuits who were more or less helpless and dependent, thus materially relieving society of the burden of their support and adding to their personal welfare and comfort.

Selection.—According to Vacher,[60] "Progressive myopia beginning at the age of twelve, should be operated if the myopic dioptres surpass the number of years of the patient."

In the selection of cases suitable for ablatio lentis the age of the patient and the degree of the myopia play the important rôle. Within reasonable limits, provided the myopia be of sufficient degree, the younger the patient the more favorable the case, although the lens may be removed at any age. Ordinarily we would not think of removing the lens of a patient under the age of ten years, nor would we care to undertake the operation on a patient over fifty years old. It is commonly conceded that the degree of myopia must be about 14 or 15 dioptres or more. Other considerations influencing the selection of operative cases are such as when vision is not improved by glasses; when there are no serious fundus lesions; when the vision is very low even with the best glasses, and where there is divergence and no longer binocular single vision. We naturally hesitate when a patient has but one eye, but even here, if the vision is low, the conditions otherwise favorable, and glasses do not give satisfactory vision, it would seem indicated.

Reported Cases.—Up to this writing, there have been about 2500 of these operations reported from abroad, while, after a painstaking search of the literature of this subject, I have found not quite fifty cases reported in America. It is very possible that there are more, but I have not been able to find them. While this very great disparity in the number of cases as reported from Europe and America may be partly explained by the fact that myopia, especially of high degree, is far more prevalent abroad than here, it is nevertheless a disappointing revelation that so little has been done in this field in this country. It is true that foreign surgeons undoubtedly have an almost decisive influence and control over their patients, for very well-known reasons, while in America the reverse is very much the case. Nevertheless, it is to be hoped that, with time and experience, the greater number of more or less hopelessly handicapped myopes will discover the benefits of this operation.

Methods.—There are several methods to be considered in removal of the lens in high degrees of myopia. (1) Direct linear extraction in the young. (2) Direct extraction after the usual cataract methods in patients over fifty. (3) Repeated discissions. (4) Discission with linear extraction (Fukala).

(1) Direct linear extraction has been done a relatively small number of times and does not meet with approval. This is due to the fact that it is difficult to know when all or the greater part of the lens has been removed and is accompanied by the danger of loss of vitreous. If the latter presents during the operation it may not be differentiated from lens matter, and lens matter which it is our aim to evacuate may be left behind. In such cases the reaction may be very severe and the loss of vitreous may be followed by detachment of the retina.

(2) When we have reason, on account of age of the patient, to suppose that the lens is more or less hardened, with at least sclerosed nucleus, the removal of the lens by discission is contraindicated and we resort to extraction after the same methods as in ordinary senile cataract. The operation is rarely performed at the age at which this method would be indicated; nevertheless, it has been successfully done at the age of sixty-five.[101] Fukala states that myopic lenses can be removed by discission up to the age of sixty years, and while in certain senile cases this might be done, in other cases it would seem better to remove the lens through the methods adapted to ordinary cataract extraction. He claims that the myopic lens hardens very much less rapidly and thoroughly than others.

(3) Some operators, especially in America, prefer to remove the lens by cautiously repeated discissions. This method may perhaps have the advantage of a certain degree of safety, but it is open to the serious objection of consuming a long time and in discouraging the patient. I do not believe that it is a justifiable method as there is always the added danger of infection, which necessarily must be considered in common with each and every entry of the globe. Its claimed advantage of preventing detachment of the retina is, to my mind, a practicably negligible quantity. Moreover, even after careful discission, the lens matter may undergo swelling to such an extent as to necessitate immediate linear extraction.

(4) Fukala's operation, namely, free discission with linear extraction is, in the light of wide experience, the now well-established method of ablatio lentis. This operation, as I have said, bears Fukala's[78] name and justly, because this operator was (in 1889) the first to work it out, develop it, and exploit it with success in a very large number of cases. Fukala has been through several stages in his work, operating at first with cautious discissions and later making very free discissions even with a Gräfe knife, and varying the procedure with iridectomy, which later (1894) he abandoned. Though he changed his views regarding the advisability of iri-

dectomy, he does not, I think, hesitate to excise a portion of the iris in cases advanced in years. Froelich[76] thinks there is danger of glaucoma in using the knife, and prefers repeated discissions. It is, after all, a matter of personal judgment and experience. Rogman[53] states that posterior discission is dangerous and Rohmer[54] first produces artificial maturation, followed by linear extraction in the adult and suction in children.

There results, as after cataract extraction, the remaining interference with vision due to the presence of a more or less opaque capsulary membrane which is dealt with as in any post-operative lenticular membrane. As the pupillary margin of the iris is more or less regularly and firmly bound to this membrane, I am inclined to think that the best results are obtained by its division through the combined use of a Gräfe knife or keratome (for corneal incision) and the De Wecke scissors, though sometimes the membrane may be incised with a Gräfe knife alone. A preliminary iridectomy may be done, particularly in aged patients. Jocq (Paris) proposes injection of aqueous with a Pravaz syringe, but it is difficult and not recommended.

The incision should be so placed as to tend to correct any existing corneal astigmatism, and, in judging of this, *only* corneal astigmatism should be considered, inasmuch as lenticular irregularities will necessarily be abolished. Except where strongly contraindicated the bilateral operation should be performed.

The preparations for operation should be, as in all operative work, conducted under strictly antiseptic precautions. The after-management of these cases differs in no way from that following any operation involving opening of the globe. Whether one chooses to employ the open wound method, which is has been more recently exploited, or the closed method which is more common, is a matter of the personal equation. Each has its advantages and disadvantages. It is hard to say whether an eye is more or less exposed to infection by either method, but on the other hand the eye is perhaps more guarded from the dangers of accident if the eye is bandaged. There is, of course (with the exception of the extraction of senile lenses where a flap has been made), very little danger of subjective mechanical interference with the wound (for the latter is very small in the usual Fukala operation) if the eye should be treated by the open method, but I would advise that at least a mask be worn for general protection. This may have one or two small perforations for admission of air. However, I am personally inclined to practise the closed method and treat a myopic ablatio lentis after the manner usual in ordinary discission and extraction. After a free discission, however performed, the eye must be closely watched, often inspected, kept carefully sterile and upon the appearance of severe reaction and particularly in the advent of increased tension the lens promptly extracted by the linear method. As this entire operation is a pronounced traumatism atropine and ice may be freely and continuously used, especially after the anterior chamber has been reformed, following the extraction. Panas[47] says atropine is contraindicated and that increase of tension should be avoided with eserine. If an iridectomy has been performed, and the pillars carefully replaced, there will be little danger of a synechia, but if no iridectomy has been done we may have this misfortune. It is probably wise to exclude bright light from the patient's eyes. This is best done, not by darkening the room, but by means of a mask or drop shade. The patient should have all the benefits of fresh air, he should be in bed as long as indicated, and the diet and other general conditions regulated.

The *Contraindications* in extractio lentis are: (1) A known hemorrhagic tendency. (2) Choroidal degeneration and lesions in the mascular region. (3) Loss of one eye. (4) Advanced age. (5) Ability to see well with the myopic correction.

(1) The hemorrhagic tendency is quite rare, more or less obscure and uncertain. It is doubtful whether all other conditions being favorable, this condition should debar a very much crippled patient from the benefit of this operation, at least on one eye. In such a case the second eye might be operated upon subsequently, if success with the first eye warranted it.

(2) Extensive choroidal degeneration is, by general though not unanimous consent, considered a bar to this operation. Pflüger[100] says that fundus lesions, choroiditis especially, are indications for removal of the lens in high myopia. Abadie, Vacher[60], and Panas[60] agree with Pflüger. The majority of operators (Fuchs[77], Coppez, Pergens[99] et al.) believe that choroidal atrophic lesions accompanied by macular involvement constitute a contraindication. Bruns[84] says that young subjects without, and old with, fundis lesions should not be operated upon.

(3) Of course, as I have intimated, we should hesitate to operate upon a patient with only one eye, for fear of a result of total blindness, which, naturally, would be worse than the poorest possible previous vision.

(4) The removal of the lens in advanced years is thought to be more serious than in youth, and besides, there is the added jeopardy accompanying all operations in late life, although Rogman[115] operated successfully on a man of sixty-five years. It is obvious that there is no justification in subjecting to even the smallest risks the eyes of a patient who sees well with glasses.

The *Advantages* of removal of the lens are threefold: (1) Visual; (2) Muscular; (3) Antipathological.

(1) Vision is commonly improved from one to five times or more. Fukala[88] says that the improvement of sight is due not alone to increase of the size of the retinal images, but also to the increased illumination and to the fact that there are no longer any lenticular reflexes.

(2) A previous divergent strabismus with monocular vision is often converted into a binocular single vision. On the other hand the cramp of excessive accommodation brought about by certain occupations, is no longer possible, and coincidentally the accompanying convergence is relieved.

(3) The opinion is largely held by most operators, that the abolition of dynamic vision by its very resulting passivity arrests the progress of myopia, while on the other hand certain fundus lesions, particularly if not involving the macular region, are also arrested.

The *Dangers* that may be encountered in ablatio lentis are: (1) Hemorrhage and loss of vitreous humor; (2) Detachment of the retina; (3) Incarceration of the iris or capsule; (4) Glaucoma; (5) Iritis; (6) Infection.

(1) The liability of Hemorrhage and Loss of Vitreous appears to be very slight, and happening chiefly if there be some macular lesion (Schroeder), or faulty technique, which occurs probably no more frequently than in any operation upon the lens, not including discission.

(2) Detachment of the retina, according to European authorities, occurs in only three to five per cent. of cases. It might occur without the operation and fear of it need not bar (Speyer).

(3) Incarceration of the iris, or of the capsule, depends very largely upon the site of the incision, the toilet of the wound, and the management of the case afterwards.

(4) Glaucoma can be avoided by extraction within a proper interval after the operation, and it should not occur in a carefully watched case. Even if it does supervene, prompt extraction naturally reduces the tension before serious injury is sustained.

(5) Iritis does undoubtedly occur in certain instances. It appears often enough in any surgical procedure involving section of the anterior portion of the globe, but its possible advent does not in this day operate as a contraindication in cataract extraction, and can be dealt with in the myopia operation, with confidence and satisfaction.

(6) Of the dangers of infection, I need say no more than that in these days of antisepsis, it is nearly inexcusable if, upon opening the dressings, the wound is found to be infected. The difficulty of excluding possible infection through the tear passages, should constitute practically the only source of infection, and even this is excluded by many surgeons, by ligature, etc.

Justifications.—The operation of removal of the lens in high degrees of myopia is justifiable: (1) When vision cannot be improved by glasses; (2) When there are no serious fundus lesions; (3) When the myopia amounts to 15 D. or more; (4) When there is evidence that the degree of myopia, already high, is rapidly increasing.

(1) It seems reasonable to conclude that when a patient has a high degree of myopia with correspondingly low vision and when repeated trials have shown that his sight cannot be improved with glasses, he would be a suitable subject, other things being equal, for any procedure promising material improvement. This has been repeatedly demonstrated through this operation.

(2) Regarding the matter of lesions of the fundus, there is no contraindication to be found in choroiditis, for example, or in many other lesions, provided there be no involvement of the macular region; indeed, I repeat, it is strongly claimed that extractio lentis generally arrests the very disturbances which would seem to make one hesitate to operate.

(3) Experience has proven that we should aim to neutralize the existing myopia; therefore we naturally infer that there is no indication for removing the lens when by so doing we might produce any considerable amount of hypermetropia, while we have yet to see a case in which any injury *per se* has followed the removal of the lens in cases of myopia of the highest known degrees.

(4) When there are unquestionable evidences of rapid progress of myopia anything that can be done to arrest it will certainly be justifiable. Happily, it is the almost common consensus that ablatio lentis, does actually arrest the progress of myopia, supposed to be accomplished through inhibition of accommodation and the attendant relaxation of convergence, factors prominent in the development of myopia.

The *Optical and Physical Effects* of this operation are: (1) Alteration of refraction; (2) Loss of accommodation; (3) Improvement in vision; (4) Changes in muscular action; (5) The prevention of the increase of myopia; (6) The arrest of the progress of choroidial lesions.

(1) The alteration in refraction consists in a reduction of the myopia of from 14 to about 22 D. (2) Although lenticular accommodation is lost, there is developed in many myopic patients, an aphakial accommodation of which I have treated elsewhere in this article. (3) The improvement in vision is an increase of visual acuity of from 1 to 4 times that previously existing, as stated above, and sometimes the increase is much more than this. (4) The changes in muscular action consist of a stimulation to convergence, tending toward binocular single vision, and also toward a less dynamic visual act, thus leading to inertia, thereby (5) arresting, as mentioned, the further progress of myopia physiologically and (6) pathologically. This is denied by Panas, Fuchs, Coppez and Pergens.

The Results of successful removal of the lens in myopia may be considered under the heads: I.—Immediate effects; II.—Remote effects.

I.—The Immediate Effects are: (1) Pronounced reduction of the degree of the myopia, the cardinal feature and prime consideration in the operation; (2) Marked improvement in distant vision; (3) Distinstness of vision is markedly increased; (4) Accommodation is abolished; (5) Convergence is relieved; (6) Enlargement of retinal images.

II.—Among the Remote Effects are: (1) Continued improvement in vision; (2) Cultivation of the so-called aphakial accommodation; (3) Restoration of binocular single vision; (4) General passivity of the visual act which is no longer dynamic.

I.—(1) As we have already said, the change in refraction amounts to a reduction in the myopia of an amount equal to 14 to 25 D. (2) The vision is improved some four or five times, and therefore (3) the distinctness is immensely accentuated. (4) The abolition of accommodation is not a serious loss, for the twofold reason that (*a*) its presence was a contributing factor in the development of myopia and (*b*) a patient with high myopia loses eventually the advantages of accommodation since his punctum remotum is within the field in which accommodation is commonly improved. (5) Convergence is relieved by virtue or removal of the punctum remotum to that approaching emmetropia. (6) To the enlargement of the retinal image is due in no small measure the increase of vision.[88]

II.—(1) As time passes we note with satisfaction an improvement steadily increasing in the amount of visual acuity. This is commonly observed in cataract operations. (2) In the matter of aphakial accommodation Loring thought that the accommodation (which does certainly exist) might be attributed to the subject's ability to interpret with increasing accuracy retinal circles of dispersion, while Förster,[75] who was the first to note aphakial accommodation, thought it might be due to changes in the curvature of the cornea. Woinow[112] performed interesting experiments in which he satisfied himself that certain changes in the curvature of the anterior surface of the vitreous humor were produced by the action of the ciliary muscle. The question is not really a settled one. Is it an optical or a mental process? It may be both. (3) As we all know, many myopes have divergent strabismus. Under the stimulus of improved vision and perhaps also on account of the aphakial accommodation there results sometimes binocular single vision after a preliminary period of diplopia. In the case heading this paper I have seen a marked convergence of the visual axes with diplopia as an immediate result of the operation (bilateral), and I am watching the gradual development of parallelism. (4) Owing to the destruction of the dynamic force of accommodation and the relief from the previously necessary (except where the eyes abandoned all attempts at binocular vision) convergence, there results as I have mentioned, a general quietude of the eye quite conducive to the checking of progressive myopia.

Erythropsie is sometimes noticed for several weeks, as in post-operative cataract subjects.

As is well known, Donders and Von Graefe were steadfastly opposed to this operation and regarded the removal of the transparent lens as malpractise and without a vestige of excuse. Von Graefe considers that insufficiency of the interni plays an important part in the progress of myopia and believes in the beneficial results of tenotomy of the externi. Emmert[72] regards the operation with disfavor. Otto,[97 98] Vossius[109] and Von Hippel,[91] do not approve because of fear of detachment of the retina, while Gelpke[85] says that occurring after several weeks, a detachment cannot be attributed to the operation, and LeGrange[43] believes the operation lessens this danger. Stood[108] declares that there is no danger in operating upon eyes having 12 D. or more, does not think the operation adds to the danger of detachment and adds that even after five years of observation the refraction continues to change. Scheffels[105] says that one-fifth of his cases remained stationary in refraction after four years, while the remainder became less hypermetropic, indicating that myopia still increases somewhat after operation; he suggests that the mal-influences producing myopia may persist for a while. Fuchs,[77] who is a safe and conservative observer, thinks that the operation does not prevent the usual progressive myopic changes and believes that the operation, while useful, must be restricted in application. Parinaud does not believe that the operation will arrest myopia. Distler[71] is a powerful advocate of the Fukala operation. He asserts that it is dangerless, believes that binocular single vision is likely to be restored and insists that the further progress of myopia is stayed, while danger of hemorrhage and detachment is neither increased nor lessened. Genistous[89] believes in operating even in fundus lesions. I do not believe that fear of detachment should militate against the operation; nor do I consider, even if it should be shown that myopia does increase after ablatio lentis, that this should constitute a contraindication, for it is still more likely to increase without interference.

General Consensus.—There is a wide diversity of opinion as to the advisability of ablatio lentis in myopia. In searching through the literature of the subject, I have found this to be the case from such men as Emmert[72] (with fifty operations), who condemns it, to the conservative men who do it in carefully selected cases (Fuchs[77]), to its most brilliant and prominent advocate, Fukala, who has successfully performed it in a very large number of cases. It, however, appears that the large majority, particularly of European ophthalmologists, believe that the Fukala operation, in spite of its not being ideal in all respects, is, within certain limitations, indicated, and that it constitutes a very great advance in eye-surgery. It is generally believed, as I have said, that myopia and many of its attendant pathological lesions, are by such operations arrested, and subjects restored to independence. In the United States so few operations of this character have been done that American statistics do not afford a basis for any conclusive opinion.

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RECTAL INJECTIONS OF LARGE DOSES OF SODIUM SALICYLATE IN CEREBROSPINAL MENINGITIS.

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In view of the gloomy reports on the treatment of cerebrospinal meningitis coming from near and far (the *Deutsche medizinische Wochenschrift* of May 11, 1905, reports a 50 per cent. mortality among 1,955 cases in the province of Silesia, Germany, during the last four months), I hope to be pardoned for calling attention to a plan of treatment which has appeared effective to me during the last four years, although my experience is but a limited one.

Case I.—Young woman, 20 years of age, living in Newark, N. J. She began with severe continuous headache, nausea, and drowsiness on the first day, followed by high fever (103°—106.2°F.) hyperesthesia, opisthotonos, Kernig's sign, herpes, and extreme dilatation of the pupils during the second and third days of illness. Recognizing the severity and the bad prognosis of the attack, on the third day, I concluded to give *large* doses of sodium salicylate, with the object of possibly interfering with the vitality of the diplococcus intracellularis. As vomiting was still present on the third day (when seen by me first), I ordered fifteen grains, dissolved in a tablespoonful of warm water, to be injected into the rectum every hour until ten doses had been given, and two hours later one dose of fifteen grains of antipyrin, to relieve the violent headache. During the next twelve hours all medication was stopped, to begin again in the same manner after this interval.

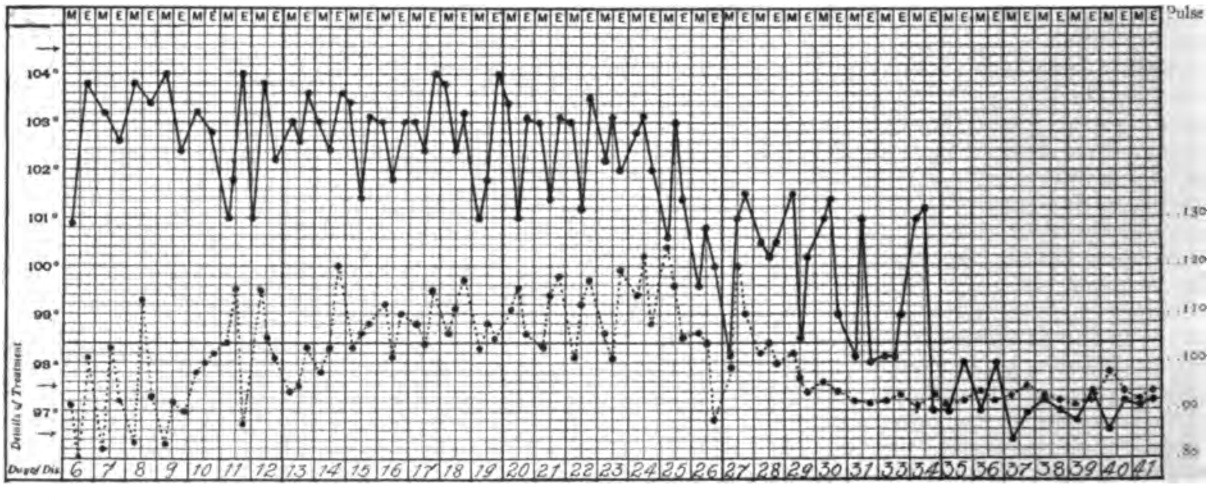

Chart I. The salicylate treatment was begun on the 25th day of the disease.

Headache, temperature, and pulse were markedly improved on the next day; opisthotonos, hyperesthesia and nausea disappeared during the second and third days of treatment, but Kernig's sign, dilatation of the pupils and muscular tremor were still present during the two weeks after the temperature reached the normal, five days after the beginning of treatment. From the third day of treatment but six doses of the salicylate were given daily; and from the seventh on but three. Antipyrin was used but once. This case was observed in May, 1901.

The following cases were seen during the present epidemic:

Case II.—George Lindley, aged 22 months, seen first on Feb. 23, 1905, in consultation with Dr. Elsing in Richfield Park, N. J. Illness began five days previous with sudden vomiting, fever, and marked restlessness. Status: Marked opisthotonos, Kernig's sign, enormous herpes over entire chin, both lips and tongue, temperature 103.5° F., persistent vomiting, about twenty large pale roseola. Orders: A large watery enema every twenty-four hours, then fifteen grains of sodium salicylate per rectum every six hours. (Six thousand units of diphtheria antitoxin were also injected during the first three days of treatment, to test its efficiency.) The first dose of the salicylate was given on Thursday at 8 p. m., and on the following Sunday morning the fever, the opisthotonos, hyperesthesia and nausea had disappeared, after 150 grains of the drug had been given in 60 hours in fifteen-grain doses. When seen again on the following Tuesday the Kernig, the herpes and the dilated pupils were the only symptoms of meningitis left. Child was sitting dressed on mother's lap, was hungry, and enjoyed good sleep at night. Two doses of the salicylate were given daily during the next three weeks. Uneventful recovery. The extended experience of others has since proved that the speedy recovery in this case was not due to the diphtheria antitoxin.

Case III.—Anna Reimer, aged 10 years, was first seen by me in consultation on March 27, 1905, three weeks after the beginning of her illness. Status: Marked emaciation, opisthotonos mild, muscular rigidity of back, Kernig and hyperesthesia very marked, nausea, anorexia, temp. 103.2° F., pulse 120, slow answers, stupor, pupils dilated ad maximum. On Chart I. the temperature and pulse (taken by a trained nurse) before and after the salicylate treatment can be seen. On April 5th I was given charge of the case.

Treatment: A large watery enema every twelve hours, fifteen grain doses of sodium salicylate per rectum every six hours, fluid diet every three hours during daytime (with hydrochloric acid before each meal), plain cold water at night. The drug action on pulse and temperature are best seen on the chart. Muscular rigidity, nausea, headache, and hyperesthesia disappeared gradually within four days, but Kernig's sign, dilated pupils, and muscular tremor could be demonstrated fully four weeks after temperature and pulse had become normal. During the first week of treatment (the fifth of illness) 420 grains of the salicylate were given, in fifteen-grain doses every six hours. No heart depression was noticed, although no stimulants of any kind were used. The salicylization of this patient was gradually diminished to two fifteen-grain doses per diem, which, however, were continued for four weeks. The gain in weight and strength in this case was quite as marked as in the others.

Case IV.—Emilia Becker, female, aged 4¾ years. Sudden illness on May 9 with persistent vomiting and fever. Status: Tonsils reddened, no exudate, adjoining lymphnodes enlarged, temperature 102° F. Treatment: Iodine carbolic solution every hour and aspirin five grains twice daily. May 10: Nausea continues, large pupils, occasional strabismus. May 11: Marked strabismus, opisthotonos, herpes, Kernig, nausea.

Treatment: Sodium salicylate, fifteen grains every *six* hours per rectum. May 12: Same dose every *three* hours per rectum, on account of persisting symptoms. May 13: Much better (best seen on Chart II), retains food, medication as before. May 14, 15, 16: Daily improvement. Opisthotonos, strabismus and anorexia have disappeared. Demands to be dressed, eats and sleeps well. Complains only of hunger. One short rise of temperature to 101° F. and three to 100° are noted, otherwise temperature remains below 100°. Able to stand, walk, and bend forward seven days after beginning of treatment. Salicylization gradually diminished in frequency, but kept up for three weeks. From May 4 to May 22 the patient received 555 grains of salicylic soda in fifteen-grain doses, and from May 11 to May 20 750 grains.

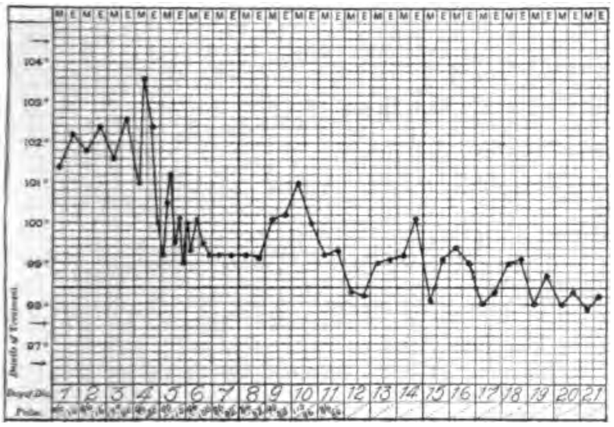

Chart II.

Case V.—Antonio Macetti, age 4½ years, was brought to my clinic on Sept. 15, 1904. History: Had cerebrospinal meningitis during April and May of 1904, the fever lasting seven weeks. Status: Well nourished boy, abundant adipose tissue. Muscles flabby. Marked strabismus convergens. Left-sided spastic hemeplegia, most marked in upper extremity. Occasional opisthotonos. Posterior cervical muscles contracted. Cannot keep head upright; cannot sit alone. Complete aphasia. Deaf. Kernig marked. Toes pointed, more in left than right foot. Ravenous eater. In presenting this case to my students a serous exudate was assumed to cause many of the pathological phenomena by simple pressure. If this pressure could be removed, some of the symptoms would disappear, but such as were caused by destruction of nerve tissue would remain.

Treatment: Without the slightest expectation of a good result fifteen-grain doses of sodium salicylate were ordered four times daily, per rectum. An enema every morning. Diet regulated. Patient seen weekly. Improvement noticed after first week. Same treatment continued from week to week. In two months the boy was able to sit up, hold his head straight, to walk and to say "Mamma" and "Papa." The spastic hemiplegia had been so far improved but the left arm and hand appeared yet somewhat awkward in attempting to grasp a finger, but by Christmas this had also disappeared. The same treatment has been continued since. When presenting this patient, on May 26 of this year, to my students (one year after his acûte attack), we found him normal in every respect, but for complete deafness and a limitation of speech to the words "Mamma" and "Papa." Considering the result of this late treatment, what could have possibly been achieved in this case by a constant and efficient flooding of the blood of this child with salicylates during the first days of his cerebrospinal meningitis in April, 1904?

Remarks. During the last four years I have seen in all but nine other cases of cerebrospinal meningitis in consultation, all of them more or less moribund, and therefore not worth counting. In one tubercular case, which Dr. Spalding was kind enough to show me, we became convinced after a fair trial that salicylate of soda was not effective in tubercular meningitis, as we both had expected. Three lingering mild cases of the cerebrospinal variety seen in my service in St. Francis Hospital all recovered promptly on salicylate of soda. In not one of the detailed cases reported here was Quinke's tapping of the spinal cord resorted to, because the clinical picture in each case was sufficient to establish the diagnosis, and as I did not wish the therapeutic result to be attributed to the tapping. Tapping may be of great value in some cases of meningitis, may save a life occasionally by relieving pressure, but is no more *curative* in meningitis than the tapping of the pleura in rheumatic pleurisy. Injections of antibacterial fluids into the spinal canal will never reach the organisms they are intended to destroy. An effective remedy for cerebrospinal meningitis will have to travel the same road which the infectious germ has taken—through the blood current. Salicylates have been used for some time in cerebrospinal meningitis, but to my mind the doses used heretofore have been *too small* entirely. If nothing more has been proved by this report (which, on account of its few cases I would be almost ashamed to present if it were not for the high mortality reported), it is the fact that *large* doses of salicylate of soda can be given per rectum to cerebrospinal meningitis patients without harm. The value of rectal medication in meningitis is evident. Rectal administration of sodium salicylate solution was first recommended by the author in 1889 (*N. Y. Medicinische Monatsschrift*) and again in 1891 (Medical Record, September 12, 1891), and has been used since. Only per rectum can *large* doses be introduced into the system without causing gastric disturbances. The introduction of this drug by venous injection as recommended by Mendel (*Therap. Mon.*, 1904) in articular rheumatism might be worth a trial in severe onsets of cerebrospinal meningitis.

In closing this report I hope that men in charge of a large number of cases of this disease in their hospital service will give this plan of treatment a fair trial. In view of the great mortality any rational device appears worth trying. Personally I am convinced that this treatment is of value in all cases where serous, not purulent, exudate forms.

Effective sodium salicylate solutions must retain the color of distilled water. Yellow discoloration proves chemical changes, rendering the drug inefficient. When the rectal mucosa becomes irritated, a further dilution of the drug is indicated. Lateral compression of the sphincter ani assists in retaining the solution in the bowel. Small doses, given at shorter intervals, are ineffective.

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THE MEDICAL PHASES OF THE IMMIGRATION LEGISLATION.*

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My response to your kind invitation to read a paper upon the subject of immigration was prompted by a profound sense of the honor conferred upon me, but as I began to realize the full responsibility of the step, my difficulties in presenting the subject in an intelligent manner have given me many anxious moments. However, in taking up your time with the subject of immigration, I offer no apology, because I feel that the question is of the greatest interest to us all, not only as medical men, but also that we may intelligently discharge our duties as citizens.

It is my intention to discuss the subject of immigration briefly from its medical standpoint only, but a brief résumé of the legislation upon this subject may not be amiss.

The immigrant has been viewed with suspicion since the birth of the nation. In John Adams' administration we had the Alien act. The Hartford Convention, 1812, proclaimed "The stock population of these States is amply sufficient to render this nation in due time sufficiently great and powerful." In the discussion of the bill before Congress to provide a territorial form of government for Kansas and Nebraska, Senator Clayton of Delaware introduced an amendment to confine the elective franchise to native Americans, but this amendment was lost. The first legislation pertaining directly to immigrants was passed March 2, 1819. A clause in this act provided for their enumeration, also the registration of the age, sex, and place of birth. It was hoped to regulate by this law the transportation of immigrants, to prevent overcrowding on ships, and to provide for the correction of abuses on vessels.

In the debate on the bill, approved May 29, 1830, dealing with the preemption rights of settlers on public lands, Senator Merrick of Maryland offered an amendment barring aliens from participation in such privileges, but the amendment failed. In the fifties, the "Know Nothing" movement attained a large following. Its adherents not only recommended discrimination against aliens, but persecution as well. Some years after this, however, the development of the United States proceeded so rapidly with the assistance of the alien that almost all opposition died away. Laws for the regulation of immigration have always been the result of popular demand, and they have been passed with the view not so much of lessening the total number of immigrants as of preventing the admission of certain undesirable classes.

For many years, then, the subject of immigration has been a question which received much attention from the people of the United States, but it was not until 1875 that the views of the majority crystallized into any real legislation. Since that time, however, acts of Congress relating to immigration have followed one another in rapid succession. Each law added to the restrictions to be imposed upon arriving aliens, until the list of causes for exclusion has become a very long one. It is quite natural that a country like the United States, whose future in a large measure depends upon the class of people who are to be granted the privileges of citizenship, should wish to admit only those who are the most desirable.

It was not until the Act of 1882 that any cognizance was taken of the physical condition of the immigrants. In this law, it was provided that "any lunatic, idiot, or any person unable to take care of himself or herself, without becoming a public charge . . . shall not be permitted to land." It will be seen that the exclusion was only conditional, and since there was not much risk involved for the friend of the afflicted one to state that he would take care of such person, the object of the law was defeated in the great majority of instances. Another unsatisfactory feature was the fact that although the law was a national one, it was administered by State officials upon the authority contained in special contracts with the Secretary of the Treasury. Thus, it was quite possible that an immigrant refused admission at New York, for instance, might gain admission elsewhere. The next act was passed in 1885, and is generally known as the Contract Labor Law. This law contained no medical features. In 1888 came the Chinese Exclusion Law.

The act of 1891 was a more radical step than any that had heretofore been attempted. It was the first time that persons suffering with certain mental or physical conditions were absolutely excluded, and the law provided for the first time for the medical examination of all arriving aliens. This latter examination was to be made by the officers of the Marine Hospital Service. The law provided that "all idiots, insane persons, paupers, or persons likely to become a public charge, persons suffering from a loathsome or a dangerous contagious disease . . . shall be excluded from admission into the United States."

It will therefore be seen that the medical features of the immigrant legislation consists of two simple divisions. The first, for those suffering from afflictions for which they are absolutely excludable; and second, for those suffering from afflictions which may cause them to be likely to become a public charge. The phraseology of the law has been found in practice to be very fortunate. Whenever a certain disease, owing to its contagious character, becomes a menace to the public health, it can be placed upon the excluded list, or if persons suffering with certain afflictions are found to become public charges, the matter can be regulated by administrative action and thus the tedious delays incident to legislation avoided.

The constant aim of those having the medical inspection in charge has been to build upon practical rather than theoretical grounds. From year to year, as experience increases, it has been found desirable to augment the list of diseases that come under both divisions of the law. The last act of Congress pertaining to immigration was passed in 1903. From a medical standpoint that law still further increased the list of absolutely excludable diseases. The clause containing the addition specifically states that "insane persons, epileptics, and persons who have been insane within five years, or persons who have had two or more attacks of insanity at any time previously . . .

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* Read at the first scientific session at the second annual meeting of the Philippine Islands Medical Association, held March 2, 1905.

shall be excluded from admission into the United States."

It will perhaps be interesting to discuss more in detail those diseases which are on the absolutely excludable list, and more particularly those which give rise to the greatest number of rejections.

The disease which easily ranks first in this respect is trachoma. The remark is often heard, "Why should this minor disease, a mere inflammation of the eyelid, be the cause of so much concern?" Trachoma was made an excludable disease in 1897. The medical profession, and more particularly the physicians in charge of the eye clinics in large cities strongly urged this step. They pointed out that their clinics were overrun with trachoma cases. Treatment pursued month in and month out was practically of no avail. Persons suffering from other eye diseases who really could be helped were crowded out. The contagious character of the disease constantly led to the infection of others. A case of trachoma introduced into a crowded tenement often caused the disease to spread throughout a whole block like wildfire. The cost of treating trachoma was becoming a heavy item of expense to the community. Further investigation showed that 15 per cent. of the inmates of the public blind institutions of the United States had become blind as a result of trachoma. Since the number was constantly increasing, it became quite clear that the cost to the body politic would soon become a heavy burden. History shows that trachoma has been one of the scourges of humanity for many centuries. The ancient Egyptians suffered from it four thousand years ago. The eyes of well preserved mummies offer unmistakable evidence as to its presence. Celsus, an ancient Roman, has left an excellent description of the disease as it existed twenty centuries ago. It seems to have had its origin in Egypt, and as the facilities for travel have increased, so also has increased its spread throughout the world. So contagious is the disease in the land of its origin, that but few of the natives escape an attack. Those who have visited Egypt have no doubt been struck with the enormous number of blind persons that are there encountered. Like most contagious diseases, trachoma flourishes where the rules of sanitation are least observed. In ancient times, the disease often became epidemic. An epidemic was started in Europe in the twelfth century, when the Crusaders, after warring with the Saracens, returned from the Holy Land. In 1798, when Napoleon opened his Egyptian campaign, some 20,000 of his troops are said to have contracted the disease. Many became blind, and the failure of some of Napoleon's subsequent ventures is ascribed to this affliction. When his soldiers returned to Europe, they started one of the most disastrous epidemics of which we have any record.

That epidemics are not confined entirely to ancient times is shown by the following extract which was taken from a letter received from Dr. Lederle, then Commissioner of Health of New York: "55,470 children were examined; 6,670 exhibited contagious eye disease, a percentage of 12; 2,328 of these were of the severest type of trachoma, necessitating almost immediate operation; 3,243 were trachoma of milder type. Some schools had as high as 22 per cent. of cases."

From the foregoing it will be observed that there was ample reason for placing trachoma upon the list of excludable diseases, and, furthermore, that the wisdom of the course was fully justified by subsequent events.

Favus, a contagious disease of the scalp and more rarely of the finger nails, was also placed on the excludable list. This affliction flourishes in the old-world centers, where filth and overcrowding attain their maximum. The early exclusion of this disease from the United States has been so effective that the disease has become so rare that the great majority of medical men have not even seen a case.

Leprosy and syphilis in its active stages, for obvious reasons, were at once placed in this category.

In 1901 cases of tuberculosis in which the tubercle bacillus could be found in the sputum were added to the excludable class. A number of medical men in the United States denounced this course as inhuman. However, when it is remembered that this disease is very communicable, that many of the immigrants would soon become public charges, that the United States Government is not a charitable institution for the afflicted of other countries, and that the introduction of each case adds just one more center of infection, it is believed that the majority of the profession will endorse that step.

Epileptics, idiots, and the insane are specifically mentioned by law, and since the two latter have been included by Congress in the three acts which have been passed since 1882, it may be safely assumed that the American people are fully convinced of the justice of the course.

The second class of diseases which come under the head of likely to become a public charge is a very long one. The examining medical officer certifies that the disease or deformity from which an alien suffers is likely to affect his ability to earn a living. Such certificate is not final. The immigrant is afterward taken before a board of special inquiry which is usually composed of three immigrant inspectors. If the immigrant can satisfy this board that he or she will not become a public charge, such person is released. The proof commonly required consists of furnishing a good and sufficient bond, by which the Government may indemnify itself in the event of its having to incur any expense in the immigrant's behalf. The most common disease for which rejection takes place is valvular disease of the heart. This class of cases has been a great burden upon the charitable institutions in the past, and it is quite natural that it should be so. The majority of the immigrants are laborers, and after a short period of the strenuous exertion which is required in America, they suffer from a rupture of compensation, and in many cases become a charge upon the community in which they reside for many years.

Hernia is another frequent cause of rejection. Two points are always considered in making a certificate for this condition: First, the immigrant's occupation and the extent to which the hernia is likely to affect the ability to earn a living; second, the probability of an early operation. In the latter case, application for treatment would probably be made at a charity hospital, in which event the alien would become a public charge for at least several months.

The list of diseases which come under this class multiplies itself indefinitely, but when it is considered that deformities and diseases like poor physique, chronic rheumatism, nervous affections, malignant tumors, senility, debility, defective eyesight, etc., may seriously impair the immigrant's ability to take care of himself, it is not difficult to understand why it should be so.

Another important matter from an economic standpoint, as well as being highly humanitarian, is the detection by the medical inspection of such persons as are suffering with temporary afflictions. Under this head come diseases like pneumonia, enteric fever, malaria, fractures, and any of the other acute medical or surgical maladies. Such persons are placed in the hospitals until they have recovered, at the expense of the transportation company bringing them. The expense of such temporary treatment in the past has amounted to $20,000 for each 100,000 aliens that arrive.

In the Philippines, the same immigration laws apply as in the United States. Alien immigration has not been an important factor. During the fiscal year ended June 30, 1904, there arrived in the Philippines 6,111 immigrants. Of this number, 351 were rejected for medical causes, which is a percentage of 5¾. The rejections were nearly all made under the head of the absolutely excludable diseases. It would perhaps seem that in the examination of over 6,000 aliens, many more or less grave physical defects should have been detected. But, when it is remembered that with the exception of an insignificant few, the entire immigration that comes to the Philippines is Japanese, that they are nearly all male adults in the prime of life, and that this race is noted for its sound physique, the matter assumes a new aspect. Another important consideration is the fact that the tide of immigration to the Philippines has only begun. History shows that when immigration to another country commences, at first only the more robust individuals go, and after they establish themselves the weaker ones follow.

While there has been considerable discussion in the United States and in these islands as to the advisability of making the immigration laws of the Motherland apply in their entirety to the Philippines, yet very little has been said that could be construed as being unfavorable to the application of the medical features of the law. The matter may be viewed from two standpoints: First, whether there is any danger of infecting the inhabitants of the islands with diseases from which they do not suffer at present, and, second, from an economic standpoint. With regard to the introduction of communicable diseases, the ones most likely to be introduced would be trachoma and favus. Trachoma prevails only to a very limited extent among the natives, and such cases as do occur are usually of a very benign nature. If, then, the more virulent cases from other countries were allowed to come in freely, it may be safely predicted that its spread would be very rapid. Favus is also an uncommon disease among Filipinos.

The immigrants who are rejected on account of having various disabilities would only be a liability upon the country, and for that reason we are much better off without them.

In view of the foregoing, it may be said that the enforcement of the medical clauses of the immigration law has been of the greatest benefit to the Philippines, from both a humanitarian and a practical standpoint.

MASTURBATION IN CHILDHOOD.*

By AUGUST ADRIAN STRASSER, M.D.,
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UNFORTUNATELY, onanism in childhood and even in infancy is not so rare as it would seem, and occasionally we meet a case which astounds by its peculiarities and deviation from the accepted portraits of this affection, which we should look upon as a pedagogic error rather than dignify it by the title of what it only rarely becomes—a disease; and it is then that we are perforce driven to debate questions of therapy and of its antecedents, etiology and pathology. Generally having a direct causation in some form of local irritation, this affection, which is at first purely and simply a vice, may degenerate into an ineradicable physical condition, which, because of a secondary group of symptoms, may go on to a fatal termination, as I will show later. The sexual instinct being, as Darwin has so painstakingly shown, an instinct that rules the actions of all species, and affording decided advantages to the individual exhibiting it the earliest, we can discover it at times in man and animals in some form at very early ages, and in the former, when not directly the resultant of irritation, the vice is usually readily curbed by appeals to the moral sense, commands, instruction or directly punitive measures; however, as already said, at times we meet with a case in which it is impossible to influence the trend of the disease in any way. Whether under these circumstances we have to deal, as in the case I detail below, with a sort of dementia precox caused by the constant irritant action on one set of cerebral centers and a physical degeneration, or vice versa, the dementia is etiologically to be held accountable for the clinical manifestations we term masturbation must remain a moot question; it has given me the opportunity, however, of eliciting several points that may be interesting from a pediatric and psychological standpoint.

With this preamble, allow me to present to you the following case history in detail and then to return to my theme. On January 13, 1902, the stepmother, who was also the aunt, of the little patient, consulted me concerning the girl, Edith R. The child was nine years of age, robust and well nourished, despite the fact that she had practiced moderate autoonanism since her fourth year. Her previous history is not of moment; paternally no pathogenic tendencies; maternally a strongly tubercular tendency, in that her mother, several aunts and others of the family died of pulmonary tuberculosis. No specially neurotic history. After the death of the patient's mother, the aunt discovered the vice which the child had acquired during the mother's illness and promptly tried to curb it by threats and punishments, and it seemed that it was successfully eradicated from the brain of the still very young child. However, she was able in secret to continue the ill-conduct, as she later confessed, and whether it be true or not, the little patient boasted that she could remember to have practiced the vice as an infant. Recently the practice had been resumed with full force, so that because of the violent manual friction the nymphæ and the mucous membrane of the vaginal walls were red and inflamed, very much swollen and bathed with a yellow mucopurulent secretion. Perfectly frank and open, assuming an attitude of decided skepsis toward any and every attempt to describe to her the results of persistence in such practices, the child was entirely unaware of the gravity of her vice, and proved herself in no way amenable to reason. It was impossible even with gifts or promises to make her stop her vicious conduct. It was her boast that even while the physicians were talking to her she had elicited an orgasm and that they had not noticed it. At first she had to evoke the sensual climax by manual friction; then she turned her attention to the clitoris itself and she succeeded in elongating that organ to 2 cm. and to make it so hyperesthetic that even the sitting on the school bench or on a chair at home, with or without crossed legs, was sufficient to produce the orgasm. She did not hesitate about lying any more, and as she was very intelligent and able to reason logically far beyond her age, it was easy for her to evade the observation of anyone not having technical knowledge of her doings.

It was apparent, however, that lately the child was running down both physically and mentally; she was easily fatigued, ate scarcely enough to sustain life, partly because of anorexia, partly because she masturbated even at meal times. It was necessary to take her from school, since firstly she could not concentrate her faculties to the necessary extent, and secondly since she requested permission to go to the closets so often that it seriously interrupted classroom discipline and the suspicion arose and was verified by observation that she tried to induce other children to become votaries of the same viciousness. Ten to fifteen times a day, by her own statements, proved by observation unknown to her, she elicited a typical orgasm, with spastic movements of the vagina and a copious mucoid secretion. Under these conditions, even if it did not promise much, I thought that perhaps a clitoridectomy might avail something, since until now manual or instrumental friction were essential to produce the sensual climax, and inasmuch as the clitoris itself was the direct organ of contact used in its production. The parents decided to think the project over and I lost track of the case until the following March, when the patient was again presented to me.

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* Read by invitation before the Jenkins Medical Association.

The strong, robust child had become transformed into a tottering little old woman, with sunken eyes whose roving look gave her a haunted expression; with weak and flabby musculature, an ashy skin, in places cold and cyanotic; in short, a masturbator whom it was impossible to wean from her nasty vice. She was able now, since her father had essayed to stop the practice by tying her arms and legs far apart to the bedstead at night to reach her aim by other means. Firstly, by holding the urine until night and then so directing the stream that, as I was able to witness once, it flowed over and against the clitoris and provoked by its warmth erection and orgasm; and secondly, even this was no longer essential, inasmuch as by purely psychical efforts she was enabled to elicit sensual gratification. In the interval the child's parents had consulted Prof. Jacobi, and naturally under the present changed conditions and the much graver phenomena, as now only mental efforts were needed to masturbate, he advised against any and all operative interference and aside from the usual sedatives and tonic hydrotherapy could give no further advice. As both persuasive and punitive measures had proved themselves ineffectual in inhibiting the vice, and it had reached enormous proportions now, the child masturbating fifty to sixty times in the twenty-four hours, her mother decided to try the effect of constant supervision and by strict commands to change the trend of thought immediately whenever the patient showed any inclination to exercise her practices. This became an arduous and a hopeless task. For even while in the act of reading aloud there would be a sudden panting and sighing, and even before a word could be uttered the orgasm had been evoked. Thereupon the mother resolved to try another method. She stopped the child from sitting for the most part of the day and to inhibit the act of onanism while the child was standing she fastened an ordinary oblong breadpan between the child's legs in such a manner that it was an impossibility for her to put her legs together and by friction of the genitals between them to help her mental efforts at masturbation. Unfortunately not only did this not achieve the desired result, but, I have no doubt, tended to hasten the fatal outcome of the case indirectly, for though I had the pan removed as I foresaw what might result from its use, yet I was too late to prevent its ill effects altogether. For the child in her insane efforts to approximate her legs pressed with such force upon the sides of the heavy pan not only to bend them deeply but also pushed the edges so strongly into the inner aspects of the thighs, over Scarpa's triangles, that both the legs from the knees down were highly edematous and almost all the toes exhibited gangrenous areas. Naturally in a body whose resistance was so low and which was still further daily insulted by her uninterrupted practices and in which the circulation was more than sluggish, it was impossible to stem the progress of the gangrenous process, and after total separation of all the toes the patient succumbed to pyemia on December 24th.

During her illness, however, the patient showed these interesting psychological phenomena. Although well and sufficiently nourished, she would stealthily, if necessary by roundabout routes, no doubt suffering intensely from the condition of her feet, creep through a dark hall downstairs to the pantry, voraciously devouring anything she could lay her hands on, even what she had perhaps refused at suppertime; and quietly regaining her room, resume her masturbation and stoutly deny the theft in the morning. She willfully retained the urine by day and passed it in bed at night for the purpose of onanism; and so also held back the feces in the rectum, partly by its presence to aid in evoking the orgasm and partly as an adjunct in directing the stream of urine forward upon the elongated clitoris. All efforts to wean her from the evil having proved vain, it became necessary, partly as the stench from her feet became almost unbearable despite the greatest care, and partly because she persisted in attempting to lure her stepsister into the same evil habits, to put her into an isolated room, with plenty of fresh air and light, where, in spite of all means to save her from herself and the inevitably fatal termination of such actions, she gave herself up to the vice with almost maniacal activity. In the short (may I call them lucid?) intervals she spent her time in writing, and in a childish style and diction she wrote a sort of autobiography in which she warns other children who might be persuaded to travel the same road to take her as an example and a warning. By and by her former logical thinking began to waver, and the child presented a condition that clinically had all the earmarks of a dementia senilis. With an increasing cerebral paralysis, there were found spastic contractions of the legs and in the arteries it was not difficult to feel the typical thickening and hardening of an arteriosclerosis. Even though it necessitated almost superhuman efforts to elicit the results, yet the patient masturbated until a very short time before her death, going back to manipulation to accomplish the act.

This case seems worthy of some thoughtful study, and we may now return to our theme in general; and indeed let us glance for a moment at the etiology. It is a safe premise to look upon all masturbators, who are not so because of some hereditary taint, as in some way neuropathic. Nevertheless we must not forget that certain physical phenomena due to some external or internal irritant may at times be the etiologic antecedents of the trouble. So, *e.g.* pediculi, worms that have wandered from the anus into the vagina or under the prepuce, itchy skin eruptions, diabetes mellitus and, most frequently, ill-fitting clothing are the usual etiologic factors in the production of the vice, and if not curbed early unfortunately it rapidly enters the chronic stage. In addition to these, Rohleder, in his monograph, adds certain others which may at times be of great importance and may serve to clear up a dark point for the consequent therapeutics. He enumerates phthisis, leukemia, convalescence from an illness accompanied by high fevers, hemorrhoids, psychical and cerebral affections, at times menstruation, laziness and idleness as being causative agents within the body, and as etiologic factors in the environment he mentions wrong home and public education, an uncurbed, riotous imagination, improper nourishment, certain medication, business or social conditions, sexual abstinence, unhappy marriage, the fear of too large families, of venereal infection or of impotence, and religious reasons such as Moraglia has described, all of which, however, are of moment to the adult more than to the child; and I must emphasize once more the first group as being of importance not only to pediatric therapeutics but also as having great influence upon symptomatology. Unfortunately the symptoms of this usually secret vice are unknown not only to the laity, but also, what is worse, to many physicians. As typical of the affection in infancy the cases of Hirschsprung and Kraft are to be taken. The former reports one case in a child of 4-5 months of age and another one which the attending physician had been unable to diagnose. An apparently normal girl of 13 months, rubbed her pelvis back and forth against the nurse's breast, evincing more and more excitement constantly; the face became flushed and was distorted, and finally, accompanied by sighing and panting, the object of the act was obtained. During the attack the child was entirely apathetic to its surroundings and directly afterwards would sink into a deep stuporous sleep from exhaustion.

For older children of course the symptomatology depends upon the method by which the sensual gratification is achieved. Violent friction of the penis, clitoris or genital opening is continued to that point when, accompanied by hiccups or rapid breathing, palpitation of the heart and flushing of the face, the orgasm occurs. Or some children frequently accomplish their aim by tightly approximating their legs and wriggling back and forth upon their chair, the child meanwhile becoming more and more indifferent to its environment, its face being more and more distorted, the eyes fixed and glassy, until, with copious secretion of sweat, or even with a fainting spell, the sensual climax is reached and relaxation follows. As the vice is conducted in secret, preferably in outhouses or toilets, it is not easy to establish these symptoms. However, certain adventitious signs sometimes aid in clearing up an apparently inexplicable case. An unnaturally shy and reticent bearing, unwillingness to share in the play of other children, and if urged to do it invariably being the spoiler of the game, so that thus the time and solitude may be gained to practice the vice; the disgust evinced (alas, too seldom!) by the subject's playfellows; the noticeable habit of sitting quiet and daydreaming, which is contrary to robust child life; all these must warn us to be on the outlook, inasmuch as idleness is a prolific source of this naughtiness. Of course at first there are no great physical disturbances or mental vagaries. If, however, the vicious practices are continued, other local and systematic disturbances accompany the nervous symptoms, of which I need only mention the most usual ones. The child onanist is easily startled and frightened; frequent and causeless vasomotor disturbances are discerned in violent blushing; in younger children the occurrence of attacks such as were described above or which may even be masked under convulsive seizures obtains. Whether these attacks rest upon an epileptic basis of which the onanism is the outward manifestation, must still remain sub judice.

Local symptoms are, unfortunately, far from conclusive; if, however, the suspicion is rife, it is wise under some pretext to establish the facts by ocular inspection of the genitals. It is the rule to find the prepuce of masturbating boys much elongated, this with the retained smegma often being the causative agent in producing the vice. In little girls an elongated clitoris, a fissured or eroded hymen and red and inflamed mymphæ, a true vulvitis, are symptomatic phenomena; and in children of either sex the finding of pollutions by day or night, in fact the staining of the underclothes by any secretion must be highly suspicious and invite careful scrutiny, which must, however, be cautiously conducted, lest we overshoot the mark by suggesting the very evil which we are trying to undo. Among subjective symptoms we must mention the complaints of cerebrasthenia, dullness and slowness in the cerebral functions, causeless mental and physical fatigue, a depreciation of the vital forces, muscular weakness and a depression that often reminds one of tædium vitæ seen in melancholia. The circulatory and respiratory organs are frequently affected, anorexia obtains, and the rectal muscles are or become sluggish and it is not difficult to trace the portrait of the typical neurasthenic in the child.

As far as the pathology of the disorder is concerned, aside from the findings in the cerebellum and spinal cord in cases where the onanism was long and violently continued there is not much else to be described except the lesions we might expect from the described etiology and symptoms. Rohleder reaches the following conclusion on this topic: "Onanism like all sexual excesses rests upon violent sexual impulses, which are unsuccessfully combated by the subject and thus establish the vice, and is not necessarily caused by an abnormality or lesion of the spinal cord."

It would exceed the bounds of this essay to describe in detail the sequelæ of onanism in childhood; it must suffice if we examine its effects on character and morality, the adjuncts that will make the growing child an integral factor in the community. Luckily it is rare that masturbation is practiced so excessively as above described so that a condition resembling marasmus is engendered. Nevertheless lying and dissimulation are bad foundation stones for the building of character; and especially when all actions and sensations tend only to the one goal, the gratification of sensuality. The constant yielding to these impulses fosters a weakness of willpower and naturally this failing robs the masturbator of the power for concentration of thought or purpose. As Kraft-Ebing puts it: "Nothing equals masturbation at an early age in its aptness to dry up the wellspring of noble and ideal sensations that would naturally arise at that time of life in an individual with normally evolved sexuality. This defect influences adversely morality, ethics and character." Systemic changes as results of the evil practice are at first not discernible; if continued, however, the phenomena described above under symptomatology, especially those pointing to cerebral fatigue, can be elicited. Growth is frequently stunted, the organs of digestion and assimilation have their functions disturbed, and there is a gradual reduction from par in bodily vigor and health.

To give a certain prognosis or institute unfailing therapeutic measures is difficult, as much depends on how far the vice has progressed, what inroads on character and willpower have been made and naturally upon the ultimate causation. Certainly both prognosis and treatment can be more hopeful if the causative lesion is found in some itchy eruption than if the condition of satyriasis or nymphomania exists, which would entail the assumption of some psychical defect. It would be foolhardy to give a good prognosis in every case; however, on the other hand, scepticism must not allow us to refuse therapeutic measures in any case.

On the subject of treatment two points are worthy of discussion. The one, prophylaxis, is, to be sure, more of a pedagogic than a medical problem. The education of a child, the hygiene of school and home, kind but strict supervision on the part of both parents and teachers, who should be constantly on the watch and aware that the child is readily induced by others to start the practice, these are all measures of inestimable value in preventive medicine. As difficult as the subject may be, it can only be right to explain the phenomena of puberty to children at that age and to warn them and protect them from abuse at their own or others' hands. With smaller children, of course, the conditions are different, and it is here that prophylactic measures are of supreme importance. Supervision of nourishment, clothing, cleanliness of body and associations, strict orders to nurses and attendants forbidding the handling of the genitals of their charges, the inculcation of chasteness upon the child even toward other members of the family, all are feasible during this stage of life when everything is still learned by imitation.

If, however, onanism is discovered as already existing in a young child, provided no physical lesion is the causative agent, a good thrashing or active punishment may be of service. With older children this measure must be judiciously considered, lest a more serious defect be established and from an onanist be evolved a sexual pervert. The exhibition of disgust and disdain, instruction as to the possible evil consequences of the continuation of the vice, strict supervision, a change of the trend of thought by inducing the undertaking of difficult and tiring tasks, and a tonic course of hydrotherapy are of more service here than the long lists of medicines, of sedative or tonic nature usually advocated.

115 BEECH STREET.

SAW PALMETTO.

By I. L. VAN ZANDT, M.D.,

FT. WORTH, TEXAS.

SOME years ago the subject of this paper was brought to my attention through reading an article by an old physician who had long been under the necessity of using a catheter on account of prostatic trouble. This he had been relieved of by the use of saw palmetto. A recurrence of his trouble from "taking cold," had also been relieved. This particularly attracted my attention, because of being so entirely contrary to the general teaching, Sir Henry Thompson, for example, saying that we have no medicinal remedy for this, and all we can do is to teach such patients to use a catheter. Nowadays surgery seems to be about all that is recommended.

I began soon after prescribing it as occasion offered, for old men whose sleep was disturbed by the necessity of rising to empty the bladder. I do not think one of them failed to receive benefit. The fluid extract was used alone. One case, severe and with marked results from treatment, is here reported: Mr. B. B. was brought to me from Denton County, April 29, 1896. I saw him late in the afternoon. His physician, being unable to introduce a catheter, had aspirated his bladder once daily for four days, the last time probably on the morning of that day. Procuring a Mercier's elbow catheter (one with elbow near the point), I had but little difficulty in introducing it and drawing off the urine with a lot of disintegrated blood clot. I then cleansed the bladder with a boric-acid solution, by repeated small washings after the manner of Sir Henry Thompson. This was repeated morning and evening for the next two days, when the man became able to pass his urine during the day. It was necessary to catheterize him in the morning for five days more, after which he was able to pass his urine as necessary.

He took a drachm of the fluid extract four times a day at the beginning; later three times a day. He was at the beginning pale and emaciated. He remained about town for a month or more, by the end of which time his complexion was ruddy and he appeared to have gained much flesh. He told me he was in better condition than he had been for eight years, and wrote me, two or three months later, that his improvement had continued to that time.

Knowing that saw palmetto had been used in respiratory troubles, and considering the similarity between the prostate and the tonsils, I determined to test the remedy in chronic inflammation involving the latter. My first experiments (two patients) were made during the winter of 1892-3. One patient with tonsils very much enlarged, breathing through his mouth entirely, was greatly benefited by a short treatment. He moved away in a short time, and I lost sight of him.

The other patient, aged four or five years, was under medical care for his throat every few weeks during the winter. I treated him in one acute attack, then put him on saw palmetto, and though I have continued to do the family practice, I have seen him only once since with a sore throat.

Since that time I have given the treatment to many cases. Some of the patients received marked benefit to throat and to general health; others failed, some probably from lack of persistence in taking the medicine.

I will conclude with a short report of cases: Girl, æt. about 10. Has chronic trouble with throat; has had much local treatment; is subject to frequent attacks of spasmodic or catarrhal croup; I saw her in one of these attacks in August, 1903. She was given apomorphine muriate and potassium iodide for immediate relief, and then half-drachm doses of fluid extract of saw palmetto three times a day. I saw her about a year later. She had not had another attack of croup. I was consulted as to the propriety of her taking another "course" of the medicine to strengthen her against attacks the coming winter, and advised her doing so.*

Boy, æt. 7. was taken to one of our best throat specialists on account of snoring. He could not sleep except propped up, and even then his breathing could be heard in the next room with the door closed. The specialists gave no hope for relief except by operation for enlarged tonsils and adenoids. He could not, however, promise absolute immunity from danger of death, so the operation was declined. As I was the family physician, I was asked to prescribe. I gave the saw palmetto, and in a short time he could lie down and sleep without a pillow, making no more noise than the healthiest babe. All this time one nostril had been "running," but this ceased after several weeks taking of the medicine, and now his nose and throat give him no trouble whatever.

Young woman, æt. 16, had been under a specialist's care for chronic sore throat for one month without benefit. I found her with an acute attack. This was relieved and she was put on saw palmetto. Her mother tells me her throat is better than for years.

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*This patient has passed another winter without an attack of croup, and her general appearance has very much improved.

Theory of Light Treatment.—Strebel (*Dermatologische Zeitschrift* Bd. XI, 1904) believes the chief action to be one of stimulation to the trophic nerves involved; a second beneficial action may arise by the products of the destruction of albumen acting upon the pathogenic microorganisms as poisons.

MEDICAL RECORD.

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THOMAS L. STEDMAN, A.M., M.D., EDITOR.

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THE ACTION OF ALCOHOL ON THE CIRCULATION.

THE somewhat conflicting and contradictory statements made by different observers and investigators with regard to the physiological effects of alcohol render it difficult for the unprejudiced student and critic to formulate a satisfactory opinion in the matter. The subject is not merely of academic interest, but it has a most important practical bearing, for alcohol has long held a prominent place in the fields of dietetics and therapeutics alike. We are now concerned with what may be designated the legitimate use of alcohol, as contradistinguished from its excessive use or abuse. As in other affairs, it is not easy to define where the one ends and the other begins, and with respect to alcohol, as to other therapeutic agents and to foods, the individual tolerance varies widely. It is difficult to believe that a body that has had the sanction of continued usage for so long a time as alcohol can be entirely unnecessary and useless.

Two opposing views are at present held as to the physiological actions of alcohol, the older one that it is a stimulant and the latter one that it is a narcotic. The evidence would seem to show that neither is entirely correct or wholly wrong, but that certain functions are energized, while others are inhibited as a result of the influence of alcohol. Some light is thrown on this phase of the subject by the results of an investigation reported by Drs. Horatio C. Wood and Daniel M. Hoyt at the recent meeting of the National Academy of Science and published in abstract in the *University of Pennsylvania Medical Bulletin* for May, 1905. In experiments on normal, uninjured dogs it was found that, as a rule, alcohol in small or in large dose, by inhalation or by intravenous injection, caused no increase in arterial pressure, although occasionally such an effect appeared to be produced. An explanation is wanting for the latter fact. Similar results were observed after subcutaneous injections of alcohol in dogs suffering from an infective fever, and they are in accordance with clinical observations on patients suffering from various infective fevers.

When the general vascular system was separated from the dominant vasomotor centers by section of the spinal cord in the cervical region, with maintenance of the respiration, the arterial pressure was distinctly and consistently increased. When the aorta was ligated in the middle thoracic or upper abdominal region the effects produced by alcohol were so unsatisfactory, because of the enormous disturbances of respiration and the general system resulting from the operation, that no conclusion could be safely reached.

Observations made with the aid of the current-meter showed that small amounts of alcohol caused marked increase in the rate of blood-flow through the large arteries, quite independently of and unrelated to the arterial pressure. This increase was consistently maintained on repetition of the intravenous injection, until finally the rate gradually lessened and became subnormal in consequence of vascular paralysis.

The work of the isolated reptilian heart was markedly and persistently increased by addition of from ¼ to ½ per cent. of alcohol to nutritive fluid fed to the viscus, while addition of from ½ to 1 per cent. gave rise at first to increase in the amount of work followed in a short time by a marked lessening in the amount.

In attempting an interpretation of the experimental facts detailed it is pointed out that the arterial pressure is a result of the interplay of two antagonistic forces, namely, the propelling power of the heart on the one hand and the frontal resistance of the blood vessels on the other hand. If either of these be increased, the arterial pressure will rise, and, conversely, if either be diminished, the pressure will fall. If one be increased and the other diminished, the arterial pressure may remain unchanged, or rise or fall, in accordance with the degree of the forces in operation. The fact, therefore, that alcohol does not constantly elevate the blood-pressure is no proof that it does not stimulate either the heart or the blood vessels, as it may stimulate one dominant factor of the blood-pressure and depress the other in such a degree that the balance is maintained. The want of constancy in the influence of alcohol upon the blood-pressure suggests a disturbance of the dominant blood-pressure factors, of such a character that the balance between these is not always accurately maintained.

It is further argued that the increase in the blood-pressure produced by alcohol after paralysis of the vasomotor system as a result of section of the cervical cord cannot be due to a local action on the walls of the blood vessels, as it does not occur before the section. This disparity seems to indicate that alcohol consentaneously stimulates the heart and depresses the vasomotor centers. This conclusion is strongly corroborated by the increase in the rate of blood-flow in the arteries induced by alcohol. Such a result can be brought about by augmenting the force of the propelling power or by diminishing the frontal resistance or by a combination of both of these factors. If it were due simply to stimulation of the heart the blood-pressure would rise, while if it were solely the outcome of vascular depression the blood-pressure would fall. Further corroboration is afforded by the increased amount of work performed by the reptilian heart under the influence of small amounts of alcohol. Plethysmographic observations on human beings also indicate the occurrence of dilatation of the blood vessels as a result of the action of alcohol.

In conclusion it is pointed out that there is at present no sufficient evidence that alcohol is a direct cerebral stimulant, such as is caffeine and that, so far as consciousness is concerned, its tendency is to induce sleep rather than wakefulness, while the cerebral excitement and increased mental activity that follow upon the ingestion of alcohol are to be attributed to the increased flow of blood through the vessels of the brain.

PARATYPHOID FEVER AND ITS CLOSELY ALLIED AFFECTIONS.

In the University of Pennsylvania Medical Bulletin for April, Dr. Herbert Fox traces the relations of and classifies in order, typhoid fever, paratyphoid fever, paracolon infection, and meat poisoning.

The first account of paratyphoid was in 1896, when Achard and Bensaude isolated from the urine of one case, and pus of an abscess at the sternoclavicular articulation of another, organisms which were practically identical. In Paris Widal in 1897 found this organism in an abscess in a phthisical patient. Gwyn in 1898 and Schottmüller in 1900-'01 contributed reports of supposed typhoid cases from the blood of which they obtained paratyphoid organisms. According to Dr. Fox the reported cases now are approaching a hundred.

As a rule paratyphoid fever closely resembles in its clinical course typhoid fever, but striking aberrations sometimes occur. Libman's case is an example. In this case the disease assumed the picture of an acute cholecystitis which began suddenly with nausea, vomiting, prostration, followed by distention of the abdomen and pain in the epigastrium and right hypochondrium, and jaundice. From the gallbladder by aspiration and at operation, and from the blood, Libman was able to cultivate paratyphoid organisms. Two types of paratyphoid organisms are recognized, known in the laboratory as "A" and "B" types.

The conclusions reached by Dr. Fox are as follows: 1. Paratyphoid fever differs from typhoid fever in (*a*) a shorter invasion and rise of temperature; (*b*) shorter or absent period of continued fever; and (*c*) marked diurnal remissions of temperature, much deeper than in typhoid fever and without periodicity. An absence of the Widal is suggestive, if it persist in reasonably high dilutions. 2. The duration is on the whole shorter than that of typhoid fever and in the cases in which type "B" was adjudged the etiological factor, this fact is more striking than in the type "A" cases. 3. The general findings of the type "A" cases are nearer to the typhoid than type "B," the latter presenting a picture more like septicemia. 4. The complications of type "B" infections are more numerous, more purulent, and the course is more fulminating in these cases. 5. The causal germs belong to the intermediates of the typhocolon series, the type "A" being nearer to the bacillus of Eberth and Gaffky, while type "B" approaches the meat-poisoning group. 6. The clinical evidences of the respective organisms just named agree with their general properties and relations to infections in this order, ranging from the subacute typhoid to the hyperacute meat poisoning. 7. Antityphoid serum will clump the paratyphoid "B" at the same time as with the *B. typhosus*, sometimes even in higher dilutions; so that a positive reaction of a patient's serum to both *B. typhosus* and *B. paratyphosus* "B," even if the latter be in higher dilutions, will not permit a diagnosis. On the other hand, only twelve times in 94 cases of typhoid fever did the serum react with the type "A" paratyphoid, so that a positive reaction with type "A" and not with the bacillus of Eberth may be taken as nearly a proof of the existence of an "A" paratyphoid infection. 8. It is probable that there is some other factor responsible for coagglutinations than an increased value of the agglutinins normally present in the blood. 9. The best proof of the existence of a para-infection is the isolation of the bacterium and the saturation test.

THE GROWTH OF CANCER.

Dr. R. E. F. Bashford, General Superintendent of Research, and Director of the Laboratory of the Imperial Cancer Research Fund, recently delivered an address on the growth of cancer, published in *The Lancet* of April 1. He points out that the subject of the growth of cancer has been neglected. Investigators of the eminence of Thiersch, Waldeyer, and Cohnheim paid little attention to the matter and would seem to have overlooked its great importance. The explanation of this apparent indifference, according to the writer, is the simple one that the processes of cell division were little understood by the older investigators, who had also little information on fertilization and on the development and differentiation of organisms to guide them in studying the normal growth of the human body, and far less still to help them to comprehend growth in the aberrant form presented by cancer. As the result of his latest investigations Dr. Bashford summarizes as follows: "Cancer is identical in all vertebrates, and in growing accommodates itself in a striking manner to the time limitations imposed by the compass of life in different animals. Under favorable experimental conditions the growth of cancer is undefined, of enormous and, so far as we can judge, limitless amount. Artificially propagated cancer displays all the characteristic features of the growth of sporadic tumors. The growth of artificially propagated cancer is due to the continued proliferation of the parenchyma cells." The author claims to have confirmed this conclusion, originally advanced by Jenssen. "The artificially propagated parenchyma makes the reaction of the host subserve its own needs. Artificially propagated tumors cause no symptoms in the organism to which they have been added. The power of differentiation is definitely in one direction only, even three and one-half years after separation from the original host. The balance of evidence is in favor of the growth being interrupted, and not uniform and continuous." From the standpoint of therapeutics the investigations of the Imperial Cancer Research Fund have established the early surgical treatment of cancer upon that experimental and rational basis which has hitherto failed. Artificially propagated tumors produce metastases as do sporadic tumors. Sufficiently early removal of the local transplanted tumor removes metastasis from the region of possibility, and the immediate practical outcome of the whole investigation is a strong experimental justification of early operation in cancer.

PINTO.

Dr. Paul Wooley, Director of the United States Serum Laboratory at Manila, reports, in a recent Bulletin of the Bureau of Government Laboratories, on the above-named affection. A group of dermatomycoses, characterized by peculiar nonpigmented patches on the skin, in the scales from which hyphæ or spores or both, of a mold-like fungus are found, is known under the terms paño blanco, pinta, pinto, caraté, mal pintado, mal de lòs pintos, mal de pinto, cute, cativi, pannus, and the spotted disease of Central America. This epiphytic disorder has been reported from Mexico and Central and South America; another disease resembling it in some respects has been observed by Legrain in North Africa and by Sandwith in Egypt, but, to Dr. Wooley's knowledge, no previous report has come from the Philippine Islands. The case reported by Dr. Wooley was that of a Filipino laundryman, 15 years old, and in good health. The patient had pinkish white patches, irregular in size and shape, on the ankles, dorsa of the feet, shins, elbows, hands, wrists, and one on the right shoulder. The largest ones were over the external malleoli of the ankles. No two of these patches were of the same size or shape, nor were they distinctly defined, but they shaded from their clear white centers to the normal brown of the skin. Neither were the lines of extension regular, so that the outlines of the patches were irregular and crenated. About the larger areas were smaller ones, some barely visible andf of a faint pinkish white or very light brown color. On palpation it was evident that the skin over the larger patches was slightly rougher than the normal, and it felt somewhat thicker. The palpating finger could detect no abnormal variation in the covering of the smaller spots. There was but a minimum amount of scaling, and there was some itching. From an examination of scrapings from one of the larger lesions on the ankle in a solution of caustic potash, the nature of the disease was rendered plainly evident, while on close examination Dr. Wooley states that the clear white spots with almost normal looking skin can be confused with no nother skin disease with which he is acquainted.

WAR AGAINST SECRET NOSTRUMS.

FEW words are needed to convince sane men of the evils of indiscriminate dosing with secret remedies—the catarrh cures, nerve tonics, and restorers of menstrual irregularities with which the druggists' shelves are loaded and the advertisements of which aid so effectively in the dissemination of moral teachings by giving financial support to the religious press. Physicians, in general, are too busy to undertake a crusade against the sale of these alcoholic compounds, as many of the most popular and most advertised preparations are, and they are also a little timid in taking up the cudgels in a fight in which it would be claimed they were trying to down a successful rival. It has been reserved for Mr. Bok of the *Ladies' Home Journal* to do most commendable work in exposing the evils attendant upon the promiscuous sale of these secret medicines, and he has suffered much vexation, in consequence, through suits brought against him by irate patent medicine manufacturers. He feels, however, that all the labor should not be his, and calls upon the medical profession for aid in his warfare upon quack remedies. In a communication to the *Journal of the American Medical Association*, he points out that if a successful crusade against injurious patent medicines is to be carried on, the medical profession, as a whole, must take a strenuous part in the fray, and that each and every one should do his share in suppressing the evil. The secret medicine interest is powerful and well endowed with the sinews of war. Thus it has happened that in all the States save one, bills designed to regulate the sales of injurious patent medicines have been doomed to ignominious defeat. The principal supporters of these bills have been members of the Women's Christian Temperance Union, who have hurt the cause for which they fought byill-considered zeal and lack of discretion. Their efforts, therefore, have been well meaning, but ineffective. Mr. Bok calls upon the members of the medical profession to make united effort to curb the sale of hurtful secret remedies by legislation, and declares that if this be not done it will be a clear case of shirking responsibility. It is obvious that so long as the physicians of the country show themselves apathetic in the matter, the sale of secret medicines will continue, and the proprietors will wax fat and flourish exceedingly. For the sake of the public, therefore, if not in their own interests, it would seem that medical men should bestir themselves to down the nostrum evil.

News of the Week.

Meeting of the Trustees of the United States Pharmacopeia.—The fifth annual meeting of the Board of Trustees of the United States Pharmacopeial Convention was heldat the Philadelphia College of Pharmacy, May 13. The members present were: Dr. J. H. Beal, Scio, O.; Mr. Albert E. Ebert, Chicago; Prof. Joseph P. Remington, Philadelphia; Mr. S. A. D. Sheppard, Boston; Dr. H. M. Whelpley, St. Louis; Dr. H. C. Wood, Philadelphia. In the absence of the chairman, Charles E. Dohme, who is in Europe, Vice-Chairman Beal called the meeting to order. The minutes of the fourth annual meeting and the intervening correspondence of the board were read and approved. It was decided that a sample page or pages of new books in which it is desired to use some of the text of the Pharmacopeia shall be submitted to the chairman or acting chairman for approval before permission to use pharmacopeial text be given. Prof. Remington, chairman of the Committee on Revision, made a detailed report of the progress of the work, and stated that the new Pharmacopeia would be out before the end of June. The action of the chairman in fixing August 1, 1905, as the date from which the new revision will be official was approved. One hundred unbound copies will be distributed simultaneously to pharmaceutical and medical journals for review purposes. All books paying for the use of pharmacopeial text will be required to print upon the obverse of the title page the following words in full-face or black letter type: "Authority to use for comment the Pharmacopeia of the United States of America, Eighth Decennial Revision, in this volume, has been granted by the Board of Trustees of the United States Pharmacopeial Convention, which Board of Trustees is in no way responsible for the accuracy of any translations of the official weights and measures or for any statement as to strength of official preparations." The subject of a Spanish edition of the Pharmacopeia was reported upon by President Wood. He was instructed to continue his investigaion and again report to the board. Dr. Wood finds considerable demand for a Spanish edition of the United States Pharmacopeia in Cuba, Mexico, Costa Rica, and Porto Rico. The Rice Memorial Fund Committee made a final report. Mr. S. A. D. Sheppard was appointed a special committee of one to take charge of this fund and deposit the same in the name of the Board of Trustees of the U. S. P. Convention. It was decided that, as soon as sufficient monies shall have been received after paying present indebtedness and current bills, the sum of $200 be paid to each member of the Committee on Revision excepting the chairman (Prof. J. P. Remington), to whom shall be paid $2,000; to the secretary of the Board of Trustees (Dr. Murray G. Motter), $500; and to the treasurer of the convention (Dr. George Wythe Cook), $200. The secretary of the board reported progress on the Abstract of Proceedings of the Board of Trustees, and further action was postponed. The following officers and standing committees were elected for the ensuing year: *Chairman,* Charles E. Dohme, Baltimore, Md.; *Secretary,* Dr. Murray Galt Motter, Washington, D. C.; *Executive Committee,* Dr. J. H. Beal, Scio, O., chairman; Dr. H. C. Wood, Philadelphia, and Mr. Charles E. Dohme; *Auditing Committee,* Dr. H. M. Whelpley, St. Louis, Mo., chairman; Dr. A. E. Ebert, Chicago, and S. A. D. Sheppard, Boston, Mass.

The West Virginia State Medical Association held its thirty-eighth annual meeting in the Board of Trade Hall, Wheeling, W. Va., May 24-26, 1905. The following papers were read: "The Teachings of Failures," by F. L. Hupp, Wheeling; "The Palliative Treatment of Prostatic Hypertrophy," by H. E. Sloan, Clarksburg; "Preoperative and Postoperative Treatment of Surgical Cases," by J. E. Cannaday, Paint Creek; "Appendical Abscess—Pathology and Treatment—Report of Cases," by S. M. Mason, Clarksburg; "Injuries of the Head—Report of Cases," by Henri P. Linsz, Wheeling; "Anatomical and Physiological Principles Involved in the Symptomatology of Brain Traumatism," by J. Schwinn, Wheeling; "Office Treatment of Rectal Diseases," by William M. Beach, Pittsburg; Symposium on Pneumonia: "Etiology," by S. S. Wade, Morgantown; "Pathology," by L. O. Rose, Parkersburg; "Symptoms and Signs," by W. W. Tompkins, Charleston; "Treatment," by L. D. Wilson, Wheeling; "Tuberculosis," by J. W. Preston, Keystone; "Pseudo-Membranous Croup," by S. W. Bush, Parkersburg; "Cases and Experiences of Interest," by W. H. Sharp, Parkersburg; "Diseases of the Kidneys," by M. McNeilan, Parkersburg; "Rupture of the Bladder," by J. R. Cook, Fairmont; "The Importance of Early Diagnosis of Intraocular Lesions," by H. R. Johnson, Fairmont; "Fikker's Diagnosticum," by L. O. Rose, Parkersburg; "Drugs and the Diazo Reaction—A Communication," by William W. Golden, Elkins; and "Notes on Tuberculosis," by Andrew Wilson. Wheeling. Webster Springs was chosen for the next place of meeting, and the following officers were elected: *President,* S. S. Wade, Morgantown; *Vice-Presidents,* G. W. Bruce, Moundsville, F. L. Hupp, Wheeling, and A. S. Grimm, St. Mary's; *Secretary,* William W. Golden, Elkins; *Treasurer,* V. T. Churchman, Charleston; *Councillors,* A. O. Flowers, Clarksburg, A. R. Warden, Grafton; W. W. Henne, Quinnimont, W. N. Burwell, Parkersburg, T. W. Moore, Huntington; *Delegates to American Medical Association,* J. L. Dickey and L. D. Wilson of Wheeling.

Merger of Medical Colleges.—Arrangements have been consummated for the consolidation of the Kansas City (Mo.) Medical College, the Medico-Chirurgical College of Kansas City, Mo., and the College of Physicians and Surgeons of Kansas City, Kan. These schools will be merged and a faculty chosen which will become the medical department of the University of Kansas. This department will be located at Rosedale, Kan., a suburb of Kansas City, Mo., and instruction will be given in both Rosedale and Kansas City, Mo., advantages for clinical teaching being more abundant in the latter city. In St. Joseph, Mo., the Ensworth Medical College and the Central Medical College have combined, the institution retaining the name of the Ensworth Medical College.

A Special Class for the Treatment of Pulmonary Tuberculosis among Negroes has been started at the Department of Health's Clinic for the Treatment of Communicable Pulmonary Diseases. This class will be held on the evenings of Tuesday, Thursday, and Saturday of each week from 8 to 9 P. M., and only negroes will be seen on those days and hours. The establishment of such a class was due to a request made by the Afro-American physicians of this city, they believing that the colored people would attend such a special class more readily. The physicians in attendance are negroes, and arrangements have been made for the services of a colored nurse. The physicians are: Dr. P. A. Johnson, laryngologist; Drs. W. H. Johnson, A. A. Kellogg, A. S. Reed, J. F. Thorpe, and E. P. Roberts, attending physicians. These physicians were recommended by the Medico-Chirurgical Society (colored), New York City, at a special meeting on June 4. Treatment and medicines are, of course, free, and the patients will be visited at their homes by the tuberculosis nurses of the Department. Negroes may attend any of the other classes of the Clinic, which is open daily from 9 to 4, and on Monday, Wednesday, and Friday evenings from 8 to 9 P. M.

Future Pursuits of Columbia's Graduating Class.—Statistics of the graduating class of Columbia University, announced at the class day exercises on Monday of this week, show that fifteen members of the class of 1905 have prepared at college for commercial life. Twenty have decided to try their fortunes at the bar, while nine will teach, but medicine has fallen off in an unusual manner. Only five men in the entire class, which numbers over 100, will follow this profession. As a rule, law and medicine lead.

American Medical Society for the Study of Inebriety and Alcohol.—The thirty-fourth annual meeting of this society will be held in the hall of the Atkinson School Building, Portland, Ore., July 12 and 13, 1905. The president's address, by Prof. W. S. Hall of the Northwestern University of Chicago, Ill., will be a review of the progress of the study of the action of alcohol during the year. The committee on the Influence of Alcohol in Literature and History will present a report by its president, Dr. John Madden. The committee on Heredity as a Cause in the Disease of Drug and Spirit Taking, will report, and the committee on Patent Medicines will also submit a statement of their work. The second session will be a memorial service to the memory of the late Dr. N. S. Davis, and a continuation of a similar meeting of the American Medical Association.

American Laryngological, Rhinological, and Otological Society.—At the eleventh annual meeting of this society, held in Boston, June 5, 6, and 7, 1905, the following officers were elected for the ensuing year: *President,* Dr. James E. Logan of Kansas City, Mo.; *Vice-Presidents,* Drs. Thomas H. Halsted of Syracuse, N. Y., William L. Ballenger of Chicago, Ill., H. Bert Ellis of Los Angeles, Cal., and Henry L. Myers of Norfolk, Va.; *Secretary,* Dr. Wendell C. Phillips of New York; *Treasurer,* Dr. Ewing W. Day of Pittsburg, Pa.; *Councillors,* Drs. Frederic C. Cobb of Boston, Mass., James F. McKernon of New York, and H. W. Loeb of St. Louis, Mo.

American Neurological Association.—The following officers were elected at the annual meeting of this society, held in Philadelphia June 1-3, 1905: *President,* Dr. Henry L. Stedman of Boston; *Vice-Presidents,* Drs. Henry M. Thomas of Baltimore, and George W. Jacoby of New York; *Secretary and Treasurer,* Dr. Graeme M. Hammond of New York; *Councillors,* Drs. William G. Spiller of Philadelphia, and Walter Channing of Boston.

American Laryngological Association.—At the recent meeting of this association, held at Atlantic City, June 1, 2, and 3, 1905, the following officers were elected: *Preident,* Dr. J. W. Gleitsmann of New York; *Vice-Presidents,* Drs. J. L. Goodale of Boston and C. W. Richardson of Washington; *Secretary Treasurer,* Dr. James E. Newcomb of New York.

Hospital Fires.—A small fire that started in the cellar of the J. Hood Wright Hospital last week was discovered and put out before it had gained headway enough to do much damage. Owing to defective insulation, what might have been a serious fire started in the diet kitchen of Ward 22, in Bellevue Hospital, late one night last week. Through the efforts of the night nurse, whose hands were badly burned, the blaze was kept from spreading till help arrived.

Motor Runs for Convalescents.—It is announced that several members of the New York Motor Club purpose making regular visits to the various hospitals in the city to take out for a run in the country those among the patients who are strong enough to be about and to stand the trip, but not well enough to leave the hospital.

State Hospital Boards Named.—Boards of managers for the eight State hospitals have been appointed under the new law re-establishing such boards. The law restores the system of control in force three years ago, and substitutes for the boards of visitation that existed since then boards of managers, which have general supervision over these institutions excepting their finances. They are required to meet once a month and report. Many of the members of the old boards of institutions have been appointed as members of the new boards of managers.

Diplomas Withheld from Medical Students.—The Faculty of Georgetown College, Washington, D. C., has voted to withhold diplomas from eleven seniors in the medical department for cribbing in their final examinations. The difficulty grew out of the protest of the class against being examined in medical zoology, because they had been unable to get text books on the subject. The Faculty insisted and the students thereupon felt at liberty to inform each other and to get what help they could from outside to pass the examination in this branch.

St. Gregory's Free Hospital, at 91 Gold street, New York, a new hospital for the treatment of accident cases alone, was opened on June 8. Before the day was out it had three patients. All three walked into the hospital for treatment, and were attended by the House Surgeon, Dr. C. H. Duncan. Attached to the hospital are two ambulances, neither of which was called out on the first day.

Radium Rays in Hydrophobia.—According to despatches from Milan, Professor Tizzoni, of Bologna, has succeeded in curing rabies in animals by means of exposure to radium. After injecting into rabbits virulent hydrophobia virus, he subjected them periodically for several days to the influence of radium rays. The rabbits thus treated were, he declares, all cured, while others, likewise inoculated but not subjected to the cure, died of hydrophobia. A pinch of salt, as well as of radium, is indicated here.

An Ex-Christian Scientist with a Thought and a Demonstration.—Dr. Charles G. Pease, a dentist, and formerly one of the most enthusiastic of Christian Scientists, has sent in his resignation as a member of the "First Church of Christ, Scientists," and has coincidently published a book entitled "An Exposure of Christian Science Methods and Teaching Prevailing in the First Church of Christ, Scientist, New York City." The sub-title of the volume runs: "and of the dangers of the philosophy which has protected, supported, and enabled its votaries to deceive, falsify, oppress, persecute, practise dishonesty, and do works in fulfilment of the prophecy recorded in Matthew 24: 24, constituting a menace to individual liberty and rights and to the moral and spiritual life of a nation."

St. Louis Hospital for Consumptives.—The Health Committee of the House of Delegates, St. Louis, has recommended the erection of a building on the outskirts of the city to be used especially for the care and treatment of tuberculous patients.

Obituary Notes.—Dr. JACOB PRICE died at Westchester, Pa., on June 9 at the age of seventy-eight years. His ancestors were Friends, who settled in the State with William Penn. He was graduated from Jefferson Medical College in 1850.

Dr. MELVILLE M. SHEARER, for many years county physician of Sonoma county, California, died on May 28 at his home in Santa Rosa, at the age of sixty-two years. He was a graduate of the College of Physicians and Surgeons, Keokuk, Iowa, in the class of 1864.

Dr. HATTON N. T. HARRIS, of the U. S. Navy, died of appendicitis at Pensacola, Fla., on May 19.

Dr. JOSEPH WISHARD died at his home in Greenwood, Ind., on May 31, at the age of seventy-seven years. He was a graduate of the Medical College of Ohio in 1857. He was a member of the Indiana State and of the Johnson County Medical Societies.

Dr. WILLIAM ISAAC GOODIN of Cincinnati died May 31 at the age of sixty-nine years. He was a graduate of the Medical College of Ohio in 1874.

Dr. WILLIAM E. MALONEY died at his home in Keene, N. H., on June 1, at the age of forty years. He was a graduate of the Medical Department of the University of Vermont in the class of 1887.

Dr. JOHN WILLIAM COMPTON of Evansville, Ind., died at Terre Haute on May 29, at the age of eighty years. He was a graduate of the Medical College of Evansville in 1873. He was for four years president of the Indiana State Medical Society.

Dr. W. K. SPILLER of Bridgeport, Ala., died May 26, after a long illness. He was a graduate of the Medical Department of the University of Nashville in the class of 1874.

Dr. AMASA J. MULLEN of Indianapolis died May 30, at the age of thirty-four years. He was born in Delaware, Ind., and was graduated from the Central College of Physicians and Surgeons, Indianapolis, in 1875.

Dr. HENRY WAGNER KREIDER of Galesburg, Ill., died on May 25, at the age of eighty-five years. He was born in Washington county, Pennsylvania, and was graduated from the Rush Medical College, Chicago, in 1856.

Dr. AUGUST F. HIPP of Toledo, Ohio, died on May 24, at the age of sixty-five years. He was born in Germany, but came to this country with his parents at the age of ten years. He was a graduate of the Cincinnati College of Medicine and Surgery in the year 1870. He retired from active work several years ago on account of failing health.

Dr. ARTHUR H. GARDNER of this city died suddenly on June 12, at the age of thirty-seven years. He was born in Springfield, Mass., and was a graduate of the College of Physicians and Surgeons, Columbia University, in the class of 1898. He served as interne in the German and the Sloane Maternity hospitals and was physician to the Presbyterian Hospital and the Vanderbilt Clinic.

Correspondence.

THE AMERICAN MEDICAL ASSOCIATION. WAS IT REORGANIZED ON CORRECT PRINCIPLES, AND WILL IT, UNDER METHODS PURSUED, ACCOMPLISH WHAT IT OTHERWISE MIGHT?

To the Editor of the Medical Record.

Sir:—In my previous article the fact was developed that the American Medical Association has, after five years of effort to reorganize itself and to adopt a new constitution, made no progress whatever, standing in these respects just where it stood in 1900. It is true that four editions of a document, alleged to be a new constitution, are in existence, but any one who will make the proper investigation will become convinced beyond the remotest doubt that these editions are of no validity whatever. Although they are invalid, it is worth while to subject them to some analysis and study in order to find out what would have been the organic law of the Association had any of them been legally and constitutionally adopted.

Before beginning this study, however, it is pertinent to inquire: Why so many editions of the new constitution, and in such rapid succession? Are not the fundamental principles which should underlie organization, and which should be embodied in a constitution, fixed and immutable? It there not a philosophical method according to which these principles should be framed into a constitution? Cannot all of the details be so incorporated as to render frequent alterations and amendments unnecessary? Is not the entire vocabulary of the English language available in which to formulate principles and details, and, if so done, where the necessity for asking annual permission "to make verbal and other alterations?" Neither have the changes in the successive editions been slight. On the contrary, they have been radical and numerous, as may be seen by comparing each succeeding edition with the preceding one.

Although affirmative answers must be given to all of the interrogatories propounded above, yet one year seems to be the limit of longevity of an edition of the "New Constitution." Beginning with 1901, three editions are already in their graves, and it remains to be seen whether the fourth will follow its predecessors. Is this not a high degree of mortality among infant constitutions? Does it not indicate that some inherent vice of *constitution* must exist?

These rapid transitions—reminding one of moving pictures—cannot be ascribed to any change in the personnel of the "Committee on Constitution," for the identical committee of three, appointed in 1900 to prepare a revision of the old constitution, has retained, and still retains, a monopoly of "Constitution Architecture."

To close the discussion of this point, it may be broadly and confidently affirmed that whenever a Constitution for the American Medical Association is philosophically and logically written and put in clear and definite language, it will be good for all time, with perhaps an occasional amendment as to secondary principles and as to details. To analyze with any degree of thoroughness the four editions would be a long and tedious task—hence some only of the vulnerable points will be dealt with; many will be left untouched.

Inasmuch as the verbiage of a constitution is an element of great importance, and inasmuch as the committee has, at several meetings of the Association, received special permission to alter and perfect this, it would seem legitimate to subject the words and the syntax of the instrument, along with the principles embodied, to fair and unprejudiced criticism.

The caption of the 1902 edition is: "Constitution or Articles of Incorporation." How one and the same instrument could be a "Constitution and Articles of Incorporation" stands in urgent need of explanation, for in this instance the terms seem to be employed as synonymous.

Article 2 in all of the editions is practically the same, some very slight changes of verbiage only appearing. In the last edition the caption of this article is, "Object." Without quoting the paragraph, it may be said that one object only is set forth, but in rapid succession this one object becomes subdivided into seven purposes. As these seven purposes continue to string themselves out, one after another, the mind of the reader is severely taxed to maintain the connection between the governing word and the successively stated purposes, until long before the end of the paragraph is reached all connection is lost and the mind of the reader drifts, rudderless.

Inasmuch as "object" and "purpose" mean one and the same thing, wherein consists the economy of words, or the advantage of construction, in naming one object and then dividing it into seven purposes? Why not set up seven objects at once? It would be a severe reflection on the English language were the construction of this article not susceptible of very great improvement. Not only is the construction of the article open to objection, but one of the purposes named therein should be expunged forever, and never permitted to pollute the constitution of any organized medical body. The purpose alluded to is "of safeguarding the material interests of the medical profession." Whenever any medical organization proclaims that one of its objects is to protect the material interests of its members, it drags itself down to the level of a trade-union organization, and smirches and blackens and destroys the proud traditions of which the profession has boasted for two thousand years. It may at times become necessary for the members of the profession to protect their material interests by some combined movement, but when such a necessity arises they should meet as individual doctors, and not as members of the organized profession. Let a sharp line of demarcation be always drawn between the two fields of action. Besides, the question of material interest varies according to locality, and must always do so, hence this is strictly a local question, to be managed by all of the doctors of a locality, including those outside of the organized profession, as well as those inside. It is both impracticable and unethical for the American Medical Association to undertake to legislate with reference to the "material" interests of the profession. Both policy and equity, therefore, dictate that the purpose quoted above be forever expunged from our national organic law.

Articles 3 and 4 of the latest edition of the alleged constitution would be decidedly improved in sequential arrangement were their order reversed, then, the term, "constituent associations" would not be used in advance of its definition.

Article 4 is open to many and serious objections. To take up some of them: Evidently this article proceeds upon the false idea that the American Medical Association is the parent of the State associations, when, in truth, the opposite is, or ought to be, the case, irrespective of the chronological order in which organization takes place. Suppose for a moment that the State organizations should discontinue sending delegates to meetings of the American Medical Association, what would happen? Evidently, the organization would at once die. Article 4 reads as follows:

"Those State and Territorial medical associations which have, or which hereafter may, become organized in accordance with the general plan of organization of the American Medical Association, and which have declared by resolution their allegiance to the said American Medical Association, and shall agree with other State and Territorial Medical Associations to the formation and perpetuation of the House of Delegates of the American Medical Association, shall be recognized as Constituent Associations."

Observe the wording for a moment, and a very remarkable requirement may be noted, to wit.: State and Territorial Medical Associations in affiliation with the American Medical Association are required to agree with *other* State and Territorial Medical Associations to the formation and perpetuation of the House of Delegates. What are the *other* State and Territorial Medical Associations with which agreement must be had? If organized bodies in affiliation with the American Medical Association must agree on certain points with *other* organized bodies, it necessarily follows that the latter must be outside of, or not affiliated with, the American Medical Association. Is the meaning what the words plainly indicate, or is it not that the State and Territorial Medical Associations in affiliation with the American Medical Association must agree among themselves in reference to certain points? Whilst this is very likely the intended meaning, yet most surely the words do not express it.

Further, to require that State organizations shall declare allegiance to a national body they themselves have created seems to be conspicuously illogical and superfluous. If the State organizations did not desire a national body, why should they create one? Or is it meant by declaring allegiance that a State organization shall not under any circumstances have the right to withdraw from the national association? If this be the meaning, then how is this clause of the constitution to be enforced? If it cannot be enforced, then why insert it? Again, why require that the State organizations shall commit themselves unqualifiedly "to the formation and perpetuation of the House of Delegates?" The House of Delegates, as has been repeatedly said, constitutes essentially the Association in its corporate capacity. Such a requirement, therefore, is tantamount to asking the delegates to commit themselves to themselves. Some things go without saying, and this seems emphatically to be one of them.

Article 5 provides for a "House of Delegates," and calls it "a business body." Whilst a more felicitous expression than "business body" might be found, yet that is a matter of taste, rather than of principle. In the preceding article

(4) the State and Territorial Medical Associations are made the constituent associations of the American Medical Association, yet in Article 5 the House of Delegates is made merely "a business body" *of* the American Medical Association—that is, at one time the House of Delegates constitutes the American Medical Association; at another time, it constitutes only a part of it. According to the basis laid down, the delegates should essentially constitute the Association, yet in Article 5, and in other places, the "House of Delegates" is spoken of as a body different and apart from the Association, a kind of *tertium quid*.. Evidently, fundamental confusion exists here. In fact, the term "House of Delegates" is liable to be misleading. The truth is, the delegates representing constituencies should be the Association in so far as managing its business affairs is concerned, and all other members should be allowed to participate in scientific work, with full privileges of the floor when scientific subjects are being dealt with. Of course, this is practically the case now, but the point raised is that from a legal and logical standpoint the delegates representing State organizations constitute the Association in its corporate existence, and should never be spoken of as a *part* of the Association.

Article 5 limits the total voting membership of the House of Delegates to 150, and provision is made in the by-laws for a reapportionment of delegates each third year. Suppose, by virtue of increased membership in the State organizations already affiliating with the Association, the number of delegates had reached, or very nearly reached, the maximum allowed (150), and suppose further that at a meeting following one during which a reapportionment had been made, a number of delegates from newly organized State Associations should apply for admission, what would be done with the delegates in excess of 150? Under the procrustean rule laid down, they could not be admitted to a meeting of the Association until after another reapportionment, which, under the circumstances stated, would be two years off. Would it be wise to keep newly organized State bodies unrepresented that long? Certainly not. Why not then fix the basis of representation at such ratio as would, so far as could be judged, keep the House of Delegates within a wieldy size? Whenever it increased beyond that, the size could be cut down by enlarging the basis of representation—that is, making it one delegate to eight hundred or one thousand active members. Such a plan would certainly escape the danger of bringing about such a dilemma as that mentioned. Far better permit the number of delegates to exceed 150 temporarily than to keep newly organized State Associations waiting two years for another apportionment before they could secure representation. Wherein consists the necessity or wisdom of arbitrarily fixing the number of delegates at 150? Twenty-five above or below that number would not matter, seeing that the size of the House of Delegates could always be regulated by regulating the ratio of representation.

Article 7 of the constitution reads as follows: "The House of Delegates may create such branch organizations as may be deemed essential to promote the welfare of the medical profession." For vagueness and indefiniteness, the above article could hardly be excelled, certainly not in any other constitution. The questions that must be asked and answered in order to enable one to find out what this article means, and whether he favors it or not, are these: What kind of branch organizations is meant? How shall they be created? What relation shall they sustain to the parent body? What to one another? What rights shall they have? What duties shall they perform? What responsibilities shall be imposed upon them? What dues shall they pay? What is meant by the "welfare of the medical profession?" Is it the material, moral, or scientific welfare that is to be promoted? What good will be accomplished by organizing branch associations? One of the unwritten laws in regard to making constitutions is that the words in which they are written must carry their own interpretation, and not need outside explanation. Tried by this standard, the above article is certainly very obscure.

Article 9 deals with Officers, very imperfectly, however, and by specifying who the *general* officers are to be, leaves us to infer that *special* officers are yet to be mentioned. This article provides that no member of the House of Delegates shall be eligible for the office of president or vice-president. Whilst the motive back of this provision is obvious, and, in a sense, praiseworthy, the logic of it is very faulty indeed. Think of it! An organization denying to the men who are most closely identified with it, who are most responsible for carrying out its policies, the privilege of holding the very offices that confer the greatest power of promoting its welfare. It is doubtful whether a parallel to this provision exists in the constitution of any similar body. But, leaving out the logic of the matter, such a provision is, from a practical point of view, open to very serious objection. Eminence in the profession has very naturally hitherto constituted, and will probably always constitute, the qualification that will win the presidency. Unfortunately, often such qualification is not combined with a knowledge of parliamentary law or with familiarity with the duties of a presiding officer. Who that has served in the House of Delegates has not painfully seen the disadvantages under which such a president labors? Having perhaps never served in the House of Delegates himself, being unfamiliar with its methods of procedure, and possibly unfamiliar with the constitution and by-laws, he is largely helpless and powerless. In addition to all these disadvantages, he must endeavor to conduct the business of the House under an inexact and inadequate constitution, and with a poorly established order of business. Is it strange that the result should be a very chaotic condition of things, unsatisfactory to the president himself and to every person concerned? Is not this condition of things driving away from the House of Delegates many of the best men in their respective States? Who is there who has not frequently heard delegates remark in disgust: "I am never coming back here again."

Such a condition of things loudly calls for remedy. Men should esteem it an honor and not a hardship to serve in the House of Delegates. The remedies are clear and definite:

1. Construct a logical and correct constitution;
2. Prescribe a proper order of business, and adhere to it;
3. Elect the first and third vice-presidents from the House of Delegates, and make long service therein a prominent qualification for either one of these positions:
4. Provide that the president, aided by the second and fourth vice-presidents, shall preside over the Association when assembled in general session to hear addresses, to deal with scientific subjects, etc., leaving to the first and third vice-presidents the duty of presiding over the House of Delegates.

Under such a system order would soon be evolved out of chaos, legislative work would be attended to systematically and orderly, and delegates would not go away from a meeting with a mental or avowed resolution never to come back again.

Article 10 deals with the board of trustees, but very briefly. This body will be discussed under the by-laws.

Article 11 has as a caption "Funds," which is a unique term in such connection. The terms "dues," "revenues," and "appropriations" are common enough in connection with similar constitutions, but "funds" must be original. Original as is the caption, the article itself is far more so. Indeed, it is perhaps without a parallel. The first clause in the article says: "Funds shall be raised by an equal assessment of not more than ten dollars annually on each of the members." Why not call it "dues," as is done in all other similar bodies? The next clause reads: "Funds shall be raised from the Association's publications, and in any other manner approved by the board of trustees." Passing by the indefiniteness of the term, "the Association's publications," which is in a measure defined in the by-laws, the climax is undoubtedly reached in the latter part of the clause by giving authority to the board of trustees to raise funds in *any manner it may approve!* Is not this a very wide stretch of authority, and could not the board resort to very questionable and improper methods of raising funds, and yet be acting in strict accordance with the constitution? The only charge that might be brought against the board, so far as the writer knows, in adopting means for raising funds, consists in permitting advertisements to be accepted by the *Journal* that ought to bring a blush of shame to every member of the Association, when he turns the front or back pages aside to uncover the splendid scientific matter within, and that ought to stultify the exalted position upon which they as members of the profession have already claimed to stand. But this matter having been ably handled by others, the writer leaves it without further comment than to say that if the *Journal* cannot be maintained without such advertising, let it go down and be forgotten.

The final article in the latest edition of the constitution provides for its own amendment. The principles embodied in this article are sound, and, if adhered to, will prevent such hasty and inconsiderate action in dealing with constitutions as has occurred in the past.

Did time permit, a review of some of the provisions of earlier editions of the "new constitution" would be made. One of the most conspicuous of these, by reason of indefiniteness and impracticability, was the provision for a "Referendum." Although retained through two or more editons, it has now disappeared, it is hoped, forever.

The by-laws are, like the constitution, vulnerable at many points, and will be reviewed in another letter.

W. H. Sanders, M.D.

Montgomery, Ala.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CELEBRATION OF CENTENARY OF THE MEDICAL AND CHIRURGICAL SOCIETY—PNEUMONIA IN TYPHOID FEVER—SPLENOMEGALIC POLYCYTHEMIA—MEMORIAL TO R. A. M. C.—HOSPITAL BAZAAR—AMALGAMATION OF SCHOOLS—JUBILEE HOSPITAL—GENERAL MEDICAL COUNCIL—OBITUARY.

LONDON, May 26, 1905.

The centenary of the Royal Medical and Chirurgical Society has been duly celebrated this week. Monday was the centenary day, and at 5 P. M. the president (Sir Douglas Powell) held a reception at the society's house, delivered an address and admitted the new honorary fellows, viz., Sir W. Ramsay, Drs. Christian Bohr, Robert Barnes, and W. H. Gaskell.

In the evening there was a banquet at the Hotel Cecil, when H. R. H. the Prince of Wales occupied the seat at the right hand of the president and signed the roll as an honorary fellow. In proposing the loyal toast, the president spoke particularly of the claims of H. R. H. to their homage as the first member of the royal family who had accepted their honorary fellowship. The Prince replied in an effective little speech, which every one present could hear, giving thus an example of distinct delivery which many of the fellows would do well to follow, and affording a reminiscence of his father's fine voice and clear enunciation.

In proposing "The Society," the president gave a condensed account of the advances in medicine and surgery during the centenary, and mentioned a few of the names that have left an indelible record of their share in these advances.

"Literature and Science" having been proposed by Dr. Pye Smith, and replied to by Sir Conan Doyle and Sir William Haggins in characteristic speeches, the guests were duly toasted and the Lord Chief Justice gave the president, who duly acknowledged the compliment, and the festive dinner was at an end.

On Tuesday evening the society met to continue the celebration of the centenary, and at the same time pay its tribute to Marshall Hall, to whom we owe the first accurate conception of reflex action. The Marshall Hall address was entrusted to Dr. Henry Head, who took as his subject the "Afferent Nerves Under a New Aspect," and opened it by saying he hoped to remove the barrier which has always existed between the sensory nerves of the body wall and those of the sympathetic system. The view submitted to the society is the result of researches carried out by Dr. Head in conjunction with Dr. W. H. Rivers and Mr. James Sherren. Its importance may be judged by the words of the mover and seconder of the vote of thanks. The former, Dr. Ferrier, spoke of it as revolutionary, but certain to receive favorable attention which he believed would lead halfway to its eventual acceptance. The latter, Dr. Gaskell, said it put on a new basis, which would be understood, the question of trophic nerves.

The conversazione on Wednesday evening was, in the opinion of some, the most brilliant part of the celebration. It was held in the Natural History Museum, perhaps the best locality existing for such a purpose. Prof. Ray Lankester evidently enjoyed the task of explaining to visitors some of the treasures of the museum. The model of the diplodocus, lately presented by Mr. Carnegie, naturally attracted great attention, and among the distinguished visitors observed examining it was Senor Garcia, whose centenary was so lately celebrated. He passed about an hour in the museum. The music and other attractions may be mentioned as never excelled in similar entertainments.

An interesting historical exhibition was held in the society's house from Monday to Thursday inclusive, and attracted numerous visitors. A centenary volume has also been produced, in which are portraits of the deceased presidents with biographical sketches and extracts from their contributions. Altogether this centenary celebration has been an interesting one.

A case of typhoid, complicated with lobar pneumonia, communicated to the Clinical Society by Dr. S. P. Phillips and B. H. Spilsbury, is interesting, as the complication seems to have been due to the bacillus typhosus. The necropsy showed numerous typhoid ulcers in various stages in the intestines, but were perforated; the lower lobe of the left lung was in a state of red hepatization and white nodules were scattered throughout which looked like tubercles, but were found to be minute abscesses in which were masses of organism, some having the appearance and reactions of b. typhosus. The lung and the microscopic slides were shown, and Dr. Phillips remarked that pneumonia, in the course of typhoid, was mostly due to pneumococcus, or staphylococcus, and very few cases had been recorded as due to b. typhosus. No one present could add cases in which the bacillus had been found in the lung, but several were mentioned which clinically commencing as pneumonia ran the course of typhoid—some in which infection was noticed. It is, perhaps, uncommon to see typhoid with acute pneumonia, but the temperature curves were characteristic. One member mentioned a case of meningitis due to the typhoid bacillus.

Dr. F. Parker Weber read an elaborate paper at the Medico-Chi. last week on a case of "splenomegalic" or "myelopathic" polycythemia with true plethora and arterial hypertonia, with cyanosis. I hope the description will give you a definite idea of the case. The patient was a Jewess, aged 37, admitted for acute erythromelalgia of the left foot. The case differs in the absence of cyanosis from others recorded, but Dr. Weber believes it is of the same nature, though at an earlier stage, and occurring in a fairly robust woman whose circulatory system is acting efficiently. He would therefore include for the present all such cases, with or without cyanosis, under the heading "splenomegalic polycythemia," although the spleen need not be obviously enlarged to clinical examination in every case. The blood was first examined in March, 1904, and polycythemia found. The woman under observation until February, 1905, is practically recovered from the erythromelalgia, and so not confined to bed, but the other symptoms, objective and subjective, remain, and with them the paper dealt. In a former paper, in conjunction with Dr. J. H. Watson, Dr. Weber related another case (*Internat. Clinics,* 1905) in which most extensive changes in bone marrow were found after death, and Dr. Parkes thinks the evidence is now conclusive that the symptom-complex of these cases is mainly due to a pathological activity in bone marrow, though it is not certain that this is the primary factor. The development and connection of the symptoms, Dr. Parkes suggested to be as follows: (1) Increased erythroblastic activity involving a great part, but not necessarily the whole, of the bone marrow; (2) increased viscosity of the blood, resulting from the polycythemia; (3) dilatation of small blood vessels, partly to lessen resistance to the viscous blood, partly to permit its dilution; (4) "plethora vera" or "polyhemia" to compensate for increased viscosity and the excessive percentage of the total blood volume occupied by the cells; (5) arterial hypertonia, a result of the strain on the circulatory mechanism; (6) cyanosis when it occurs, probably due to inadequacy of the series of compensatory changes which precede.

Dr. P. Stewart and Dr. G. A. Gibson sent letters, which were read by the secretary. The former described a similar case to that detailed in the paper; the latter stated objections to a mechanical theory of causation.

Dr. J. S. Haldane agreed that the facts pointed to increased activity of bone marrow. He did not think increased plasma necessary, and referred to the extraordinary constancy of the ratio of hemoglobin and the total blood volume to the body weight under different conditions. Yet in the case related, the volume was nearly double the normal, so that the patient's condition resembled that of an animal into which blood from another animal had been injected. He suggested that copious bleeding might benefit such cases.

Dr. A. J. Whiting, referring to the enlargement of the spleen in this condition, said that experiments on animals showed that after copious bleedings the bone-marrow became hypertrophied, and the spleen swollen and of a rose-red color, hardly distinguishable from bone-marrow under the microscope.

Dr. Boycott, who had examined the case, said that apart from increase in hemoglobin and in the number of cells, he found an alteration in the size of the cells, some being larger, others smaller, than normal. The staining reaction, too, was altered, and a small number of nucleated red cells were constantly present. The polymorphoneutrophite cells were always present in a high percentage.

Dr. William Ogle, J.P., consulting physician to the Derbyshire Royal Infirmary, died on Tuesday, in his eighty-second year. He was a Cambridge graduate, M.A., 1851, M.D., 1858., Fellow of the R. Coll. Physicians, 1868. He was author of "Thoughts on Social Science" and contributor of various papers to the journals.

On Wednesday, which was "Empire Day," being the birthday of the late Queen Victoria, the King unveiled a memorial to the members of the Royal Army Medical Corps, who lost their lives in the Boer war. The monument was subscribed for by the officers and men of the corps, and is a Cornish granite obelisk on a semicircular wall of the same material and stands on a commanding site at Aldershot. Beneath the obelisk is a bronze group, nearly life-size, representing an officer and man of the corps tending a wounded soldier. On the wall tablets record the names of the victims of the corps in South Africa, and the inscription on the obelisk is "To those who gave their lives for their country." The King expressed his pleasure and a melancholy satisfaction in unveiling the memorial of the gallant officers and men who fell or died from disease in the late campaign, and declared he was well aware of the services rendered by the corps to their country and to the sick and wounded.

A three days' historical bazaar on behalf of the Westminster Hospital has been a successful and fashionable entertainment, Dean's Yard, lent for the occasion, being transformed into an animated and fairy scene. A member of the royal family opened the bazaar on each day, the Duke of Connaught on Tuesday, Princess Louise on Wednesday, and Princess Henry on Thursday. On Wednesday there was an interesting concert in connection with the bazaar, and Sir F. Bridge gave a lecture on Elizabethan music and ancient instruments. On Thursday there was a march past by a number of ladies in the costumes of different periods.

Amalgamation being in the air, it is not surprising that the medical schools should be thinking once more about it. For many years a strong party has held that the number of our schools should be reduced, and that the earlier subjects of the curriculum might well be entirely separated from the hospitals. A step in this direction has been taken by the Westminster school, which has arranged for its students to take the preliminary and intermediate subjects at King's College. The later and clinical work will be continued at the Westminster, the staff of which can concentrate their attention on these subjects. I hear that several of the other schools are seriously pondering over such a step.

The managers of the Queen's Jubilee Hospital object to recommendations of the King's Fund Committee, and instead of carrying out their undertaking to abide by the result of the inquiry they invited, have issued a reply controverting the conclusions reported to them.

They do not recognize that the hospital as such is not wanted, and do not see why the staff or themselves should be dissolved. The King's Fund Committee would have reduced the hospital to a casualty and out-patient department. Even that is not required, and it would be well if the institution ceased to exist in any condition. The profession has never approved of its establishment, and its career has only been a blot on our list of charities.

The General Medical Council met for its eighty-first session on Tuesday, when the new president, Dr. MacAlister, delivered an opening address, a function which many of us hoped he would have taken occasion to discontinue. He reported that, according to the resolution of the council, he had sent a communication to the Privy Council respecting the abuses caused by medical and dental companies. At the request of the lord president, detailed evidence was supplied. He remarked that during this summer the cycle of visitations and inspections of final examinations would be at an end, and a general report on the whole series published as soon as possible. The pharmacopœian committee, with the assistance of the pharmaceutical societies, had appointed a committee of reference in pharmacy to which questions could be referred for investigation and report, and the hope was expressed that in due time a revised pharmacopœia, adequately representing the best pharmaceutical science and practice, would be produced. As to companies with misleading titles, the Privy Council had stated that an injunction could be applied for to prevent them from remaining on the roll of joint stock companies. The executive committee did not think in the absence of legislation the title of licentiates of the Apothecaries' Society could be altered in the register. Votes of thanks to the president, the director-general of the army medical service, and of the sister service, with other formal business and the appointment of committees, occupied the rest of the sitting.

Col. H. Comerford, who retired from the army medical service three years ago, died last week at the age of 61. He was in the Zulu war of 1879 and took part in the defense of Pretoria in 1881, for which he was mentioned in dispatches. For a year or two he had been suffering from insomnia, and used at times to give himself subcutaneous injections of morphine. He came to London for a change and was found unconscious in his room in a hotel and taken to Charing Cross Hospital, where he died. He had with him morphine solution, but no syringe, and it was suggested that having left it behind he had taken a dose by the mouth and miscalculated the amount. He had no trouble, and no reason exists for supposing his death was other than as the coroner's jury found, due to misadventure.

Dr. G. R. Slade, who only graduated last year, died on the 15th inst, at the London Hospital, where he had been appointed resident receiving officer and assistant anesthetist. He was 33 years of age.

Welander's Sack in Lues.—After three or four injections of mercurial oil the "sack" is substituted. This consists in a cotton bag large enough to cover the whole of the chest region with the open extremity above. Before applying each morning this is turned wrongside out and smeared well with ten grains of mercurial ointment upon the side worn next the skin. This is suspended about the neck, after turning the mercury side in, and worn for the twenty-four hours. The course of treatment extends over a period of six weeks to two months. For infants one grain of the ointment is sufficient.

Progress of Medical Science.

Boston Medical and Surgical Journal, June 8, 1905.

The Surgery of Renal and Ureteral Calculi.—The paper of A. T. Cabot is based on personal experience. He mentions the symptoms due to the arrest of the stone, and the conditions in the kidney and ureter favoring this arrest. In nine cases of ureteral arrest, one was at the junction of the upper and middle thirds, two in the lower part of the middle third and six in the lower third. When a stone is caught at the last-named point there is considerable chance of dislodging it by manipulation. In such cases, the ureter should be stripped from above downward as thoroughly as possible. If the stone remains in situ too long, abscess may result. This happened in two of the author's cases. If a ureteral stone cannot be dislodged by manipulation, it may be approached through the bladder if it projects into that viscus. The *x*-ray gives the exact location in any given case. The cystoscope is also a valuable aid in diagnosis. The author closes by referring to some of the approved operations which are in vogue in the surgery of this class of cases.

The Diagnosis of Renal and Ureteral Calculi.—Out of 3,708 autopsies at the two Boston hospitals since 1896, B. Tenney has found 16 recorded cases of renal and 8 of ureteral calculi, the 24 instances occurring in 21 patients. There is no special differences as to frequency between the sexes. From the symptoms of the condition in general we can make two classes of cases. In class 1 the patient suffers acutely and is in bed or desiring to go there. In this class we may have cases due to suffering from the passage down the ureter of a sharp-angled concretion or from an increase of pressure within the kidney or ureter. In class 2 we find a consciousness of more or less pain in one side in recurring attacks, general depression and the effects of anuria. Left sided attacks are not so difficult to diagnosticate as are right side attacks. The presence of a tumor in the region of the kidney may be due to a hydronephrosis from a kink in the ureter, to stoppage of the ureter by blood-clots or stone, to a pyelonephrosis or to a new growth. The absence of a tumor points more strongly to the presence of a stone in the kidney. On the right side the diagnosis is still further complicated by the fact that the symptoms may arise from the presence of a stone in the bile-ducts or appendiceal colic, and if the pain is located vaguely or near the middle of the abdomen, it may be produced by any of the causes of acute intestinal obstruction, or by the presence of a concretion in the pancreatic duct. If the patient be a female and the pain be referred to the pelvic region, there is a possibility of confusion with a tubal pregnancy. Nothing constant is shown by uranalysis. The temperature is generally a little elevated and there may be a slight leucocytosis. The presence of tenderness and muscular spasm over the left kidney may be characteristic. After recovery from an attack of the first type, the patient may pass into he second type and suffer from time to time from pain, colic, hematuria, pyuria, lumbar tumor, troubles in urination, tenderness over the kidney and pain in the external genitals. As to the value of the *x*-ray in diagnosis, the author's conviction is that the positive diagnosis is more reliable than the negative one so far as testimony from radiographers is concerned, but the personal experience of surgeons he finds to be just the reverse.

New York Medical Journal, June 10, 1905.

Hypodermoclysis.—W. P. McIntosh discusses the modern theories of immunity and claims that a proper understanding of this matter is necessary in order to appreciate the advantages and indications for hypodermoclysis. He finds that saline solutions in the manner indicated, cause an increase of both the erythrocytes and leucytes. It is also probable that the activity of the ductless glands is increased. Clinical histories are given of two cases treated. The author's personal experience extends to hemorrhage, shock, uremia, puerperal, eclampsia, typhoid fever, pneumonia, anemia, and rheumatism., both muscular and articular. The clinical effects of hyperdermatoclysis are to raise the blood pressure, and to strengthen and regulate the pulse. The increase of the erythrocytes enables the blood to carry more oxygen, and the respirations are deeper and less rapid; the blood and tissues are more thoroughly oxygenated; the skin becomes moist (and warm if cold before). Diuresis is increased; the mind becomes clearer, sleep is promoted, the appetite is improved, the patient is encouraged, and there is a feeling of well being.

Medical News, June 10, 1905.

Drainage After Laparotomy.—L. A. Ewald believes it a settled question that drainage is no longer indicated in the so-called unclean cases when a considerable quantity of non-infectious material finds its way into the abdominal cavity. Also when malignant tumors are only partially extirpated or when a portion of a cyst wall is left behind, he considers drainage not only unnecessary but even dangerous. We can more easily get rid of pus and suspicious fluid with cotton wipes than with drainage. If the pus is very virulent we must expect the worst, for most of such cases will die with spreading peritonitis. It is an utter impossibility to thoroughly drain the abdominal cavity with all its intestinal loops forming innumerable small cavities. Patients will be best guarded against danger by the observance of these precautions: (1) Through careful indication for operation and operative procedure. All those cases which show a severe infection through high temperature and other symptoms should be operated upon only when operation is made necessary by *indicatio vitalis,* and then a preliminary vaginal incision should be made. We know that pus located intraperitoneally or in the parametrium is highly infectious. (2) Through selection of proper time for operative procedure. Pus from a pyosalpinx is sterile after nine months. When no immediate indication for operative interference exists, it is better to wait. (3) Through careful observance of the following preventive measures: Protection of the abdominal cavity with layers of gauze; careful separation of adhesions; removable of all visible pus; exact hemostasis, and rapid operative procedure.

"Sore Throat," as Caused by Systemic Conditions.—N. G. Ward dwells on some of the complications following the ordinary tonsillar affections, circumtonsillar abscess and general systemic disorders. He says that there is a type of sore throat caused by faulty elimination. Waste products circulating in the blood cause the superficial vessels to contract. Hence arise the chilly sensations of the patient. Rheumatism is a frequent cause of the trouble, but the manifestations of the rheumatic poison are many, and must often be looked for in distant organs. Muscles subjected to prolonged strain are liable to be the seat of pain during atmospheric changes. Consequently singers and speakers are prone to chronic sore throat and hoarseness. Thy symptoms complained of in all cases of faulty elimination are apt to be out of all proportion as regards their severity to the slight local change in the appearance of the throat tissues. The treatment of this class of cases is obvious. It must be prompt and thorough. Neglect will lead to tissue changes in the sub-mucous layer and contraction of a permanent nature will follow. The blood-vessels will be pressed, and the vascular supply gradually cut off. Finally the epithelium and the mucous glands atrophy. Then we have a permanent condition, which no treatment will alleviate.

American Medicine, June 10, 1905.

The Lloyd Reaction for Morphine and Other Alkaloids.—Daniel W. Fetterolf says the blue-violet color produced in the play of colors when strychnine is treated with sulphuric acid and potassium dichromate, is also yielded by a mixture of the alkaloids, morphine, and hydrastin when acted upon by the same reagents. This fact was discovered by John Uri Lloyd, who said: "An amount even so small as 12 mg. gives violet vividly, and from 1 mg. or less it can be seen." The experiments made by Dr. Fetterolf show the delicacy of the tests is much greater. So small an amount as 0.02 mg. of the mixture, composed of 0.01 mg. of each of the alkaloids, yielded, under certain conditions, a pale blue-violet in the play of colors. The mixture of hydrastin and morphine may be recovered from animal tissues in amounts sufficient to produce the Lloyd reaction. The quantity by weight of the mixed alkaloids, hydrastin, and morphine recoverable from animal tissues, also the amount absorbed by and eliminated from the living animal tissues, is under investigation. Mixtures of apomorphine hydrochloride and hydrastin stirred with sulphuric acid, or with sulphuric acid and potassium dichromate, yield colors somewhat resembling those produced by mixtures of morphine and hydrastin; the brilliancy of the colors, however, being greater than with morphine and hydrastin, and having a greater delicacy of reaction. While there is some similarity of colon reaction, when a mixture of hydrastin and morphine is treated with sulphuric acid and potassium dichromate, the greater permanency of the violet color, preceded by a pink-brown and a final brown color, and especially the fact that such a mixture treated with sulphuric acid alone, yields a violet color, would serve to distinguish the mixture from strychnine. Therefore, it is unlikely that this color reaction should be mistaken except by a novice, for that which is produced with strychnine.

Observations Upon Amebas Infecting the Human Intestine, with a Description of Two Species, Entamœba Coli and Entamœba Dysenteriæ.—Charles F. Craig says that from his observations the following conclusions are warranted: (1) The intestine of man may be infected with two varieties of amebas, one patogenic (*Entamœba dysenteriæ*), and the other non-pathogenic (*Entamœba coli*). (2) *Entamœba coli,* the non-pathogenic variety, is found in 65 per cent, of healthy individuals studied, and in 50 per cent. of individuals suffering from diseases other than dysentery, if a saline cathartic has been administered. (3) These organisms can be easily distinguished in both fresh and stained specimens. (4) They differ widely in their method of reproduction, and this is the most important method of distinguishing them. (5) Entamœba dysenteriæ, whether fed in milk or injected through the rectum, produces in kittens the typical lesions of amebic dysentery as observed in man. (6) In kittens, Entamœba coli, whether fed in milk or injected through the rectum, is absolutely harmless. (7) Neither feeding experiments nor rectal injections of fecal material or the bacteria occurring in such material produces any of the lesions of amebic dysentery, unless *Entamœba dysenteriæ* is present.

The Bacterial Element in Catharsis.—Groesback Walsh calls attention to the fact that we have every reason to believe the increase in peristalsis, the increase of gas formation, and the liquefaction of feces which follow the use of cathartics is due to the same cause which produces the infections of the intestine, an exaltation in bacterial activity. He emphasizes that while cathartics differ in effects, these differences are only relative and the evidences on clinical grounds of a common agency of force are overwhelming. The following classification of cathartics is proposed: (1) Cathartics which produce a convulsion of activity amongst our intestinal bacteria by the production of an effusion of warm blood serum into the lumen of the gut. (2) Cathartics which act by means entirely unknown to us at the present time.

Journal of the American Medical Association, June 10, 1905.

Dyspepsia.—F. B. Turck considers dyspepsia one cause of national decay, hence its importance, not only to the individual, but to the State. He describes the mechanism of digestion and shows how it depends on proper fulfillment of the functions of gastric secretion and motility and how these depend on the general integrity of the splanchnic circulation which itself may be deranged by disorders of the gastrointestinal tract, thus producing the vicious circle seen with many intestinal and gastric lesions. This connection of the circulation is very important in the treatment. If any one of the tripod—motility, secretion, and circulation—is disturbed, dyspepsia is the result. The quantity and quality of the food, the times of eating, etc., are specially important in this connection, and in the treatment must be first considered. When dietetic measures fail, however, on account of infection of the stomach from pyorrhea or nasopharyngeal catarrh, for example, other measures must be resorted to. The stomach may also be overloaded, and its muscles lose their power, with consequent stagnation and fermentation, and the various cardiac and other general symptoms of the condition. Here lavage may be directly remedial in removing the load and in stimulating the gastric peristalsis. When the mucosa is colonized with germs, however, simple lavage or even gastric douching may not suffice to remove them. He advises the use of a double stomach tube for this purpose, the inlet tube with fine perforations, and the outlet with larger ones thus projecting jets with considerable force against the gastric walls and allowing a free outflow through the larger tube. When this is insufficient to detach the colonies of germs from the mucosa his gyromele comes into useful application. In cases of extreme gastric atony and dilatation, he uses the gastric bag dilator with air inflation, the repeated use of which will stir up the stomach and restore its motor function. In most cases the simple inflation of the stomach with air, medicated or not, is sufficient. Turck does not consider the use of electricity as of proved value in these cases, and he has not much faith in drugs excepting for the relief of symptoms, as in the use of alkalies for hyperacidity, etc. Antiseptics are apparently efficacious, but he considers them generally unnecessary.

The Pathological Changes in Appendicitis.—E. MacD. Stanton has studied the pathological changes in the peritoneum in 185 cases of appendicitis, and of the appendix in 188 cases. The relations existing between the character of the lesions and the stage of the disease were particularly studied in all. The histological changes in appendices removed during the first few days of the disease were essentially similar and consisted in a severe diffuse inflammation, accompanied by focal areas of hemorrhage and necrosis. These latter may increase in extent during the first few days and give rise to microscopical areas of gangrene, or they may remain microscopical and be quickly repaired. The various anatomical varieties, gangrenous, perforative, and ulcerative, are due to the extent and distribution of these necroses. Evidences of repair are seen as early as the third day and the process is distinctly reparative in non-gangrenous cases by the fifth day. Even in cases with macroscopical evidences of gangrene, unless a later acute process is engrafted on the original one, the repair processes predominate by the sixth or seventh day. Evidence of recurrence was observed in 10 or 15 per cent. of the cases after the first week. Repair is rapid during the second week of the attack; fibroblasts, newly formed blood-vessels, and lymphocytes forming the principal features of the picture. The rapidity of repair depends largely on the amount of damage done and on the presence or absence of a periappendical exudate. By the end of the second week in most cases, repair is so complete that new connective tissue may be the only evidence of previous inflammation, but in cases with extensive exudates, signs of active organization of the exudate itself are still in evidence. After the second week, except in cases with extensive periappendical lesions, the histological changes are seen chiefly in the more fibrous nature of the new connective tissue which is still recognizable. In cases operated on a month or more after an acute attack, 78 per cent. were cases of chronic interstitial or obliterative appendicitis, frequently accompanied with adhesions. In 6 per cent. the appendices were apparently normal, and in 16 per cent. the changes were confined to the mucosa. In no instance were the changes confined to the mucosa in the cases examined during the first ten days of the attack. In this series of cases, purulent fluid was found outside of the appendix in 51 per cent. of the patients operated on from the third to the tenth days. After the tenth day the number of cases with abscesses steadily decreased while the number of those with adhesions and without pus, rose correspondingly. This, Stanton thinks, was due to the less extensive peritoneal involvement in most of these late operated cases rather than to resolution by absorption. In a number of cases, however, the massive adhesions indicated the prior existence of extensive periappendiceal exudate. After the third day the exudates on the peritoneal surface contain highly vascular granulation tissue, and he thinks it probable that the high operative mortality between the third and tenth days may be in part due to absorption from the denuded granulating surfaces as well as to the extent of the peritonitis and the bad general condition of the patients.

Expeditious Surgery.—R. T. Morris remarks that, with modern methods and anesthetics, perhaps too little importance is attributed to expedition in surgical operations nowadays, and suggests that this may be to the disadvantage of the patient. The better the natural resistance, the better is infection combated, and a patient usually retains a great fund of natural resistance during the first fifteen minutes of an operation, no matter what is being done; but he is usually depressed after an hour of operative procedure, even simple in its nature. It seems to him well, therefore, to attempt to approach as nearly as possible to the fifteen-minute standard. It is not desirable to operate against time, but it is worth while to make every move count, and not unduly to prolong the operation. He had, after a little discussion on the subject, the next dozen of his operations timed, including several rather serious ones, and reports them in brief detail, giving time and results, as illustrating his point. The time occupied by the operation ranged from seven minutes in an interval appendicitis case to thirty-one minutes in a case of preliminary ligation of the carotid and removal of the superior maxillary and other bones through the classical incision. The operative results were good. Except in two of the cases, the instruments used were usually a pair of scissors, a needle, a single-hook retractor, and two pairs of artery forceps. With the use of scissors there seemed to be less oozing of blood from the smaller vessels, and fewer instruments were required. The charge that primary union may not follow the use of scissors is answered by these cases without reference to further statistics.

The Lancet, June 3, 1905.

The Second Dentition: Its Medical Aspects.—H. Armstrong declares that rickets delays the eruption not only of the milk teeth, but also of their successors, in addition to frequently causing overgrowth of the jaw, with resulting malposition. A similar retarding influence is also exerted by cretinism. It is not probable that hereditary syphilis has any effect in hastening the advent of the second teeth, though all textbooks generally assert that it has this effect on both sets of teeth. Eventually bad results as to integrity of the enamel often follow the exanthmata, bronchitis, pneumonia, and the nutritive disturbances which result from improper feeding. Alveolar abscesses in connection with the first teeth may lead to irregularities of their permanent successors. A frequent source of ill health is the incomplete detachment of the remnants of the first dentition. The teeth retain their adhesion to the alveolar mucosa long after the supplanting teeth have arrived. Food accumulates and decomposes at these points and sepsis results; the neighboring glands become swollen, though suppuration is rare. Possible outcomes are necrosis and cancrum oris. As to the influence of dentition upon concurrent general disease it may be said that the most obvious example is seen is epilepsy in which tooth eruption initiates the onset and may increase the frequency of the attacks. Hysterical conditions and chorea may also be aggravated by coincident dentition.

Typhoid Fever and Pregnancy with Special Reference to Fetal Infection.—H. T. Hicks and H. French report the case of a woman who became infected with typhoid fever at the middle of the eighth month of pregnancy. On the eighth day of the disease she was delivered of a living fetus, which died in three-quarters of an hour. The mother improved at first, but relapsed and died on the twenty-fourth day. Autopsy showed typical typhoid charges. Autopsy which had been done on the child revealed no pathological conditions. The authors have studied 30 cases of this general nature. In 10, typhoid bacilli were found in the fetal organs or blood. The typhoid agglutinin occurs in the serum of a fetus born of a typhoid mother. There is slender evidence that the typhoid reaction ever occurs in a fetus in which no bacilli have ever been found. Since it is well established that bacilli are found in the fetus, it would be reasonable to expect that the fetal tissues would produce their own agglutinins, just as occurs in an independent individual. It is barely possible that the fetus may receive the agglutinin from the mother across the placenta, or it may react to the maternal bacillary infection, producing its own agglutinins in response to stimulation by the maternal toxins. Typhoid fever occurring during pregnancy does not affect the prognosis or alter the course of the disease, but the effect of the fever on the pregnancy is bad. It is found that the uterus involutes just as if there was no maternal illness. Premature labor would seem to be indicated in the interest of the child (if viable) when the prognosis for the mother is (as experience has shown) but little affected by the occurrence of labor.

The Action of Yeast in Tuberculosis and Its Influence on the Opsonic Index.—W. R. Huggard details his personal experience with this remedy. It has been held (though not proven) that the active therapeutic lactor in yeast is nuclein which increases eventually the number of the white blood cells and has a distinct bactercidal action. Haggard has treated thirty-six cases with yeast. The general result was that some improvement was noted in almost every case in which the remedy was taken steadily for at least a month. The opsonic index shows the degree to which the serum of a person's blood prepares tubercle bacilli for being taken up and digested by normal white blood cells. (See papers by Wright, *Clinical Journal,* Nov. 9, 1904, and *Lancet,* Oct. 22, 1904.) Persons recovering from tuberculosis showed an opsonic index in four or five cases above unity. Some of the lowest indices occurred in smokers. In two instances after taking yeast there was a drop in the index, but in a few days a rise above the previous level. Yeast does not appear to produce any effect on the temperature of a given case. It seems to produce an immediate and considerable increase in the number of the white cells followed by a decrease, then a fluctuation and a final diminution as compared with the level before the yeast is taken. Common German yeast has been the variety most commonly employed. A piece the size of a walnut was taken daily, usually in cold or tepid milk or in water.

Berliner klinische Wochenschrift, May 22, 1905.

Tremor as a Sign of Alcoholism.—Fürbringer discusses this question on the basis of the results obtained in the examination of 500 patients. These were divided into two groups as nondrinkers or as drinkers, the former class including moderate drinkers as well as total abstainers. The examination showed that even pronounced drunkards may not exhibit any tremor, though the proportion of such is only about a tenth, and that moderate degrees of tremor do not permit any definite conclusions as to the abuse of alcohol as there were about three times as many nondrinkers as drinkers presenting this condition. Even the highest grades of tremor do not indicate extreme probability of alcoholic excess, the number of drinkers with excessive tremor being only about twice as large as the number of non-drinkers with the same symptom. The author further says that even in marked cases, tremor of the hands has no connection with alcoholism in about one-half of the cases. Quinquad's sign, or phalangeal crepitation, apparently is subject to about the same uncertainties, so that the comparative value of these two symptoms is still to be determined.

Münchener medizinische Wochenschrift, May 23, 1905.

Loaf Sugar in Diabetes.—Oefele says that for some time he has been allowing the more intelligent of his diabetic patients to take a certain amount of loaf sugar, with very good results. In 88 per cent. of the cases it was found that after the regular consumption of 35 g. or over of sugar daily, the amount of glucose in the urine either did not increase or even decrease, while the general condition of the patients was much improved. Not only is the subjective effect on the patient excellent, but as the diabetic organism is deficient in albumins and fats, it is advantageous to have the carbohydrate metabolism increased as much as possible. A diet restricted to albumins and fats involves risk of insufficient oxidation of nitrogen and fats, with its danger of oxybutyric acid intoxication, and the possibility of coma, and the administration of sugar does much to avoid these perils. The sugar is best given in the form of sugar water or in coffee, shortly before muscular exertion, the rule being, no sugar without exercise and no exercise without a preceding sugar feeding. The author believes that the administration of large amounts of sugar under suitable precautions, is advantageous, if not in all cases, in at least 95 per cent of diabetics. Both the actual strength and the feeling of energy are increased by this addition to the dietary.

A New Local Treatment for Furuncles and Carbuncles.—Marcus advises for this purpose the use of the electric current. If no pus formation has taken place the opening of the infected follicle is sought for with a magnifying glass, and when found, an epilating needle, forming the minus pole and carrying a current of 12 m.a. is introduced into it. The current is gradually increased up to 10 m.a. and the opening enlarged by moving the needle about so that the hydrogen generated can wash out all bits of necrotic tissue, pus, etc. The needle is then removed and reintroduced after reversal of the current, so that the oxygen which is now generated shall thoroughly disinfect the follicle, after which a final cleansing of the cavity is carried out by means of another minus treatment. Every suspicious follicle is treated in this way and the development of true furuncles is aborted. If pus has already formed the cavity is explored with a larger needle until the entire necrotic plug has been broken up and expelled by the nascent hydrogen. As long as suppuration keeps up the procedure must be repeated twice a day. Wet dressings of plain water are applied, and it is surprising to see even large furuncles clear up under five or six days of this treatment. Of course, if there is extensive swelling or phlegmonous inflammation, incisions must be made as usual.

Deutsche medizinische Wochenschrift, May 25, 1905.

How Is the Position of the Apex Beat of the Heart to Be Determined.—Kirchner says that he has frequently been called upon to examine persons supposed to be suffering from some cardiac disease because the apex beat had been found externally to the mammary line, whereas there was absolutely no evidence of any organic derangement. In these cases it is nearly always the nipple which is at fault, owing to abnormalities of its position, and the author cites his own results obtained by examining 900 soldiers. Very marked variations in the position of the nipple were found, the limits lying between 9 and 13 cm. from the middle line. It was also found that the apex beat in many instances was outside the nipple line, in a few cases as much as two to two and a half centimeters, while it was at the nipple line in only about half the total number of cases examined. The author therefore strongly urges that the mammary line be not used as a landmark in denoting cardiac dimensions, and that all measurements be made from the median line of the body.

Neurasthenia Among the Working Classes.—Leubuscher and Bibrowicz give the results of an interesting study of neurasthenia as found among 1,564 patients belonging to the various mechanical trades. Almost one-third of the patients were either compositors, carpenters, locksmiths, or mechanics, the others belonging to such a diversity of trades that definite percentages could not be calculated. The typesetters and carpenters together comprized 25 per cent. of the total number, the former workers being apparently the most prone of all to neurasthenic disorders. The authors believe that neurasthenia is rapidly growing in prevalence among the working classes, and that it is the workmen of the better types who are the most susceptible to it, owing to the spirit of unrest and dissatisfaction that prevails among them. The disease is most serious as an obtacle to work during the ages from twenty-five to forty-five years, that is the period of greatest activity. The prophylexis of course involves very far reaching questions of sociology and the treatment is best carried out in suitable institutions. Sanatorium treatment offers the greatest prospects of a permanent cure as well as of immediate relief to the symptoms, and therefore the erection of such establishments for the masses is strongly to be urged.

French and Italian Journals.

Recovery in a Case of Addison's Disease.—Variot states that Addison's disease scarcely ever appears in children, only at the age of puberty. As is well known, the disease is due to the tuberculosis of the suprarenal capsules. The affection as a rule is very grave. However, in some cases, treatment will triumph. The writer cites the case of a young man twenty-one years old who had suffered with this malady for eight years. When seen by Variot, he had the characteristic weakness, being fatigued by the least effort. The skin of the face, hands, and back was pigmented. For several years the patient had taken suprarenal capsules in the form of tablets and subcutaneous injections. The medication had apparently met with no results. To this was added codliver-oil and arsenic. Little by little, strength returned, and the extreme pigmentation disappeared. To-day there remain of the old symptoms only incontinence of urine and a slight weakness. The writer is of the opinion that gradual recovery will take place.—*Journal des Praticiens,* May 20, 1905.

Atrophic Cirrhosis of the Liver of Tuberculous Origin.—Boinet and Vincentelli have studied this case. The cirrhosis of the liver, according to these authorities, is not due to alcoholism, but is attributed to tuberculosis. The patient was a girl eighteen years old, suffering from tuberculosis in the last stages. Dyspnœa was intense. Tuberculous peritonitis with ascites was present. Severe epistaxis occurred, and the patient complained of anuria. The whole condition was bad. Death supervened after a period of coma. At autopsy the liver presented an interesting appearance. It was small, hard, and it creaked under the knife. It was about one-third its normal size. In color it was yellow. It had the "hobnail" characteristics. In appearance it was an example of the classical acohol atrophic cirrhosis. But since alcoholism did not exist, the lesions had to be attributed to tuberculosis. Macroscopically, there were no tubercles to be seen. However, Hanot and Gilbert have demonstrated experimentally that Koch's bacillus can, by means of its toxins, determine hepatic sclerosis, without the production of tubercles in that organ.—*La Médecine Moderne,* May 17, 1905.

Diabetes of Infectious Origin.—Marcel Labbé cites two observations in which diabetes followed an infection. In the first instance, the patient was a man aged forty-five years, obese, and who exhibited after an attack of angina severe diabetic symptoms: Intense thirst, extreme fatigue, progressive diminution of sight, emaciation, polyuria and glycosuria. Treatment was begun at once and the symptoms began to subside in four days. After a month and a half they had completely disappeared. For two years there has been no glycosuria. The second patient was a woman sixty-seven years old, who in her convalescence from an acute naso-pharyngeal attack, showed about the same symptoms as were enumerated in the last case. They gradually disappeared. The writer refers here to the condition of alimentary glycosuria noted in the course of various infectious diseases. It would seeem from these observations that infection is capable of causing a disturbance in the organism which gives rise to the condition of glycosuria. As a rule, these disturbances are slight, giving rise to alimentary glycosuria only, but in certain cases they are more serious, and actual diabetes develops.—*Le Bulletin Médical,* May 20, 1905.

Potomania in a Child.—Achard and L. Ramond have been observing a child seven years old and weighing 15 kilogrammes, who drank from seven to eight liters of water a day, and urinated in the same proportion. The urine shows no other anomaly than great dilution. The clinical picture was that of essential polyuria. A number of these cases have been noted in children. The pathogeny of these cases has been widely discussed, but modern authorities consider the polydipsia as a simple effect of the polyuria exclusively due to the necessity of combatting the tendency to dehydration. The child here mentioned was put on a fixed regime and was able to drink a litre and a half of water daily without any trouble. Diuresis diminished in proportion and the weight was not decreased. It is clear that the child drank the original quantity not to satisfy an organic necessity as in true polyuria, nor was it influenced by the desire to drink a liquid having a certain taste as in dipsomania, but it merely acted in obedience to a psychic impulse by which it took any sort of liquid. The case is then an example of true mania for drinking, which is designated by the term potomania.—*Gazette des Hôpitaux Civils et Militaires,* May 16, 1905.

A Case of Barlow's Disease.—Filippo Pagliari reports a case of Barlow's disease in an infant which was breast fed for forty days and then began to take sterilized milk. At the age of eight months, she presented a pitiable spectacle. There was persistent and progressive anemia, general depression, wasting, cachexia, and an inability to use the limbs, any movement of which caused the utmost pain. There were present only the two upper incisors, and the gums about them, as well as of the lower jaw were swollen, purple, and hemorrhagic. There was a copious pemphigoid eruption over breast, shoulders and neck. After changing the diet to plain milk with fruit juice the infant began to improve and eventually entirely recovered. The author duscusses the case and concludes that this disease is a definite entity, and an addition to the number of hemorrhagic diseases. It may be called a scorbutic syndrome of nurslings. It is probably an infectious disease, in which the kind of feeding may be a contributing cause of the disease. Sterilized milk is deprived of the natural antagonistic substances and hence the child is ready to accept the infection. Very few cases of this disease have been observed in Italy up to the present time, but probably because they have not been diagnosed as such, but have gone under some other name.—*Rivista di Clinica Pediatrica,* May, 1905.

Experimental Infection with the Micrococcus Tetragonus Septicus.—Errico Claramelli tells us that the experiments that have been made since the discovery of the micrococcus tetragonus have shown it to be very pathogenic for some animals, and not so for others, such as the rabbit. The author has made experiments to demonstrate this and gives us his conclusions. The micrococcus in sufficient doses produces a mortal infection in guinea pigs. In smaller doses the animal is poisoned but recovers. The rabbit is very resistent even to large doses given endovenously. There are the symptoms of a grave infection of which the animal gradually recovers. The blood contains the bacteria constantly in considerable quantities. The characters of the bacteria are those of involution, but the power of reproduction is preserved. The serum of the cured animal has the power of sterilizing the micrococcus tetragonus with the mechanism of bacteriolysis, if injected into another animal. —*La Riforma Medica,* May, 1905.

Cystic Hemoangiosarcoma of the Kidney.—Allessandro Jardini describes his study of a case of cystic tumor of the kidney, which he diagnoses as hemoendoangiosarcoma. The classification of endothelial tumors depends on the definition of the term endothelium. Some admit among endothelium only the elements which line the blood-vessels and lymphatics, others include the lining of the great serous cavities. Another point equally discussed regards the existence of a sheath of the vessels constituted of elements of an epithelial nature. Histogenetically these tumors are divided into hemoangiosarcomata and lymph angiosarcomata. The case observed was that of a patient dying in the hospital of a trouble diagnosed as cardiac insufficiency, having been under observation only a few days. The tumor of the kidney was found at the autopsy without any symptoms during life that indicated its presence. The diagnosis clinically between angiosarcoma and any other tumor of the kidney would be difficult, even were the presence of a tumor recognized. The right kidney was double the normal size and the superior pole was formed of a mass continuous with the parenchyma of the kidney, which was full of small cavities, varying in size, filled with coagulated blood of the color of coffee. The size of the cavities varied from that of a grain of millet to that of a small nut. The rest of the tissue was white in color, glistening, and the larger cavities were at the centre, the smaller at the periphery. These cavjties could not be interpreted as hemorrhages, but were evidently the result of a form of activity inherent on the kind of neoplasm found here. There was no inflammatory reaction of the surrounding tissues as in carcinoma and infiltrating tumors.—*Lo Sperimentale,* March-April, 1905.

Annals of Surgery, May, 1905.

Actinomycosis.—A. D. Bevan gives a general description of this malady and reports six personal cases. With reference to the microscopical findings he says that later investigations have taught us not to expect to find the beautiful and clear radiating clubs pictured, especially from cases of bovine actinomycosis. Instead of this, the picture is rather blurred; often the organisms have undergone some degenerative process, which leaves nothing distinctive, and it may be necessary to search for a very considerable period before a sufficiently characteristic body is formed. He is rather led to believe that the fact just cited, *i. e.,* the difficulty of finding a clear, distinct picture of the fungus under the microscope, has frequently been the cause of error in diagnosis, and responsible for failures to recognize the lesion, when, in fact, it was present and typical. As an instance, he refers to the fact that an exceptionally well qualified diagnostician was given some pus from one of our cases, a case of lung actinomycosis. There were present many of the granules. After working over it for two hours, he reported that it was not actinomycosis, as far as he could determine, although both before and after the examination we found typical ray fungi in the pus from the same source.

Transthoracic Resection of the Lower End of the Esophagus in a Dog.—Willy Meyer gives an interesting account of a resection of the nature indicated, performed by Sauerbruch of Breslau. He refers to the article by the latter in which this author describes his investigations into the general subject of how to best prevent the occurrence of a pneumothorax in inthrathoracic surgery, the main point to be considered being to render practicable transpleural resections of the esophagus. An illustrated description is given of the apparatus employed. It is evident that operotions of the nature referred to must be done either by increasing the pressure within the lungs, exposing the thoracic cavity at the same time to ordinary atmospheric pressure or by placing the thoracic cavity under decreased or negative pressure while the bronchial system remains exposed to normal atmospheric pressure. Various experiments on dogs are described in full. The general physiological proposition demonstrated by Sauerbruch's work is that rhythmical, artificial charging of the lungs with air, corresponding to normal respiration—as has been long done by physiologists—is not necessary to continue respiration with the thoracic cavity opened, but that spontaneous respiration goes on regularly and uninterruptedly, if a pressure difference is maintained between the air entering the bronchial tree and that to which the pleural cavity is exposed. This normal respiration goes on uninterruptedly, it may be added, even if the greater part of the thoracic wall is resected.

Resection of the Middle Third of the Stomach for Carcinoma of the Greater Curvature.—C. L. Scudder reports one case, his patient being a woman of thirty-seven years who is alive and well ten months after operation. The case is of interest because (1) carcinoma of the greater curvature of the stomach is unusual. According to Fenwick, 58 per cent. of all gastric carcinomata are pyloric. Upon the contrary, but 2.8 per cent. are of the greater curvature. (2) The growth did not infiltrate the submucosa as is commonly the case with plyoric carcinoma. (3) The growth had attained considerable size without causing many symptoms of gastric disturbance, for neither the pyloric nor the cardiac portions of the stomach were invaded. (4) The transverse colon was not involved in the disease. (5) An end-to-end anastomosis was done, using an interrupted Connell suture. (6) The technique of the operation was very greatly facilitated by the employment of clamps according to the methods of Kocher, Hartmann, Mayo, and Moynihan. Some excellent pictures illustrate the successive steps of the operation.

Hydrocele in the Female.—A. E. Halstead and C. P. Clark review the literature of this disease and report one case, that of a colored woman, married, aged forty-two years. The condition for which she sought relief was a mass in the right inguinal region. It appeared eighteen years ago, subsequent to the birth of the second child. The patient stated that the mass had always been reducible, but that it would reappear in four or five days after reduction. Eight days previous to admission the mass would no longer disappear on pressure. The patient now became slightly constipated and nauseated. She had emesis twice. There were severe pain and marked tenderness in the region of the mass. The diagnosis was strangulated hernia. Operation revealed the fact that the condition was one of hydrocele. The mass removed was made up of a bilocular cyst, the dividing plane being the internal addominal ring. The upper sac lay entirely within the peritoneal cavity. The round ligament entered this sac and became attached to its inner smooth surface. At the point of entrance was a small opening which allowed a free communication between the cyst and the peritoneal cavity. The lower sac was much larger than the upper, and contained many incomplete septa, giving the appearance of a lymphangioma cysticum. The lower and upper sacs communicated through a narrow constriction at the internal abdominal ring. Near this constriction was found a bean-shaped body which lay free in the lower sac. The latter proved to be made up for the most part of fibrous tissue which had apparently been the seat of a recent inflammatory process. The presence of vessels in it indicated that it had been at one time attached to the wall of the hydrocele.

Tuberculosis of the Testis.—J. S. Haynes reports one case. He finds that the predisposing factors are: Age, about thirty when the glands are most active, hereditary, trauma (which, whether slight or severe, probably plays a very prominent part in locating the disease in the epididymis by the normal arrangement of the blood supply), and previous gonorrhea. The local changes are those characteristic of tuberculosis elsewhere. Local symptoms are those of weight and discomfort with dysuria. The urine rarely gives positive evidence of the disease. The smegma bacillus may be easily mistaken for the tubercle bacillus. Sexual vigor is generally unimpaired. General symptoms are those of the lesion elsewhere. The author reviews the results obtained by the various plans of treatment, viz., castration, avulsion, ligature, and resection, incision and drainage. He believes that statistics incline to epididymectomy as the preferable procedure.

Rupture of the Tendon of the Biceps Flexor Cubiti.—W. W. Keen reports a case of rupture of the long tendon in its continuity and one of rupture of the same tendon at the glenoid attachment. In each case a successful result followed operation. He notes that surgical literature hitherto contains records of only one case of operation for rupture of the belly of the biceps and one for rupture of the tendon. Many cases of the accident itself are on record. Keen is of the opinion that the general success attending operation, and the poor results in many cases not so treated should lead to operative treatment of cases of rupture rather than to trust to the more or less uncertain results of the treatment by bandages and splints.

Book Reviews.

Conservative Gynecology and Electrotherapeutics. A Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M.D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and ex-President of the American Electrotherapeutic Association; Member of the Société Française d'Électrothérapie, of the American Medical Association, etc. Fourth Edition, revised, rewritten, and greatly enlarged. Illustrated with twelve original full-page, chromo-lithographic plates and twelve full-page half-tone plates of photographs taken from Nature, and numerous engravings in the text. Philadelphia: F. A. Davis Company, 1905.

Since the last edition of this book appeared great progress has been made in electrotherapeutics; hence we find much new material in this edition, notably in the sections dealing with the constant current, electrolysis, and cataphoresis. There are also four new chapters on the treatment of cancer by electricity, and a chapter on the Röntgen rays in diagnosis and treatment by Dr. Grad of New York. The book still remains, as its title indicates, a work on conservative gynecology; and as such it will be of service to the many physicians who believe that the surgical is not the only method of treatment in gynecology, and who are willing to try therapeutic measures before resorting to mutilating operations. The author eloquently pleads for a trial of electrotherapeutics, and gives in considerable detail the results of such treatment in his hands. The author's position is well stated when he says: "No claims that electricity, or, in fact, anything else, is a cure-all are possible to a scientific mind, and, although these pages are largely devoted to a demonstration of its value in the definite conditions enumerated, it is not supposed that the reader is to neglect any simpler means that would be effective in the treatment of his cases. . . . A similar discretion is also urged upon the part of the reader in the choice between electricity and the knife, electricity being advised only when it is equally certain in effect, free from danger, and more conservative of organs and their functions; and, unless experience shows us that all or most of these advantages are assured as a result of the electric treatment of a particular case, we should not lose time by its employment."

The Conjunctiva in Health and Disease. Being a Record of Some Research Work. By N. Bishop Harman, M.A., M.B. Cantab., F.R.S.C. Eng., Ophthalmic Surgeon to the Belgrave Hospital for Children; Chief Clinical Assistant, The London Royal Ophthalmic Hospital (Moorfields); Senior Ophthalmic Assistant, The Middlesex Hospital; Oculist (with Care of Blind Children), London County Council Schools; Demonstrator of Pathology, Middlesex Hospital Medical School; Late Examiner, Natural Sciences Tripos, Cambridge University. New York: William Wood & Company, 1905.

The volume is one of 276 pages, is well printed, and is illustrated by 43 original drawings. The work is the result of a very careful study of the subject in all of its phases, many thousands of eyes in health and disease having been examined. In addition to the very extensive clinical work, the author has familiarized himself with the pathology of the subject, also with the literature not only of this but of previous ages.

The text is divided into twenty chapters. Chapter I, entitled "Historical," gives some interesting extracts from old writings. Then follows a chapter on "The General Anatomy of the Conjunctiva." This is followed by a chapter entitled "Sociological Inquiry," which treats of the influence of sex, age, environment, seasons, etc. The results of the author's studies into these questions are of much interest. A chapter is devoted to the consideration of "The Causes of Blindness." The bacteriology of the conjunctiva in health and disease is then taken up, and the various forms of conjunctivitis are considered in logical order in separate chapters. The question of trachoma, which involves so-called follicular conjunctivitis, is treated of in such a manner that our knowledge of the subject is materially advanced.

The text is followed by an extensive bibliography, so subdivided that it can be readily utilized by the student.

The data that the author has employed in writing the work have been secured at the expense of an immense amount of personal observation and research. The result is a volume of great excellence and one that should be in the hands of every ophthalmologist.

Merck's Manual of the Materia Medica. A Ready-Reference Pocket Book for the Physician and Surgeon. New York: Merck & Co., 1905.

This edition of Merck's Manual, like its predecessors, contains much useful information in regard to the drugs most used in modern practice, as well as dosage tables, the treatment of poisoning, therapeutic indications, etc.

Wharton and Stillé's Medical Jurisprudence. Vol. III, Physical Conditions and Treatment. Medical Aspects. By Truman Abbe, A.B. (Harv.), M.D. (Col.), Assistant to the Professor of Surgery and to the Professor of Physiology at the Georgetown University Medical School. Legal Aspects, By Frank H. Bowlby of the Publishers' Editorial Staff. Fifth Edition. Rochester, N. Y.: The Lawyers' Co-operative Publishing Company, 1905.

This volume of Wharton and Stillé's system is devoted to a widely varying range of subjects. The first book comprises questions relative to pregnancy, abortion, and infanticide; the second is devoted to questions arising out of the difference of sex, including hermaphroditism, sexual disability, and rape. Physical injuries by force are discussed in the third book, which also contains sections on starvation and the signs of death. The largest section of the volume is the fourth book, in which questions distinctively legal in nature are taken up. Among these are such vital topics as the right to practise medicine, the relation between physician and patient, malpractice, and medical evidence. The first three books have been almost entirely rewritten in order to keep them representative of the present status of scientific knowledge, and are fully abreast of the times. Much new matter is also to be found in the last section, which covers subjects in which every physician, for his own protection if for no other reason, should be well versed. The subjects treated by the work are numerous, but the writers have been most successful in their apportionment of space to the different topics and have produced an extremely useful work of reference.

Studies in the Psychology of Sex. Sexual selection in man. I. Touch; II. Smell; III. Hearing; IV. Vision. By Havelock Ellis. Philadelphia: F. A. Davis Company, 1905.

The task attempted in the present volume is an analysis of the psychology of love, or sexual selection. Love, the author states, springs up as a response to a number of stimuli transmitted through the four senses, touch, smell, hearing, and vision, and by this process the organism is brought into a physical and psychic state of tumescence necessary to insure conjugation. In other words, when a man or woman experiences sexual love he or she is responding to a group of stimuli coming through the channels of one or more of these senses, entirely independent of any esthetic preferences, which need not be consciously present at all; there has been a sexual selection conditioned by sensory stimuli. This in brief is the doctrine of sexual selection established, so the author affirms, on a sound basis, to a consideration of which the reader's attention is invited in chapters entitled Touch, Smell, Hearing, and Vision. These are comprehensive recitals of the effects of skin sensations, odors, rhythm, beauty, and color on the human organism, and the part they have played in influencing sexual selection.

To those familiar with this author's work in other fields of psychological research, this volume should especially appeal. As he truthfully says, such a study is full of fascination, for it reveals to us the more intimate side of human evolution whereby man is moulded into the shapes we know.

Le Beriberi; Définition, Etymologie, Historique, Bacteriologie, Symptomatologie, Pathogénie, Pathologie expérimentale, Traitement. Par le Docteur H. Vivian Dangerfield. Paris: A. Maloine, 1905.

This is a monograph on beriberi, containing 450 pages and representing seven years' continuous work on the part of the author. It is, in all probability, not only the most recent, but also the most complete work on the subject. The book is divided into two parts, of about equal length; the first consisting of the etiology, bacteriology, symptoms, diagnosis, pathology, treatment, etc.; while the latter half contains the histories of 151 cases under observation during the past seven years. The value of the work is enhanced by an historical sketch containing a list (with dates) of almost every writer who has referred to the disease. There is also a good modern bibliography. The cause of beriberi, which the author admits is unsettled, he is inclined to attribute to a coccus which he calls *Micrococcus beribericus*.

Veröffentlichungen aus dem Gebiete des Militär Sanitätswesen. Heft No. 28. Beiträge zur Schutzimpfung gegen Typhus. Berlin: Aug. Hirschwald, 1905.

This brochure contains the results of an investigation instituted by the Medical Department of the Prussian War Office and carried out by a number of staff officers both in Germany and the Colonies. As regards the universal application of preventive inoculation in the army, is appears that the results thus far obtained do not warrant the procedure being made compulsory. Even where it has been carried out, the usual sanitary prophylactic measures should not be omitted. The report is quite exhaustive and forms a valuable contribution to the literature of the subject.

Society Reports.

AMERICAN GASTROENTEROLOGICAL ASSOCIATION.

Eighth Annual Meeting, New York, April 24 and 25, 1905.

(Special report to the MEDICAL RECORD.)

FIRST DAY, MONDAY, APRIL 24.

THE PRESIDENT, DR. S. J. MELTZER OF NEW YORK, IN THE CHAIR.

The President's Address.—Dr. S. J. MELTZER, in his opening address, confined himself largely to a brief biographical sketch of three deceased foreign members of the Association, namely, Franz Riegel, Samuel Fenwick, and Adolf Kussmaul.

Recent Advances in the Knowledge of the Movements and Innervation of the Alimentary Canal.—Dr. WALTER B. CANNON of Boston, Mass., read this paper in which he said that undoubtedly the most important factor of the newer physiology of the mechanism of the stomach was the knowledge that it consisted of two parts, physiologically distinct. The larger, left part of the stomach was the cardiac portion; the right, the pyloric portion. The latter was characterized during digestion by the continuous passage of peristaltic waves over its surface, to the pylorus. The cardiac portion was without peristalsis, but as the food was pressed from the pyloric portion into the intestine, the muscles of the fundus, by tonic contraction, squeezed the contents into the mort active division, as into a hopper. The rate of gastric peristalsis varied with different animals. Roux and Balthazard stated that in the human being the rate was about three per minute, and Dr. Cannon said he had been able to confirm this statement by means of auscultation. Different views had been set forth as to the manner in which the pylorus opened and permitted the exit of food. Some investigators had declared that the sphincter relaxed only at the end of several hours to allow the stomach to empty. Observations with the stomach tube and *x*-rays showed that the stomach was not emptied at once at the end of gastric digestion, but progressively during the period. There was, then, an intermittent closure of the pylorus. The channel was usually closed, yet occasionally it opened; and when it opened, the peristaltic wave usually engaged in churning the food now served to propel it into the intestine. It seemed probable that the signal for relaxation was the presence of free hydrochloric acid on the stomach side of the pylorus.

Dr. MAX EINHORN of New York thought there were other factors that played a part in the relaxation of the sphincter besides the presence of free hydrochloric acid on the stomach side of the pylorus. This theory was satisfactory under normal physiological conditions, but it would not explain the relaxation of the sphincter in cases, for example, of achylia gastrica, where there was no acid in the stomach, and still the food found an exit into the intestines.

Dr. A. L. BENEDICT of Buffalo said that in dealing with stomach troubles, so many curious combinations were encountered that the matter of therapeutics was often very puzzling, and every strictly scientific paper, like that presented by Dr. Cannon, might help in the practical solution of the problems that had to be dealt with.

Dr. Cannon, in closing, said he agreed with Dr. Einhorn that the influences governing the action of the pylorus were still vague, and the problem had to be solved from a physiological standpoint before it could be intelligently attacked under pathological conditions.

Recent Advances in the Knowledge of the Chemical Processes of Digestion.—Dr. LAFAYETTE B. MENDEL of New Haven, Conn., in this communication, stated that perhaps the most striking factor of the present development of the study of digestion was the increasing complexity with which the explanation of this function was attended. From whatever standpoint the chemical processes were reviewed, the enzymes or simple ferments took the most important place among the active agents involved. The question as to their exact chemical nature was still unsolved, but with the increasing attempts to interpret physiological reactions in the light of modern physiological chemistry, instead of the more obscure "vitalistic" conceptions, there was a growing tendency to regard enzymes as special types of catalytic agents, colloidal in nature, which were subject to the general laws applicable to the inorganic catalyzers. The so-called reversible action of enzymes deserved special notice, since it threw new light upon the synthetic process in the organism. The researches of recent years had taught us that enzymes cooperated in the alimentary digestive process under conditions which had heretofore not been appreciated, and we had learned to recognize the existence of entirely new types of soluble ferments.

The F. A. Hoffmann-Ostwald Method of Determining the Free Hydrochloric Acid of Gastric Juice by Dissociation of Methyl Acetate.—Dr. JOHN C. HEMMETER of Baltimore illustrated this method and presented a brief paper on the subject.

The Immediate Effect of Biliary Retention on the Gastric Secretion.—Dr. JULIUS FRIEDENWALD of Baltimore sent this paper which was read by Dr. H. W. Bettmann. The author stated that the fact that one digestive secretion exerted a marked influence upon another secretion had been well known for a long time. It was a well-known fact that all forms of intoxication of the system could markedly influence the gastric secretion, and change its character. The cholemic condition due to biliary retention was much like the uremic condition due to ligation of the ureter, in which marked disturbances of the gastric secretion were known to take place. The first really systematic examination in this regard was made by Simnitzky. He investigated, especially, cases of catarrhal jaundice, because in that disease the jaundice gradually increased and then gradually again diminished. Beginning the examinations early, and continuing them as the jaundice intensified and as it again diminished, the direct effect of the jaundice upon the gastric secretion could be observed. As a result of careful investigation he found that in those cases in which there was at first a complete biliary retention which gradually began to clear up, the total acidity, as well as the percentage of free hydrochloric acid gradually diminished, and that with the retention of the bile, the gastric acidity increased in proportion to the degree of the biliary retention, the increase in acidity being due mainly to free hydrochloric acid.

Dr. EINHORN said he had certainly seen cases of jaundice and hypertrophic cirrhosis of the liver in which there was no evidence of an increase of hydrochloric acid, but rather a diminution. In the majority of cases, the observation contained in Dr. Friedenwald's paper might be correct, but it could not be accepted as a general rule.

Are the Milk Coagulating and the Proteolytic Effects of the Gastric Juice Due to One and the Same or to Two Different Enzymes?—Dr. JOHN C. HEMMETER of Baltimore read a paper with this title, in which he discussed the various theories that had been advanced on the subject.

Diverticula of the Esophagus, with Report of Three Cases.—Dr. WILLIAM GERRY MORGAN of Washington, D. C., presented a paper on this subject which was read by Dr. John P. Sawyer. He stated that ectasies or enlargements of the esophagus were of two kinds, entirely distinct in their causation and pathology, namely, dilatations, or diffuse enlargements involving more or less the entire periphery of the tube, and due usually to organic or spasmodic stenosis; and diverticula consisting of localized bulgings or saccular protrusions, and originating from a circumscribed portion of the wall of the esophagus. Pressure diverticula were those produced by the intraesophageal pressure involved in swallowing, acting upon a circumscribed area of weakened esophageal wall. They were uncommon, and occurred much less frequently than traction diverticula. They might be single or double. They were rounded or oval saccular protrusions, communicating by a circumscribed or slit-like opening with the lumen of the esophagus. The esophageal diverticula that gave rise to perceptible clinical symptoms and came under observation and treatment were practically all of the pressure variety. With regard to location, while pressure diverticula might occur in any part of the esophagus, they were divisible into two well-marked classes, (1) those at the junction of the pharynx and esophagus; (2) those below the cricoid cartilage. Traction diverticula were pouches or eversions produced by traction from without, or cicatrices or bands adherent to the esophageal wall. They were the commonest form of esophageal diverticula, occurring, it was said, in from one and a half to four per cent. of all adults. They were nearly always situated in the middle of the esophagus, in the vicinity of the bifurcation of the trachea, with some preference for the right side. The great majority of them resulted as a sequela from tuberculous anthracic or other form of inflammation of the bronchial glands situated at the bifurcation of the trachea. On account of their small size, traction diverticula produced no manifest symptoms, and rarely, if ever, had they been diagnosticated or even suspected during life. The initial symptoms observed in the upper diverticula, aside from whatever history there might be of the lodgment of foreign bodies, etc., were those of irritation, expectoration of mucus, irritable cough, hawking, or of slight difficulty in swallowing. In the low situated diverticula the earliest symptoms were usually a sense of dull, vague pressure, and slight pain or burning during the act of swallowing. In cases where the power of swallowing was greatly impaired or entirely abolished, a gastroenterostomy and feeding through the fistula afforded one method of keeping up the patient's nutrition. When the dysphagia was extreme, and the esophagus passable by the stomach tube, a far better way of feeding was by gavage, which the patient could learn to perform for himself.

A Case of Fatal Hemorrhage from the Upper Gastro-Intestinal Tract, Without any Gross Anatomical Lesion.—Dr. I. Adler of New York reported this case in detail, and exhibited the specimen.

Further Remarks on Ischochymia and Its Treatment.—Dr. Max Einhorn of New York City read this paper. Ischochymia, he said, or the "clinical dilatation of the stomach" of the older writers, was an important disease, to the recognition and treatment of which modern stomach pathology had made many contributions. As to the frequency of the condition, Dr. Einhorn said he met with 47 cases of ischochymia, of benign or malignant nature, among 3,243 cases of stomach disorder. It was generally well known that cases of benign ischochymia which were caused by a moderate stenosis of the pylorus might be improved or cured by medical treatment. In these cases, dilatation of the stomach was not very great, and the peristaltic restlessness of the organ was absent or only slightly present. There were, however, exceptional cases of tremendous gastric dilatation, filling the entire left side of the abdomen down to the symphysis, with marked peristaltic restlessness, which might be cured by palliative treatment. Usually, cases of benign ischochymia gave a long history of suffering, with periods of interspersed euphoria, whereas cases of malignant ischochymia gave a short history of illness, (3 to 8 months), with constant suffering. There were, however, exceptions to this rule. Benign ischochymia required, first, medical treatment. If this proved unsuccessful, *i.e.* if after a prolonged period of treatment the fasting stomach on a fluid diet was not emptied, but contained food remnants, an operation was advisable. Second, surgical intervention was also indicated in benign ischochymia which had developed subsequent to a condition of continued hypersecretion of gastric juice, preceded by hemorrhage or not. Third, malignant ischochymia was one of dubious nature, in which, however, a thickening of the pylorus was found. It should be treated surgically.

Dr. A. Rose of New York said the name ischochymia used by Dr. Einhorn in his paper was misleading. *Ischo* meant to check or arrest something by a force which was actively applied. The term, therefore, was not appropriate in a case where there was passive obstruction, like stenosis or atony. Dr. Einhorn had taken the word from ischuria, where the retention of the urine was caused by a spasm of the circular or longitudinal fibers, but the word ischuria would not be appropriate when the retention of the urine was due to paralysis of the detrusor vesicæ.

Dr. W. H. Bettmann of Cincinnati said he thought it very important that the profession should know that cases of ischochymia, with obstruction at the pylorus, recovered under medical treatment. The surgeons were too apt to overlook that fact, and to recommend surgical interference rather recklessly in some cases. The obstruction might be either (1) an actual anatomical one; (2) a spasmodic obstruction; (3) due to muscular weakness. If the obstruction was an anatomical one, it could not be removed by medical treatment, but this did not apply to the other two types.

Sarcoma of the Stomach, with the Report of Two Cases.—Dr. Morris Manges of New York, read this paper. and presented the following conclusions: (1) Sarcoma of the stomach usually occurred before 35 years of age, so that the younger the patient, the greater the probability that the malignant affection was sacromatous in character. (2) In many cases there was slight but continued pyrexia, accompanied by rapid and profound anemia, while in carcinoma fever was usually absent during the early stages of the complaint, and the cachexia much more gradual in its development. (3) Enlargement of the spleen was by no means infrequent, but it was rarely met with in cancer unless the organ was involved in the growth. (4) According to Kundrat, the tonsils were apt to enlarge, and the follicles upon the sides of the tongue might become swollen or ulcerated. (5) Secondary deposits in the skin occurred in a notable proportion of the cases that permitted of excision and microscopic examinations. It should be remembered, however, that sarcomatosis had been met with in true cancers of the stomach (Leube). (6) A large nodular tumor due to infiltration of the omentum, and greatly enlarged liver, with secondary growths in its substance, was rarely met with. (7) The discovery of pieces of morbid growth in the vomit rendered its diagnosis certain (Riegel; Westphalen). When the diagnosis was made, arsenic should be used, as it was in other cases of lymphosarcomatosis. Otherwise, the treatment was strictly surgical.

On the Relations of Some of the Metabolic Diseases to Intestinal Disorders.—Dr. T. B. Futcher of Baltimore stated that some of the more obscure and rare metabolic diseases had been attributed by investigators to disturbances in intestinal function; among these he mentioned alkaptonuria, ochronosis and cystinuria. Alkaptonuria was first described by Boedeker in 1859. The characteristics of the urine in this condition were briefly as follows: When voided it had a normal appearance, but rapidly acquired a deep-brown color and ultimately became black on exposure to the air. It was not until 1891 that Baumann and Wolkow demonstrated that the peculiar reactions of alkapton uric urine were due to the presence of homogentisic acid. The view generally held regarding the etiology of alkaptonuria was that the conversion of tyrosin into homogentisic acid was due to bacterial activity and consequent putrefactive conditions in the upper intestinal tract. The condition was congenital in the vast majority, if not all of the cases. Dr. Futcher said that recent observations indicated that a pathologic condition of great interest and rarity was associated with and probably due to the metabolic disturbances in alkaptonuria. This was the remarkable affection known as "ochronosis," or pigmentation of the cartilages, first described by Virchow in 1866. Osler, a year ago, reported two cases of ochronosis in alkaptonuric brothers, both of which cases had been previously reported in the literature as alkaptonurics, one by Marshall, and the other by Dr. Futcher. These constituted two of the four instances of alkaptonuria in this country.

Another metabolic disturbance which had generally been regarded as being dependent on intestinal disturbance was cystinuria, characterized usually by the spontaneous deposition of hexagonal cystals in the urine. The clinical significance of cystinuria was not great, because it was commonly associated with definite symptoms, and might be well developed in persons in good health. Occasionally, the individuals had disordered digestion, or it might be associated with anemia. Cystinuria was at times of surgical importance, owing to the fact that renal calculi composed of cystin might occur. Regarding its cause, the view was generally held that it was closely related to putrefactive changes in the intestinal tract.

Dr. JOHN P. SAWYER of Cleveland spoke of the relief in diabetes that followed the use of stomach lavage, especially when the condition was associated with hyperchlorhydria.

Dr. EINHORN said he had also observed quite a number of cases of diabetes associated with hyperchlorhydria in which the use of alkalies reduced the quantity of sugar in the urine.

Occult Blood in the Feces and Its Clinical Significance.—Dr. J. DUTTON STEELE of Philadelphia said that during the past few years, considerable attention had been paid to the clinical importance of recognizing minute quantities of blood in the discharges of the gastrointestinal tract. The term "occult blood" had been given to these hemorrhages, since the amount present was always too small to give the usual macroscopic characteristics of blood in the feces or gastric contents. Moreover, by the time the blood had passed from the body, the corpuscles were so broken down that they could not be recognized with the microscope, and the traces of blood had to be detected chemically. The tests that had been found most suitable for clinical use was the guaiac test of Weber, and the aloin test, first suggested by Klunge and Schaer. In Dr. Steele's experience, the latter had been found the more reliable, although the guaiac reaction was very satisfactory. A series of observations upon two normal subjects had convinced him that red meats, if taken in sufficient quantities, would give a very decided reaction for blood in the feces. The writer then discussed the value of the test in gastric and duodenal ulcer, in carcinoma of the gastrointestinal tract, in cirrhosis of the liver, in purpura, in tubercular enterocolitis and in typhoid fever. In the latter disease its application had been disappointing, although his observations had not gone far enough to be conclusive.

SECOND DAY, TUESDAY, APRIL 25.

The Determination of the Gastric Area, with Special Reference to Transposition of Viscera, Hour-Glass Stomach, Gastroptosis, etc.—Dr. A. L. BENEDICT of Buffalo, N. Y., stated that the gastric area was determined in a large degree by ordinary percussion, and occasionally by palpation. Succussion, which was really a form of palpation, was also employed, especially when the stomach was dilated and partly filed with liquid and gas. In succussion we palpated not so much the stomach as its contents, and it was really a form of *ballottement*, familiar in the diagnosis of pregnancy and other conditions. It was liable to give confusing results, as we might fail to discriminate between the stomach and colon, and might infer too little or too great degrees of dilatation. Since 1893, Dr. Benedict said, he had relied mainly upon auscultatory percussion for the determination of the gastric area, and had verified the accuracy of the method by the *x*-rays, by outlines made before operation or necropsy, and in other ways. He had found the ordinary bimanual Cammann stethoscope, or a simple flexed modification of it superior to the monaural instrument and the various forms of the phonendoscope. In certain cases, as when the stomach and colon were distended and in close contact, and it was impossible to discriminate between the two by ordinary percussion or even by auscultatory percussion, he substituted the tuning-fork for the percussing finger, and in his office he often substituted for the percussing finger an electric buzzer with a hard rubber stem, in order to communicate a thrill to the stomach or other organ examined. The *x*-ray he resorted to only in puzzling cases. Inspection with the gastrodiaphane he did not regard as very reliable, and it was rather troublesome. Fluorescin solution had been used to intensify the illumination of the diaphane, but in his experience they had not perceptibly done so; neither did they afford practical results with the *x*-rays. Dr. Benedict then gave the history of a number of cases, illustrating the practical application of these methods in transportation of viscera, hour-glass stomach, gastric dilatation, and gastroptosis.

Dr. A. ROSE showed an illustration of the circumscribing gastrodiaphane of Kemp, by means of which he said the position of the stomach could be exactly located.

Dr. J. KAUFMANN said he preferred to rely on simple percussion and palpation, which he regarded as more accurate than any of the more complicated methods, and it required no apparatus.

A Comparison of the Methods of Lavage with the Syphon Tube and the Politzer Bulbs.—Dr. JOHN P. SAWYER of Cleveland discussed the comparative advantages of these two methods of stomach lavage. He stated that the application of the Politzer bag, recommended by Ewald and arranged by Kuttner, with a hard rubber connection-piece, was the most efficient simple form of aspirator. In using this apparatus, he found it best to have the patient in a reclining position, with the clothes well loosened. The food residue having been aspirated as completely as possible, a bulbful of solution, medicated as desired, was introduced slowly into the stomach, and free active manipulation over the anterior abdominal wall was made with sufficient energy to produce a considerable movement of the liquid within the stomach, resulting in a thorough cleansing, and bringing it in close contact with the cleansed membrane. The contents were then withdrawn with the aspirator, which until that time had been controlled by the hand. By this method, cleansing of the viscus could be accomplished more thoroughly and in less time and with less fatigue to the patient than by the use of the syphon tube.

A Case of Peptic Ulcer After Gastroenterostomy, Causing Gastrocolic and Jejunocolic Fistulæ.—Dr. J. KAUFMANN of New York reported this case, showing the specimen. The patient was a man, 48 years old, who in December, 1901, had a gastroenterostomy performed by Dr. F. Lange for the relief of increasing pyloric stenosis and the recurrence of haematemesis, in spite of all internal treatment. The pylorus was found thickened, and its posterior wall adherent. The anterior surface showed an area of marked thickening, and opacity of the serous covering. A retrocolic posterior gastroenterostomy was done. A very high jejunal loop had been taken, and since the angle caused by the fixation seemed rather acute, the afferent and efferent portions of the jejunum were connected by an enteroanastomosis. The patient made an uneventful recovery and improved for a time, but after three months his symptoms recurred, and he complained of severe abdominal pain. In October, 1902, he developed certain cerebral symptoms; difficulty in speaking and writing, defective memory, muscular tremor, exaggerated reflexes, bilateral papillitis, convulsions, and periods of unconsciousness, with complete amnesia afterwards. He gave an old syphilitic history, and on that account he was subjected to a long and vigorous treatment with mercury and potassium iodide. His cerebral symptoms gradually abated, but his abdominal pain increased in severity, and in the course of time he became a morphine habitué. Usually, his pain was located in the upper abdomen, but at times it radiated into the lower section. While it lasted, the transverse colon could be often felt as a stiff, sausage-like tumor. At times, the attacks recurred almost daily, with intermissions of perfect freedom. In November, 1903, the patient complained for the first time of a sulphurous taste and leeching, followed by vomiting large quantities of fluid fecal matter. Lavage of the stomach was begun. The vomiting was not repeated, but the finding of fecal matter in the stomach became more and more frequent, and finally, during the winter of 1904-5 it became constant. The fecal matter was even found in the fasting organ, but usually it was present only after a meal. The patient could recognize its presence by the fecal belching, and verified it by the use of the tube. The patient was operated on in March, 1905, by Dr. A. G. Gerster. He found a connection between the posterior wall of the colon and the diverticulum of the jejunum, which must have been formed by traction. On section, this connection proved to be an open channel of considerable diameter between the colon and jejunum. Both were closed by Lembert sutures. The middle portion of the transverse colon was adherent above to the larger curvature of the stomach, and posteriorly to that loop of the jejunum which had been used in performing the primary gastroenterostomy. The colon was reflected, and after the removal of a number of adhesions, it became evident that another and larger connection existed between the upper surface of the transverse colon and the posterior wall of the stomach, which on dissection was also found to be an open channel uniting the cavities of the stomach and the colon. These two openings were also closed. Recovery seemed uninterrupted until the sixth day, when symptoms of perforation developed, followed by collapse. An immediate laparotomy showed that the perforation was caused by extending necrosis of the sigmoid flexure from the site of the Murphy button that had been inserted to connect the ascending colon with the sigmoid flexure. The case resulted fatally.

Dr. A. G. Gerster of New York said Dr. Kauffmann's case was a good illustration of the fact that the surgeon was often obliged to do his work under most hazardous and unexpected conditions, and where so many factors, such as the anesthesia, the respiration, the general condition of the patient, etc., had to be taken into consideration. In some instances even on the post-mortem table, where the element of time did not enter into consideration, the skilled pathologist had the greatest difficulty to establish the exact and true condition of affairs, and how much more difficult, then, was the task of the surgeon?

Etiology and Serum Treatment of Dysentery.—Dr. William H. Park of New York opened the discussion on this subject. He stated that so far as his experience went, as well as that of others, amebic dysentery was a very rare disease, excepting in those chronic cases that had been infected in semitropical or tropical climates. It was certainly rare in the United States, and practically in the whole middle and northern parts of North America. Throughout the temperate and colder parts of the world, in dealing with cases known as clinical dysentery—not ordinary diarrhea—but cases in which the stools contained mucus and blood, and in which there was tenesmus, with more or less fever, in that condition we could just as surely expect to find bacilli of the dysenteric group as we could expect to find Klebs-Loeffler bacilli in diphtheria. These bacilli had given rise to more or less confusion. In the more severe epidemics, of dysentery, occurring in Japan, Manila, and elsewhere, the Shiga bacillus was found very abundantly in the mucous membrane of the bowel during the height of the disease. In addition to these epidemics, there were milder outbreaks occurring throughout the world, due to a number of varieties of bacilli, which might be called paradysenteric, differing among themselves, and representing, perhaps, half a dozen or more different strains. The Shiga bacillus was very rarely found, excepting in cases of true epidemic dysentery. On the other hand, the so-called paradysenteric bacilli were met with in quite a number of cases of diarrhea—mild and moderate cases of so-called summer diarrhea, which presented no definite symptoms of dysentery. In many of those cases we could not find any Shiga bacilli after a most careful search, nor could we find them in so-called cholera infantum or that type of disease. In regard to the serum treatment of dysentery, Dr. Park said that many of the acute cases in this climate were so mild that when seen early and treated properly, recovery promptly took place, and the use of serum was unnecessary.

Dr. John H. Huddleston of New York said he had seen several cases which were of the type described by Dr. Park as paradysentery, and which ran the usual course, lasting about a week or ten days. The origin of the disease could not be discovered. The worst cases he had seen occurred in the middle of winter, although this disease was usually considered as one of warm weather. All the patients recovered without the use of serum. The treatment consisted of saline irrigations, with salol and castor oil internally, and morphine, when necessary.

Clinical Features and Medical Treatment of the Benign Stenoses of the Pylorus.—Dr. Henry L. Elsner of Syracuse, N. Y., said that benign stenoses of the pylorus might be either functional or organic. The latter might be either congenital or acquired. Functional stenoses were likely to be transitory, and met with in highly neurotic patients. In the congenital type of organic stenosis, the symptoms immediately followed birth, or could not be long postponed. No possible modification of the food relieved the symptoms when the stenosis was of high degree. Congenital incomplete stenosis of the pylorus was frequently the cause of chronic gastric disturbance which continued throughout life. Of the acquired organic stenoses, we had, first, the intrapyloric. These included chronic cicatricial stenosis; fibrotic stenosis, general and localized; hypertrophic stenosis, as described by Curvelhier; stenosis dependent upon ulcer; acute inflammatory stenosis associated with infection, deep-seated gastritis and acute poisoning; syphilitic stenosis; tuberculous stenosis; stenosis dependent upon non-malignant growths, and stenosis due to distortion or traction. Of organic stenosis of the extrapyloric type it was difficult to divine all the unusual and unexpected conditions which might give rise to them. In regard to the diagnosis, Dr. Elsner said it was rational to suspect stenosis of the pylorus whenever it was possible to demonstrate marked dilatation of the stomach, with perceptible lowering of the greater and lesser curvature, recurring peristalsis from left to right (peristaltic unrest), which might or might not be painful, and might be and frequently was associated with ballooning of the organ; with either a palpable mass or thickening at the pylorus, more or less splashing and further evidences of motor insufficiency, the latter made positive by means of the stomach tube, and such other refinements of diagnosis as were now used by all who studied these cases closely, which proved beyond peradventure the stagnation of food. The fasting stomach found distended and containing food remnants must always arouse suspicion. One of the leading symptoms of stenosis was vomiting.

Etiology, Diagnosis, and Treatment of Benign Stenosis of the Pylorus.—Dr. George Emerson Brewer of New York City presented this paper. He stated that in considering the clinical history of pyloric obstruction, it was necessary to keep in mind that we might and frequently did have two distinct groups of symptoms: first, those due to the disease which gave rise to the stenosis, and, second, those due to pyloric narrowing, and the resulting gastrectasia and chemical changes which occurred in the retained gastric contents. With the exception of those cases where a tumor could be palpated in the pyloric region, there were no physical signs that aided in the diagnosis in the early stages of benign stenosis. When gastrectasia occurred, however, physical examination frequently furnished important data, and inspection would often reveal the outlines of a dilated stomach through a thin abdominal wall. Occasionally, the greater and lesser curvatures could be palpated, and splashing might often be elicited at a time when the stomach should normally be empty. Distending the stomach with air or water would often enable the examiner, by percussison, to identify its limits, and thereby furnish a fairly reliable estimate of its size. In considering the treatment of benign pyloric stenosis, Dr. Brewer said the fact should first be appreciated that all the untoward symptoms of the disease were purely the result of a mechanical cause, and could only be relieved by reestablishing a normal connection between the stomach and intestine. It would be a waste of time to even consider drugs, massage, electricity and lavage, which at best could only be regarded as palliative measures. With the exception of the few instances in which the obstruction was so slight that the symptoms could be easily relieved by dietetic regulation, or in those exceedingly rare cases where the stenosis was due to a syphilitic ulcer or gummatous deposit, and which quickly responded to antisyphilitic treatment, surgery, and surgery alone could offer relief to these patients. In perhaps no other class of diseases of the ailmentary canal had the results of surgical intervention shown more strikingly satisfactory results. It would sometimes be possible to remove the cause of the stenosis by operation; for example, when the obstruction was due to peritoneal bands or adhesions, to new growths or enlarged lymph nodes pressing upon the pylorus or the first part of the duodenum, to foreign bodies, or benign tumors of the stomach wall. In the majority of instances, however, it would be necessary either to enlarge the contracted pyloric orifice by a plastic operation, or to create a new opening between the stomach and small intestines. Digital dilatation of the pylorus had been abandoned by surgeons. The pyloroplasty of Heinecke-Mikulicz was gradually giving way to other more radical procedures, for the reason that recurrences after its employment were so frequent. The operation of Finney and posterior gastroenterostomy were the two operations employed at present for the relief of pyloric stenosis. Finney's operation, which consisted in enlarging the pyloric opening by a plastic operation which united the first portion of the duodenum with the adjacent stomach wall was the operation of choice in cicatricial stenosis when the tissues were not too much infiltrated. In all other cases, gastroenterostomy was to be preferred. As to the mortality of these operations, in capable hands, with the physical condition of the patient still fairly good, it should be below 6 per cent. in benign cases, and as a permanent cure might be expected in the majority of cases of benign stenosis thus treated, it was difficult to appreciate why the rank and file of the profession should not give their unqualified approval to this method of treatment.

Dr. S. W. Lambert of New York said he thought surgery was the only possible resort in the treatment of pyloric stenosis. In the differential diagnosis between benign and malignant obstruction, the history of the patient was more important than the physical signs.

Dr. Howard Lilienthal thought that gastroenterostomy had probably better not be performed in cases of benign stenosis, if one could possibly manage to restore the parts involved to a condition more closely approaching the normal, and pyloroplasty, preferably by the Finney method, was his operation of choice in those cases.

Dr. Edward Quintard of New York said he had repeatedly seen cases of benign pyloric stenosis recover under medical treatment. While he favored operative interference in proper cases, he was more conservative than formerly in turning these patients over to the surgeon.

Dr. J. Kaufmann of New York said he could not indorse the radical view of Drs. Brewer and Lambert regarding the necessity for surgical interference in cases of benign pyloric stenosis. The surgical treatment was not without certain disadvantages. Mikulicz was on record to the effect that his experience with peptic ulcer had made him very cautious in advising operation, and he now limited operative interference to those cases where it was absolutely necessary. Dr. Kaufmann said he had frequently seen patients recover from their symptoms of pyloric stenosis under appropriate medical treatment.

Onomotologia Gastrologica.—Dr. A. Rose of New York presented a paper with this title. The paper was a plea for purity and correctness of medical language among writers and speakers, the suggestions it contained being chiefly confined to certain terms employed in gastrology.

Election of Officers.—The following officers were elected: *President,* Dr. H. W. Bettmann of Cincinnati; *Vice-Presidents,* Drs. S. W. Lambert of New York, and John P. Sawyer of Cleveland; *Secretary* and *Treasurer,* Dr. Charles D. Aaron of Detroit.

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-fifth Annual Meeting, Held at Rock Island, May 16, 17, and 18.

Dr. William E. Quine of Chicago, President.

The scientific work of the society was divided into two sections, medical and surgical.

Medical Section.

The Optional Disease.—Dr. Hermann Spalding of Chicago discussed the symptomatology and differential diagnosis of smallpox, and showed lantern slides made from photographs taken of patients at the Isolation Hospital, Chicago. He also quoted the statistics of the Chicago Department of Health showing the incidence and deathrate of the disease in vaccinated and unvaccinated persons, and described the methods of vaccination. He emphasized the exercise of caution in using a virus which was efficient. Failure to obtain a take was usually due to an inert virus, and sometimes to improper technique in vaccinating.

Pericarditis.— Dr. J. H. Bacon of Cleveland, Ohio, discussed the clinical history of the various forms of pericarditis, and described a new method of tapping the pericardium. A small trephine opening was made opposite the fifth intercostal space between the midsternal line and the left border of the sternum. The finger was inserted through this opening, adhesions were broken up, and the pericardium opened. In cases of purulent pericarditis, to prevent infection of the sternum and a subsequent osteomyelitis, the posterior surface of the sternum was covered freely with 10 per cent. iodoform-paraffin or wax. He also suggested that in cases of adherent pericardium the patient's life often could be saved by making a similar opening and loosening the adhesions between the two layers of the pericardium in the same manner as uterine adhesions were liberated. He detailed experiments on dogs that were carried on by him showing the feasibility of this procedure.

The Present Status of Serum-Therapy.—Dr. E. R. Larned of Chicago defined what was meant by serum-therapy, and then classified the sera as used in medicine under (a) curative sera, and (b) diagnostic sera. Classification of sera as to efficacy, (a) those of demonstrated efficacy; (b) those whose value appeared probable, but remained to be proved, and (c) those whose efficacy was *nil.* He described the methods used in the elaboration of sèra, and gave a brief outline of the present status of the following sera: (a) Those of demonstrated efficiency, antidiphtheritic, antitetanic, antiplague, antistreptococcic, and sera for exophthalmic goitre. (b) Those whose value appeared probable, but remained to be proved, as serum for hay fever, tuberculin, antityphoid, antirabic, antitubercle sera, and antivenene. (c) Those whose efficiency was *nil,* as antipneumococcic sera, antiscarlatinal sera, antidysenteric sera, antivarioloid sera, antitoxin for cerebrospinal meningitis, serum for rheumatism, serum for syphilis, serum for anthrax, cancer serum, and leprolin.

Scrofula.—Dr. Henry G. Anthony of Chicago stated that scrofula was a factor in dermatology, the importance of which was variously estimated, chiefly because of the diversity of opinion which existed as to what was meant by the term. He emphasized the fact that scrofula was not tuberculosis. Children with tuberculosis of joints did not present the various lesions which occurred in the eye and skin of scrofulous patients. It required nose and throat lesions to produce the clinical picture of scrofula. These nose and throat lesions were not tuberculosis, and the nasal and throat secretions did not contain the bacillus tuberculosis. Clinically and microscopically, the disease was a pyogenic infection of the nose and throat. Tuberculosis readily developed on the pyogenic infections, but this could never be determined clinically, and that was the reason so many believed that the disease was tubercular. When a chronic pyogenic infection of the nose and throat was present, it spread to the ear, eye, skin, glands, and bronchial tubes. The eruption of the skin which occurred from this spreading of pyogenic infection was impetigo and not eczema, of which two varieties were mentioned, one of which was a varicella-like eruption. Eczema might occur in scrofula, but the cases which were usually called eczema were really impetigo. The author had observed that sweating of the hands and feet was an important symptom in the disease. Scrofuloderma was subcutaneous tuberculosis, and lichen scrofulosorum was a tuberculous toxemia, occuring in all forms of tuberculosis. The severest of all cases were those in which the infection had extended to the bronchial tubes.

The Educational Treatment of Neurasthenics.—Dr. Charles D. Center of Quincy believed that cases of neurasthenia were increasing in number very rapidly. He showed that a rather definite percentage of the symptoms of a neurasthenic were illusory or hallucinatory in character, and also claimed that practically every phase had one symptom, complaint, apprehension, or fear, which predominated over all the others. This one predominating symptom he called the chief obsession, and stated that when this was overcome or removed all lesser symptoms were either abated or were entirely relieved. A number of cases of neurasthenia from the practice of the writer were cited, giving the chief obsession in each case, and the educational means used to remove this obsession. Reference was made to the use of strychnine in these cases, and it was found that the majority were made worse by its administration. The author emphasized the need of getting hold of the mentality of each case of neurasthenia, believing that it was more essential to treat the mind than the body.

Late Hereditary Syphilis.—Dr. R. R. Campbell of Chicago stated that in establishing a diagnosis of hereditary syphilis there were three points known as the triad of syphilis, which had long been looked upon as of the greatest value. These were Hutchinson's teeth, interstitial keratitis, and a particular form of deafness. These points were considered in their order. He reported several cases of late hereditary syphilis gleaned from the literature and others that had occurred in his own practice.

The Climatic Treatment of Tuberculosis, with Special Reference to Colorado.—Dr. Clarence L. Wheaton of Chicago spoke of the mortality from tuberculosis and the period of life at which death occurred during the last census year. He alluded to the necessity for enforcing laws relating to hygienic and sanitary measures, the establishing of State sanatoria for the care of the tuberculous poor, etc. He referred to the success of the Ottawa tent colony in the treatment of this disease, and said the tuberculosis problem was to be solved at home, based upon a study of conditions in Colorado, Arizona, and New Mexico. A knowledge of meteorological facts and climatic data was essential in prescribing climate.

Diet in Tuberculosis.—Miss Adelia Sater of Ottawa spoke on this subject, and, among other things, stated that the appetite was no reliable criterion as to the amount of food that might be taken and digested by the patient. Hygiene and diet were the foundation stones upon which might be constructed successful therapeutics in the cure of tuberculosis.

Indormescent Shocks.—Dr. Hugh T. Patrick of Chicago called these indormescent because they ordinarily occurred just as the patient was falling asleep. These shocks might be divided roughly into motor and sensory. Mild motor shocks, or simple starts, might be regarded as normal, but in some persons they reached a degree which was pathological, and in others attained a violence sufficient to make them worthy of medical consideration and special treatment. The sensory form might affect general sensation or the special senses. The manifestation occurred as a symptom of functional disease, and in the vast majority of cases was of no grave significance, although the shock was a most alarming sensation for the patient.

The Glycosuria of Hepatic Insufficiency.—Dr. Alfred C. Croftan of Chicago spoke of the frequency of sugar excretion in functional disorders of the liver, and pointed out the dangers of treating a patient afflicted in this way as a diabetic. He detailed the causes, symptoms, and treatment of this variety of non-diabetic glycosuria.

The Practical Significance of Certain Symptoms in the Upper Abdomen.—Dr. J. F. Percy of Galesburg said that the overlooking in this region of the pathology on which these symptoms were based was one of the strange chapters in the history of diagnosis. The common symptoms were pain due to cholecystitis, ulcer of the stomach, and of the duodenum, together with the formation of gas due to inhibited peristalsis. Vomiting was also mentioned; but nausea was a more prominent symptom than the former. Bleeding was also to be noted as one of the symptoms. The significance of these could best be determined by percussion, palpation, and noting costal resistance, especially in the right side. Laboratory methods were of confirmatory value only. Alone they could not make the diagnosis. The periodicity of the attacks from ulcer of the stomach and the duodenum was insisted upon, as was also the fact that the cholecystitis or an ulcer of the stomach would account for many of the chronic lesions of the liver and the pancreas. Both of these facts were new to the literature of this great subject.

The Tuberculosis Problem in Illinois.—Dr. Homer M. Thomas of Chicago stated that the main factor in the solution of the tuberculosis problem in this State was to secure for patients an abundance of pure air. It was from the unpierced heights and limitless expanse of the tractless skies that came the life-giving ozone. Its presence in the blood brought renewed life and vigor. The flagging forces of nature found in its subtle chemistry the antithesis of decay. The sodden skin, the halting step, the lusterless eye, the clouded brain, were rejuvenated under its vitalizing influence. Tuberculosis in Illinois concerned sources of impure air. These were mainly the home and the workshop. Tuberculosis was a house disease. It depended upon the home for implantation, growth, maturity and propagation. The house was the granary of the bacillus. Houses of one kind and another were the ordinary means of spreading the disease. The house was the most frequent means, and the workshop next. This was so because it took prolonged intimate contact with a person, place, or thing that had been intensely contaminated with tuberculosis matter to give rise to implantation. Probably three-fourths of all cases of the disease conveyed from person to person were contracted in the home, and one-fourth through the workshop and environment. Homes should be made clean, dry, airy and bright. Buildings in which men and women were employed should be made sanitary and should have a correct standard of air supply and light supply. The highest conception of medical science to-day was in preventive medicine. The Illinois State Medical Society had taken upon itself the advancement of this great work by establishing the Ottawa tent colony.

Parenchymatous Keratitis, Iridochoroidal Form, with Loss of Both Eyes.—Dr. Charles H. Probst of Peoria read a paper with this title, in which he stated that if iridectomy was to accomplish anything, it should be performed early in the disease, before iridic adhesions had taken place, or before an advanced iridochoroiditis had a chance to develop. On several occasions he had performed iridectomy in the very beginning of the iridochoroidal form of parenchymatous keratitis, with excellent results. In summing up the case, he reported there were several interesting features relating to it, which were temperature from 1° to 1.5° below the normal, and a very slow pulse. The therapeutic agents which were administered per mouth, such as salicylates, mercury, and potassium iodide, exterted no influence on the disease whatever. Subconjunctival injections of mercury and salt solutions had no beneficial effect on the eye until after the constitutional results of mercury had been attained by deep hypodermic injections. There was a sudden development of a secondary glaucoma after the eye had been doing well for six months. Destruction of both eyes, four years apart, occurred in a similar way. While the history and all other symptoms were negative, he thought the case was undoubtedly one of hereditary syphilis.

Mixed Infection in Consumption.—Dr. Ethan A. Gray of Chicago spoke of the necessity of recognizing the presence of more than one infection in pulmonary tuberculosis. Secondary or so-called mixed infections were the chief agencies in producing the symptom-complex consumption. As to the course of mixed infection, there was danger of mistaking it for la grippe, malaria, colds, etc. Occasionally pleurisy and broncho-pneumonia were expressions of mixed infection. Hemorrhage from eroded arteries was a factor in spreading infection. A diazo-reaction did not always mean a fatal prognosis. Treatment should be largely hygienic and climatic, but this was uncertain as far as checking the toxemia was concerned. He spoke of the value of streptolytic serum; amount administered, 10 c.c. daily, for six days; treatment was then discontinued until reaction had passed. Usually cough and expectoration would be diminished to a minimum, sometimes altogether. The phenomena of reaction were pointed out. Post-reactive findings were few or no bacteria. There was diminution in tubercle bacilli unless sputum was greatly concentrated; normal pulse and temperature. Severe cases only approximated the normal. Serum did not cure tuberculosis, but only cleared out bacteria and their toxins, leaving a better field in which to fight the tubercle bacillus. Seven cases were cited, in all of which the septic fever was materially influenced. In one case of advanced consumption fever was reduced from 103° to 99.5°; appetite and sleep returned, cough diminished, and expectoration as well. One case died without fever or expectoration three weeks after treatment was finished. Five cases showed marked improvement with return to normal temperatures, and better general condition.

Dr. F. C. Vandervort of Bloomington reported a case of poisoning from oil of wintergreen.

The License and Control of the Practice of Medicine in Illinois.—Dr. George W. Webster of Chicago reported the failure of the bill introduced into the late Legislature to create a board of examiners, and noted the duties of the Illinois State Board of Health as a licensing body.

Some Phases of Disordered Metabolism in Nephritis.—Dr. Ralph W. Webster of Chicago said that nephritis was primarily a constitutional disease, with secondary manifestations in the kidney. The close relationship between the findings in the so-called febrile albuminuria and those in typical nephritis were so marked that a common constitutional condition in each must be granted. All of the causative factors of nephritis produced metabolic disturbances which resulted in the production, of toxins, irritant poisons, changes in the properties of the blood, both physical and chemical, and various other pathological abnormalities, which, in themselves, caused irritative and later inflammatory lesions in the kidney resulting in nephritis. A large number of metabolic changes might be directly traceable to the nephritis itself. In this paper the author discussed only the points of chloride retention, edema, and uremia. The retention of chlorides in nephritis was granted, but its relation to edema seemed to the author still debatable inasmuch as present knowledge regarding the pathology of albuminuria and of edema was not sufficient to warrant the ascribing of a specific influence to the chlorides in edema, over and above that of other salts. A discussion of the relation of chloride intake to increased albuminuria was given in which the author concluded that in this connection NaCl may act as a specific. Concerning the theories of edema, those of Cohnheim, Kövesi and Roth-Schulz, and von Kiranyi received attention. The author showed the importance of osmotic changes in the production of this symptom of nephritis. The relation of the amount of water taken in had a double importance in increasing a hydremia and in increasing the work of the heart. With regard to the uremia, it seemed that one must at present accept the idea of Senator and assume that this condition is purely a group of symptoms brought about through disordered metabolism as a result of lesions in an insufficient kidney, which lesions had, in their turn, been caused by attempts on the part of the kidney to eliminate products of an abnormal metabolism, the result of a specific or nonspecific toxemia.

Dr. Charles L. Mix of Chicago discussed the diagnosis of chronic nephritis.

Ocular Manifestations of Chronic Nephritis.—Dr. Leigh E. Schwarz of Chicago read a paper in which he drew the following conclusions: (1) An ophthalmological examination should be made in all cases where nephritis existed or was suspected. (2) The non-existence of retinitis must not be inferred because visual disturbance is absent. (3) Ocular manifestations were invaluable where nephritis without albumin existed. (4) The severity of the renal symptoms did not influence those of the eye. (5) Retinal changes might occur before any definite clinical symptoms of nephritis developed. (6) Unilateral retinitis gave a relatively hopeful prognosis. (7) Retinitis might be the first indication of nephritis even in the later stage. (8) Prognostic value of the hemorrhagic type was not greater than that of other forms of albuminuric retinitis.

Medical Treatment of Nephritis.—Dr. Arthur R. Elliott of Chicago presented the subject in the following practical order: (1) Treatment of chronic nephritis without dropsy; (2) treatment of chronic nephritis with dropsy; and (3) treatment of uremia. After discussing the subject at great length under the above heads, the author closed by saying that there was no room for pessimism in our attitude toward this disease, and while obviously there was no remarkable cure to be performed by any mode of treatment, careful regulation of the life, and attention to little details, would secure results which were unsurpassed in any of the chronic dystrophies. The two most important indications were to protect the patient from intercurrent acute disturbance, and maintain the compensatory adjustment in the circulation.

Ideals and Practices of the Medical Profession.—This was the title of the president's address, delivered by Dr. William E. Quine of Chicago. He stated that standards differed in different societies and even under different conditions in the same society. It was a fact of familiar knowledge that offences committed by physicians against the public conscience might be easily tolerated by their own organizations, but offences against the technical standards of the organizations themselves, although quite unnoticed by the community at large, were liable to severe and lasting penalties, especially if the culprit was of humble rank and without friends. Among misdemeanors of this kind he mentioned advertising in the public prints; the exploitation of remarkable cures and operations; the holding of patents on articles used in the practice of medicine; the pretense of possessing an infallible law of cure; and the acceptance by physicians of commissions on their prescriptions, or on needed appliances which they were instrumental in selling, or on the fees surgeons received for operations on the physician's patients. Such acts were always small and surreptitiousness made them mean; but he failed to see in them convincing proof of gross moral obliquity. Most of them were quite compatible with honorable standing in the community; and yet they were stigmatized, and properly so, by the unanimous vote of the organized profession of the country as derogatory to professional character and incompatible with honorable standing in the profession—and, hence were subject to penalty within the organization and profession itself. On the other hand, when physicians violated the public standards of morality and thereby brought upon themselves public disrepute, their professional standing might be saved from challenge in medical organizations. Such discrimination was neither creditable nor defensible. A life sentence of ostracism should never be inflicted for mere technical transgressions, nor for any others except such as constitute *prima facie* evidence of depravity of heart.

What We Must Learn and Unlearn in the Treatment of Tuberculosis.—This was the title of the address in medicine, delivered by Dr. J. W. Pettit, of Ottawa. The author said it was now a well-established fact that climate was an unimportant factor in the treatment of tuberculosis. Because the medical profession had learned the utter futility of drugs in the treatment of this disease, their responsibility had not ceased. Physicians should guide patients when they do not treat them. A mistake had been made in regarding fresh air as the *sine qua non* in the treatment of tuberculosis. Nutritious food, regular rest, and exercise were each of essential importance. There was much to be learned in regard to the housing of tuberculous patients. As to the use of tents, it had been demonstrated that the tent was practicable in cold climates. It fulfilled the conditions most perfectly from a scientific standpoint. A practical point essential to success was the importance of an early diagnosis in this disease.

The following papers were also read and discussed: "Air Examinations, Importance and Results," by Dr. Adolph Gehrman, of Chicago; "Typhoid Fever," by Dr. G. G. Craig, of Rock Island; "Cases of Erysipelas Treated with Marsh Purslane," by Dr. H. C. Mitchell, of Carbondale; "Respiratory Oxidation Stimulants in Nephritis, Pulmonary, Dyspneic, and Allied Criss," by Dr. George F. Butler, of Chicago; "Syphilitic Meningitis in Children," by Dr. William J. Butler, of Chicago.

(*To be continued.*)

Philadelphia Neurological Society.

At a stated meeting, held April 25, Dr. R. V. Patterson reported "Two Cases of Korsakoff's Psychosis, One with Necropsy." The cases presented the characteristic phenomena of polyneuritis occurring in persons who had been addicted to the immoderate use of alcohol, with symptoms of mental derangement. In the one case, degenerative changes were found after death in the anterior horns of the spinal cord and in the peripheral nerves. The second patient was a woman about fifty years old, who, although considerably improved, still presented weakness in all four extremities and mental aberration. Dr. Wm. G. Spiller exhibited "A Case of Amyotrophic Lateral Sclerosis Associated with Long-Standing Anterior Poliomyelitis." Dr. Wm. Zentmayer exhibited "A Case of Unilateral Exophthalmos and Extensive Involvement of the Cranial Nerves." The protrusion of the eye, the right, had first been noticed with the advent of menstruation at the period of puberty, increasing each menstrual period, and also later during pregnancy. The upper lip was in a state of ptosis, and all of the ocular muscles, internal as well as external, were paralyzed. The optic nerve was atrophic. The opposite left eye, though not bulging and exposed, presented conditions similar to those in the first, though in much less marked degree. The right side of the face was anesthetic in the distribution of the sensory branch of the fifth nerve and somewhat paretic. The right side of the tongue presented wasting and fibrillary twitching. The soft palate on the right side was somewhat anesthetic, and not as active in the movement as the opposite side. A diagnosis of thrombosis of the cavernous sinus on the right side with extension to the opposite side and backward to the petrosal sinuses was made, and seemed the most logical explanation of the symptoms. Dr. Alfred Gordon exhibited "A Case of Exophthalmic Goiter." The patient was a woman about 40 years old, who first noticed weakness in elevating the eyes, later protrusion of the eyeballs, then enlargement of the thryoid gland, and finally palpitation of the heart, with tachycardia and tremor. The upper lids were retracted and they failed to follow the eyeballs in their downward movement. The case was considered as lending support to the view according to which the lesions of the disease are found in the medulla. Dr. Thomas J. Orbison read a paper entitled "Delusional Insanity of the Persecutory Type with Cyclical Relapses," and he reported an illustrative case. Drs. Charles S. Potts and William G. Spiller read a paper entitled "Pseudosclerosis (Diffuse Sclerosis), with the Report of a Case with Necropsy." He referred to a group of cases clinically presenting symptoms of multiple sclerosis, but anatomically exhibiting only induration of the brain and spinal cord, with microscopic evidences of increase of neuroglia. Drs. Charles W. Burr and C. D. Camp presented a communication entitled "The Causes of Triplegia." They referred to cases in which, in connection with hemiplegia attended with contractures, the opposite previously unaffected member becomes contractured, and after death intense thickening of the walls of the bloodvessels of the part, with obstruction of the lumen at times almost to the point of obliteration, is found in addition to the changes in the brain responsible for the primary paralysis. Similar vascular alterations were found also in a case of paraplegia supposed to be of simple senile type. Dr. J. H. W. Rhein reported "A Case of Syphilitic Encephalitis and Double Hemiplegia with Necropsy."

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Les Médecins au Théatre de L'Antiquité au Dix-Septième Siècle. Par le Dr. G. L. Witkowski. 12mo, 568 pages, illustrated, paper. A. Maloine, Paris, France.

A System of Clinical Medicine Dealing with the Diagnosis, Prognosis, and Treatment of Disease. By Thomas D. Savill, M.D. Volume 2. 8vo, pp. 704-1147, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $3.00 net.

Phychological Medicine. A Manual on Mental Diseases for Students and Practitioners. By Maurice Craig, M.A., M.D., M.R.C.P. 8vo, 449 pages, illustrated, muslin P. Blakiston's Sons & Co., Philadelphia. Price, $4.00 net.

Atlas and Text-Book of Topographic and Applied Anatomy. By Prof. Oskar Schultze. Edited, with additions, by George D. Stewart, M.D. 8vo, 189 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $5.50 net

A Text-Book of the Practice of Gynecology. By William Easterly Ashton, M.D., LL.D. 8vo, 1079 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $6.50 net.

Addresses and Other Papers. By William Williams Keen, M.D., LL.D., F.R.C.S. 8vo, 441 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3.75 net.

Nothnagel's Practice. Malaria, Influenza and Dengue. By Dr. Julius Mannaberg and Dr. O. Leichtenstern. Authorized translation under editorial supervision of Alfred Stengel, M.D. 8vo, 769 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $5.00 net.

Saunders' Pocket Medical Formulary. By William M. Powell, M.D. Seventh edition. 16mo, 301 pages, flexible morocco, wallet. W. B. Saunders & Co., Philadelphia. Price, $1.75 net.

Veröffentlichungen aus dem Geriete des Militar-Sanitatswesens. Hereausgegeben von der Koniglich Preussicchen Kreigsministerium. Heft 30. 8vo, 38 pages. August Hirschwald, Berlin, Germany.

Tuberkulose-Arbeiten aus dem Kaiserlichen Gesundheitsamte. Heft 4. 4to, 203 pages. Julius Springer, Berlin, Germany.

Les Moustiques; Histoire Naturelle et Médicale. Par Prof. Dr. Raphael Blanchard. 8vo, 673 pages, illustrated. F. R. de Rudeval, Paris, France.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 10, 1905:

	Cases	Deaths
Measles	770	18
Diphtheria and Croup	522	30
Scarlet Fever	152	13
Smallpox	1	......
Chickenpox	120	......
Tuberculosis	339	167
Typhoid Fever	49	10
Cerebrospinal Meningitis	52	57
Typhus Fever	......	......
Yellow Fever	......	......
Cholera	......	......
Totals	1,805	295

Chronic Acetanilid Poisoning.—D. D. Stewart reports two cases of acetanilid addiction, one of them at considerable length, and refers to others in the literature. The symptoms in the severer cases of chronic poisoning by the coal-tar products are, he remarks, very similar as regards mental and physical debility. There are cardiac weakness, more or less pronounced cyanosis, and blood changes characteristic of the action of a hemolytic agent. But for the leucocytosis, the blood conditions would almost suggest pernicious anemia with their diminution of the erythrocytes and changes in their size and shape, the presence of erythroblasts, often in larger numbers than in pernicious anemia, of polychromatophilic cells, and of cells undergoing protoplasmic granular degeneration. There is usually a notable increase of blood plaques and a leucocytosis is common, the increase, it is reported, being usually in the polymorphonuclear elements. In Stewart's cases, however, which were uncomplicated, there were 37 and 35 per cent. respectively, of lymphocytes. He thinks that possibly in other cases there might have been some complicating disease influencing the leucocytosis and the proportion of polymorphonuclears. In Cabot's case, complicated with nasal carcinoma, while the blood had the characteristic chocolate hue, and the hemoglobin was therefore not estimable, there was a leucocythemia. Erythroblasts were lacking, methemoglobin was demonstrable in both blood and urine, and the patient's general condition was good in spite of evident cyanosis. Such a case might superficially suggest, he says, the condition that has lately attracted considerable attention, chronic cyanosis with polycythemia and enlargement of the spleen. The difficulty sometimes attending the diagnosis in these cases has been noted by others and stress has been laid on the characteristic anemia. etc.—*Journal of American Medical Association.*

The Osmic Acid Treatment of Tic Douloureux.—W. Wayne Babcock states that the efficacy of the injection of osmic acid seems to depend upon two factors; first, the thorough destruction of nerve filaments and adjacent tissues produced by the osmic acid, and second, the fact that the area of destruction becomes filled by a mass of scar tissue that is impermeable to sensory impulses. In a large number of cases the injection is followed by complete anesthesia and relief of the pain, lasting at least for several years. Sufficient time has not yet elapsed to warrant conclusions as to complete cures. In other cases the relief is only partial or temporary. Yet improvement or relief generally follows a second injection of the acid. Absence of decided improvement after the precise injection of osmic acid into the trunk of the affected nerve seems rare. There is no danger to the general system from the local absorption of the osmic acid after the operation. The technique is simple, but it must be precise. After an incision is made over the affected nerve trunk it is hooked up, and from seven to fifteen minims of a two per cent. solution of osmic acid is injected through several different punctures into the nerve. In many cases it is wise to inject five or ten drops into the foramina of exit of the nerve. The writer then cites the history of a case in which this treatment was followed by excellent results.—*Proceedings of the Philadelphia County Medical Society.*

Alkalinity of the Blood in the Acute Exanthemata.—Kireef tested the alkalinity of the blood in fifty cases of acute infectious diseases, including variola, varioloid, scarlatina, measles, rubeola, typhoid, typhus and sepsis. The reaction was determined by the use of Engel's alkalimeter and it was found that in these diseases the alkalinity was either normal or was slightly reduced. Typhus alone formed an exception to the rule as in this condition the alkalinity was always increased, and the author suggests that this point may be of service in differential diagnosis.—*Zentralblatt für innere Medizin.*

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending June 10, 1905:

SMALLPOX—UNITED STATES.

			Cases.	Deaths
California, Los Angeles	May	20–27	1	..
Florida, Jacksonville	May	27–June 3	3	..
Illinois, Chicago	May	27–June 3	18	..
Danville	May	5–31	7	..
Galesburg	May	27–June 3	3	..
Kansas, Wichita	Apr.	29–May 27	21	..
Louisiana, New Orelans	May	28–June 3	5	..
Massachusetts, Haverhill	May	27–June 3	1	..
Michigan, Grand Rapids	May	27–June 3	10	4
Nebraska, Omaha	May	27–June 3	2	..
New York, New York	May	27–June 3	1	..
Ohio, Toledo	May	20–June 3	15	..
Pennsylvania, Altoona	May	27–June 3	1	(Import'd.
Lebanon	May	27–June 3	1	..
York	May	27–June 3	10	..
South Carolina, Greenville	May	20–27	2	..
Tennessee, Memphis	May	27–June 3	1	..
Nashville	May	27–June 3	5	..
Utah, Ogden	May	1–31	7	..
Wisconsin, Appleton	May	27–June 3	2	..
Milwaukee	May	20–27	3	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Apr.	8–29	3	..

SMALLPOX—FOREIGN.

Africa, Cape Town	Apr.	15–22	1	..
Belgium, Ghent	Apr.	29–May 6	..	1
Brazil, Rio de Janeiro	May	7–14	8	3
China, Hongkong	Apr.	8–15	3	1
Ecuador, Guayaquil	May	2–9	..	3
France, Paris	May	13–20	18	2
Great Britain, Bristol	May	6–20	2	..
Liverpool	May	6–13	1	..
London	May	13–20	3	1
New-Castle-on-Tyne	May	6–13	7	..
South Shields	May	6–20	5	..
India, Bombay	May	2–9	..	37
Calcutta	Apr.	15–May 6	..	24
Karachi	Apr.	30–May 7	11	3
Madras	Apr.	29–May 5	..	4
Italy, General	May	4–11	111	..
Catania	May	18–25	..	7
Palermo	May	13–20	1	..
Japan, Yokohama	Apr.	2–9	1	..
Russia, Moscow	May	6–13	7	2
Odessa	Apr.	22–May 6	15	4
St. Petersburg	Apr.	15–May 6	32	8
Warsaw	Mar.	11–18	..	1
Straits Settlements, Singapore	Apr.	15–29	..	4

YELLOW FEVER.

Brazil, Rio de Janeiro	May	7–14	42	18
Ecuador, Guayaquil	May	2–9	..	5
Mexico, Tierra Blanca	May	21–27	1	..
Panama, Colon	Jan.	23–May 29	15	..
Panama	Jan.	1–May 25	65	..

PLAGUE—INSULAR.

Philippine Islands, Manila	Apr.	8–29	1	1

PLAGUE—FOREIGN.

Africa, Cape Colony	Apr.	15–22	8	6
Arabia, Aden	Apr.	28–May 12	10	10
Australia, Brisbane	Apr.	1–8	1	..
China, Hongkong	Apr.	8–15	1	1
India, General	Apr.	18–22	64,214	54,602
	Apr.	22–29	67,086	56,732
Bombay	May	2–9	..	702
Calcutta	Apr.	15–May 6	..	1,867
Karachi	Apr.	30–May 7	202	189
Madras	Apr.	22–May 5	..	2
Rangoon	Apr.	1–28	613	539
Japan, Tokyo	May	10	1	..
Peru, Chiclayo	Apr.	16–30	4	8
Eten	Apr.	16–23	2	1
Lima	Apr.	16–30	6	2
Mollendo	Apr.	16–23	13	3

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Original Articles.

THE TREATMENT OF INOPERABLE CASES OF MALIGNANT DISEASE OF THE ORBIT BY THE *X*-RAY.*

By CHARLES STEDMAN BULL, A.M., M.D.,
NEW YORK.

The ophthalmic surgeon has for years been searching for some method of treatment for inoperable cases of malignant disease of the orbit, or for rapid recurrence of the disease in cases already subjected to operation, which would promise something more certain and satisfactory in permanent results than extirpation by the knife. Hence, the claims made during the last few years for the various forms of radiotherapy, including the *x*-rays, in this class of cases, are of great interest to us. The writer has carefully studied the published reports of cases of malignant disease treated by the *x*-ray method, but he has not been very favorably impressed, partly owing doubtless to lack of detail in the histories of many of these reported cases; and some of them, it must be confessed, read like fairy tales.

Walther and Béclère have reported the case of a young man, who, having already undergone several operations for sarcoma of the inferior orbital margin, had recently had a recurrence with lesions so extended that further operation was considered impossible. The patient was then treated by the *x*-rays, and eighteen sittings, covering a period of four months, sufficed to cause a disappearance of all traces of the neoplasm.

Prof. Berger treated with equal success a very serious recurrence of a sarcoma of the face, which in spite of the most vigorous surgical intervention, including resection of the superior maxilla and ligation of the external carotid artery, recurred each time with the greatest rapidity. Under treatment by the *x*-rays, the tumor entirely disappeared.

Many of the cases reported have not contained any detailed account of the exact method employed, of the number of sittings, or of the time of exposure, and many of the reports of cases contain only a few important facts buried in a mass of merely speculative hypothesis.

When any new agent is introduced to medical practice, it is at once grasped with hysterical enthusiasm and the most extravagant claims for its value are advanced, most of which are never realized; and we have naturally learned to criticise very minutely the reports of results so obtained.

It seems, however, to be an established fact that the *x*-rays do sometimes exert a marked influence on carcinomatous growths of a superficial character, causing them to slough and disappear. It has not been possible, up to the present time, for us to measure with any accuracy the activity of the radial energy coming from the tube, and hence we cannot determine the dosage.

We all admit that every case of malignant disease of the orbit, which has apparently not originated in or involved the adjacent sinuses, should be extirpated by the knife as speedily as possible. But the consensus of opinion seems now to be that when the neighboring sinuses are involved a complete removal of the growth is impossible, a recurrence of the growth is certain to appear, and with each repetition of the operation the return of the disease is hastened, and the life of the patient is by just so much shortened. On the other hand, in view of what we actually know of the action of the *x*-rays, it would seem not only wise, but our duty, after such operation by the knife as may be necessary, to expose the parts a certain number of times to the *x*-rays, in order, if possible, to destroy isolated cells or aggregations of cells in the neighboring parts which cannot be reached by the knife. It is stated on good authority that there has been a marked diminution in the death rate following operations on patients so treated. Reverting to the primary effect of the *x*-rays on malignant growths, there seems no doubt that epithelioma and carcinoma yield more readily to their influence than does sarcoma. Many cases are reported as benefited, but few have been completely cured. The tumors have shrunken and grown smaller, but the patient's general condition has not improved. The writer has also seen it stated in print on several occasions that metastasis is more common in cases treated by the *x*-rays than in those subjected to the knife.

The writer's experience, based on his own cases in which this treatment has been employed, has satisfied him that the pain so constantly complained of, has been speedily, sometimes immediately, removed by exposure to the *x*-rays, and if this is repeated a number of times the pain does not return.

Therefore, in inoperable cases, whether from extensive spread of the disease, or for other reasons, this method of treatment is to be recommended to patients, because it relieves much of their suffering and thus may prolong their lives. It would seem that the more recent and superficial a malignant growth is, the more rapid and favorable are the results from the *x*-ray treatment, but it takes time to prove the ultimate good results.

The writer has not himself observed any of the dangers or evil effects of the *x*-rays which have been from time to time reported, in any of his own cases, such as infiltration and opacity of the cornea, optic neuritis, conjunctivitis, and cellulitis of the eyelids. Several authors have reported subcutaueous extravasations of blood, and Ehrmann has described a teleangiectasis appearing as a late result of exposure to the *x*-rays.

The writer presents the detailed reports of ten cases from his own private practice, in which the *x*-ray treatment was employed after excision by the knife. Of these ten cases, two were very much improved if not apparently cured, and of these two one was an epithelioma and the other a carcinoma. The remaining eight cases, in which no demonstrable effect was produced by the *x*-rays, were all sarcomata. In the two favorable cases, showing entire disappearance of the growth under the influence of the radiotherapy, the writer did not observe any evidence of the marked cachexia so frequently reported in cases of malignant disease treated by this method.

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* Read before the American Ophthalmological Society at its Forty-First Annual Meeting, Boston, Mass., 1905.

There seems to be but little doubt that the x-rays do act favorably upon superficial carcinomata, and that the efficiency of the rays rapidly grows less with the depth from the surface. Our knowledge of the subject and of the real extent and nature of these rays is but scanty, and can be rendered accurate only by further experience.

Case I.—Myxosarcoma of the orbit. Gentleman, aged forty. Growth involved floor and inner side of left orbit. No apparent involvement of ethmoid cells, nasal meatus, or frontal sinus. Exophthalmos forwards and outwards. Apparently entire mass of infiltrated orbital tissue removed, leaving eye in place. Orbital plate of ethmoid intact. Relief of all symptoms for fourteen months; then return of growth as small nodule at infero-nasal angle of the bit. Patient refused further operative interference. Tumor grew very rapidly, so that in two months after its appearance the exophthalmos was extreme, and the growth filled entire orbit and extended down upon the superior maxilla and upwards upon frontal bone. Complete immobility of eyeball, ulcer, and perforation of cornea from total anesthesia. Constant severe pain which was almost immediately controlled by exposure to the x-ray treatment. In all twenty-eight exposures, beginning with ten-minute sittings on alternate days. Cessation of pain after second exposure. After the fifth session treatment applied only once a week, which sufficed to check the pain, so that patient suffered merely from slight dull ache in orbit. No apparent effect produced by the x-rays upon extension of growth, which eventually filled nasal meatus and pharynx. Patient died from exhaustion eleven months after reappearance of tumor, and two years and one month after first operation.

Case II.—Fibrosarcoma of periosteum of orbit and superior maxilla and of eyelid, without any involvement of skin. Gentleman, aged twenty-three. Beginning in floor of orbit and of very rapid growth, extending upwards and backwards in the orbit, and outwards and forwards upon superior maxilla. within six weeks after its first appearance. Eyeball not involved. Operation for removal within two months of its appearance, the skin of lower lid and eyeball being left *in situ*. Growth involved entire floor of orbit and extended for an inch and a half beyond lower orbital margin upon superior maxilla. It was not encapsulated, and as operation progressed it was found that it would have been wiser to remove the entire contents of orbit, including the eye and the periosteum, but to this the patient had not given his consent. After careful irrigation of cavity, the floor and inner wall of orbit and external surface of maxillary bone were cauterized with the galvano-cautery, and the skin-flaps were replaced. Patient made a rapid recovery and remained free from any sign of return for nearly sixteen months. A nodule then appeared at inner canthus and grew very rapidly in all directions and caused intense pain. Patient refused further operative interference, but consented to a trial of x-ray treatment. The exposures were made at intervals of three days, of fifteen minutes' duration. After the third application the pain became very much less intense, and the interval between exposures was gradually increased to seven days. No effect was produced on the growth of the tumor. Patient died from pneumonia three months after the return of the growth, and nineteen months after the operation.

Case III.—Sarcoma of the orbit, sphenoid and ethmoid bones, and nasal meatus. A lady, aged forty-five. For twelve months there had been continuous pain in the right side of the head and face and in the orbit, starting in the upper jaw and extending to the right temporal and parietal regions. Progressive exophthalmos, the protrusion being directly forwards, with marked limitation in motility of the eye. The exophthalmos resisted all pressure backwards. Accidental discovery of total blindness in right eye. Pupil dilated and immovable. Fundus normal except for engorged retinal veins. No perception of light. Hard dense infiltration of orbital tissue filling entire orbit, involving roof, floor, outer and inner walls. Chain of enlarged glands behind the angle of the jaw and down along the sternomastoid muscle to level of crycothyroid region. Patient had had frequent bleeding from the nose and a profuse purulent discharge from right nostril for several months. Superior and middle nasal meatus filled with growth, which bled easily. Patient was told of the grave nature of the lesion and of the necessity of an extensive radical operation, involving the removal of bone and the resulting disfigurement, and she declined the operation. She was advised to try the treatment by the x-rays for the relief of the pain and the possible arrest of the growth. She received the x-ray treatment three times a week, beginning with an exposure of five minutes, and gradually extending the time of exposure to twenty minutes. There was almost immediate diminution of the pain after the first sitting, and after the sixth exposure its complete abolition. Little or no effect was produced on the growth of the tumor, though at times a retardation seemed perceptible. A piece of the growth was removed from the nasal meatus and prepared for microscopical examination, which showed it to be a small round-cell sarcoma. Patient lived for nine months after I first saw her, and died from what looked like an abdominal metastasis, but no autopsy was allowed.

Case IV.—Sarcoma of orbit, involving the ethmoid, lacrymal, frontal and superior maxillary bones. Gentleman, aged seventy-two. Painless protrusion of left eye for five months. Eye blind from cataract and fundus invisible. Pain subsequently began deep in the orbit. Eye protruded forwards, outwards and downwards, to the extreme outer canthus. At inner canthus could be seen a tumor, which was hard, elastic, and resisting, in bulk larger than the eyeball, with smooth surface and firm attachment to the periosteum of roof and inner wall of the orbit. Tumor was not sensitive, but when pressed backwards caused severe pain at apex of the orbit. Nasal meatus and pharynx apparently healthy. In view of the age of the patient I declined to operate, but advised him, if the pain became severe, to try the treatment by the x-rays. This he did, but without any effect in lessening the pain or in retarding the growth of the tumor. He began by an exposure of ten minutes twice a week, and gradually increased the time of exposure to twenty minutes and the sittings to three times a week, having in all twenty-seven sittings. He died from exhaustion at the end of four months.

Case V.—Carcinoma of eyelid, orbit, and eyeball. Gentleman, aged seventy. The growth had begun four years before by a small nodule in the lower lid, near the internal canthus on the right side, and had gradually extended into the orbit along the floor and inner wall, pushing the eye upwards, outwards, and backwards. When I saw him the eye was almost buried in the mass of the tumor, which had involved the conjunctiva and cornea, and probably extended into the interior of the globe. The tumor also extended down upon the superior maxilla and outwards upon the malar bone. A piece of the growth removed from the inner surface of the lid was examined under the microscope and proved to be a rather vascular carcinoma of slow growth. On account of the age and enfeebled condition of the patient, I advised against operation, but suggested a trial of the treatment by the *x*-ray at his home in a distant city. This was carried out under my directions very faithfully by his family physician and a local surgeon familiar with the method. Beginning with semi-weekly sittings and five-minute exposures, the sittings were increased to three a week and the exposure to twenty minutes, and on several occasions to half an hour. The pain was relieved after the third sitting, and could always be controlled by a five-minute exposure. In all the patient had thirty-four applications of the *x*-ray treatment. Not the slightest apparent effect was produced upon the growth of the tumor. The patient died a little over a year after I saw him, from exhaustion.

Case VI.—Fibrosarcoma of the orbit and adjacent sinuses. A gentleman, aged fifty-six. About a year before I saw him the left eye began to protrude, he being at the time in perfect health. There was no limitation of motility and no pain or discomfort, and the vision was at first unimpaired. The exophthalmos slowly but steadily increased and the vision also failed, and he became conscious of a stiffness in and about the eye. When I saw him the eye protruded downwards, forwards, and outwards, and motility was abolished. The cornea was clear and the iris and pupil were normal. Vision was limited to counting fingers at three feet. The lens was clear and the fundus showed the usual appearances of papillitis. Palpation revealed a hard, irregularly nodulated growth beneath the superior orbital margin and on the nasal side, which could be traced some distance backwards into the orbit. Nothing abnormal was found in nasal meatus or pharynx. The patient was advised to have the entire contents of the orbit, including the eye, removed, and this was done on the next day. After enucleation of the globe, the growth was found to fill the apex of the orbit and encroached on the roof and nasal wall as far as the orbital margin. The orbital plate of the ethmoid was gone except for a few fragments, and the tumor filled the ethmoidal cells. The entire cavity of the ethmoid was curetted, and the periosteum was carefully removed from all the orbital walls. The hemorrhage was somewhat profuse, but was readily controlled, and then the entire orbital surface was cauterized with the actual cautery. The orbit was then packed with iodoform gauze and a firm bandage applied. The healing progressed very rapidly and there was but little suppuration. Nearly three months later the growth reappeared in the ethmoid bone, and after again curetting it thoroughly, I advised the patient to make trial of the *x*-ray treatment, as I was sure the growth would return. He began the sittings with a five-minute exposure three times a week, and the time of exposure was gradually increased to twenty minutes. After the third sitting there was no more pain, and it never became severe afterwards. The growth returned at the apex of the orbit in less than a month, and grew very rapidly in spite of the *x*-ray treatment. In less than two months it had filled the orbit and was extending down upon the cheek and upwards on the forehead. The patient died apparently from heart failure not quite eighteen months after the first appearance of the symptoms.

Case VII.—Small-cell sarcoma of orbit, ethmoid, nasal meatus, and maxillary antrum, of very rapid growth. A lady, aged thirty-nine. Eight months before I saw her the left eye began to protrude and its motility was impaired. There were at times sharp twinges of pain in and about the orbit. All the symptoms grew rapidly worse and vision was lost about two weeks before she consulted me. At the time I first saw her the left eye was crowded forwards, downwards, and outwards by a growth which involved the roof, inner wall, and floor of the orbit as far back as the fingers could reach. It also extended beyond the orbital margin in every direction, and filled the maxillary antrum, as was proved at the operation. The growth was smooth, hard, and non-sensitive. The lower half of the cornea was opaque, and the conjunctiva engorged and chemotic. The left nostril was occluded and the growth showed in the nasopharyux. The patient was told of the gravity of the case, and of the impossibility of a radical removal, but she decided to have as much of the tumor excised as possible, as a means of relief from the pain. The entire contents of the orbit were removed, including a small portion of the floor which still remained, and the antrum was cleaned out thoroughly. No attempt was made to remove any portions of bone, as all the bones of the face and the sinuses were involved. The patient remained free from pain for not quite two weeks, and then the pain, which was of a burning character, returned in the orbit and cheek. I then advised a trial of the *x*-ray treatment, and she began the sittings with ten minutes' exposure, three times a week. After the third sitting the time of exposure was increased to twenty minutes, and the sittings reduced to twice a week. The pain grew less during the second sitting and ceased entirely after the third sitting, and never returned in a severe form. The growth began to fill the orbit and antrum again within a month after its removal, and the radiotherapy did not produce the slightest effect upon the rapidity of growth of the tumor. The patient died from exhaustion, and from what I believe to be a hepatic metastasis, eight months after the operation. No autopsy could be obtained.

Case VIII.—Sarcoma of orbit, ethmoid, sphenoid, and nasopharyux. Young lady, aged twenty-six, in good physical condition, with protrusion of left eye and greatly impaired vision. The exophthalmos began about five months before I saw her, and at the same time she began to have difficulty in breathing through the left nostril. The symptoms grew rapidly worse, and two months before I saw her the vision of her left eye began to fail. The exophthalmos was forwards and outwards, and the motility of the eye was limited in all directions. The growth could be felt on the floor and nasal wall of the orbit, and protruded beyond the orbital margin on the nasal side. The left nostril was occluded and the growth presented in the posterior nares. There was constant pain, and a discharge from the nostril which was bloody and purulent. Vision was reduced to 10/200, and the ophthalmoscope showed a well-marked papillitis, with great edema and numerous hemorrhages. The patient was told that her only chance of relief was a radical operation, and that the tumor had so deeply involved the sinuses that a complete removal would be impossible. She consented to the operation, and the eyeball and contents of the orbit were removed with great difficulty two days later. The orbital plate of the ethmoid was removed, the ethmoid cells were thoroughly curetted, and a large piece of carious bone was extracted. The middle turbinated bone was removed from the left side, and a large mass of the growth was curetted from the superior nasal meatus. The growth was found to extend into the sphenoid, which was also curetted, and considerable carious bone removed. The maxillary antrum was not involved, and the right eye and orbit were healthy. The patient made a good recovery and remained free from pain for nearly three months. Then the pain returned in the inner angle of the orbit and roof of the nose, and the growth soon after reappeared in the ethmoid. I advised against any further operative interference, and suggested a trial of the x-ray treatment. She began with a ten-minute exposure three times a week, and after the fourth sitting the pain disappeared and did not return until after the treatment was given up. She had in all forty sittings, extending over a period of four months. The growth seemed at times to be somewhat retarded, but was not arrested, and gradually the orbit filled up and the nostril became again occluded. She died sixteen months after the operation, from what was apparently an abdominal metastasis.

Case IX.—Carcinoma of the eyeball and orbit. A gentleman, aged sixty, complained of a growth on the right eye, which he had first noticed three weeks before I saw him. On the outer aspect of the right eye, in the temporal and inferotemporal region, was a large irregularly nodulated mass, projecting about five millimeters above the surrounding surface. It was whitish in color, but highly vascularized, and had already grown over the temporal margin of the cornea. It was non-sensitive, but bled easily, and was firmly attached to the conjunctiva and underlying sclera, R. E. V—15/30: L. E. V—15/15. The patient was told of its malignant character and was advised to have the eye enuclected. He went away and I did not see him again for a month. When he returned the condition was much worse. The growth had involved the entire outer half of the eyeball, extended into the iris and anterior chamber and closed the pupil. He declined all operative interference, and I advised a trial of the x-ray treatment. A piece of the growth was removed for microscopical examination, and proved to be a true carcinoma. This case was the first one of the series which showed any marked improvement from the radiotherapy. The patient had in all twenty-seven sittings, at first on alternate days, and afterwards twice a week. The exposures varied in length from five to twenty minutes. The pain ceased after the first sitting. After the seventh exposure the growth began to flatten and scale off from the exterior. The cornea did not perforate, but flattened with the rest of the tumor, and eventually the growth entirely disappeared from the exterior of the eyeball and the latter became atrophied and flattened. At the end of the treatment the eye resembled one that had become atrophic after a perforating wound, or after an iridocyclitis. This patient has been seen at intervals since the treatment was stopped, more than a year ago, and there is yet no evidence of a return of the growth.

Case X.—Epithelioma of the nose, eyelids, and orbit. A gentleman, aged thirty-seven, presented himself at my office with the following history: About a year before a small lump had appeared on the right side of the bridge of the nose, which soon ulcerated. It extended upwards towards the eyebrow and outwards to the inner canthus. It first involved the caruncle and then extended into the orbit and into both eyelids. When I saw him the inner two-thirds of both lids were involved and their ciliary margins were ulcerated. The ocular conjunctiva on the nasal side was infiltrated, and the growth had extended along the floor and inner wall of the orbit. Vision was normal, the media were clear, and the fundus was healthy. The patient complained of a constant dull ache in the orbit and side of the nose, but there was no severe pain at any time. The case was desperate, and any operation for the removal of the growth seemed to be contraindicated, on account of the great extent to which the eyelids and orbital tissue were involved, which would require a very extensive plastic operation afterwards. The patient consented to try what treatment by the x-rays would do, and this was begun at once. The exposures were on alternate days, beginning with a period of ten minutes and gradually increasing the time of exposure to twenty minutes. The number of sittings was thirty-four, and they extended over a period of nearly four months. The dull ache in the orbit gradually subsided, though there was always a sense of burning in the parts involved. After the sixth exposure a change was noticed in the appearance of the growth on the nose and in the lids. The swelling disappeared, the parts seemed to flatten out, and the excoriated edges of the lids became covered with a dry scab, which later fell off, leaving a colorless, cicatricial appearance. At the end of the treatment the infiltration of the nose, eyelids, and caruncle had entirely disappeared, and the infiltration of the orbital tissue had diminished and could not be felt by the fingers on the floor of the orbit. Motility of the eye inwards was distinctly limited, but the eyeball remained as it was in the beginning, with good vision, clear media, and a normal fundus. This patient has been seen at intervals since the treatment by the x-rays was discontinued, and after sixteen months there is no return of the growth.

THE TREATMENT OF RENAL INADEQUACY COMPLICATED BY AN APPARENT NEPHRITIS.*

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In 1827 Richard Bright first made public his discovery that many cases of general dropsy which are associated with the secretion of albuminous urine, have as the original cause of the dropsy, a primary affection of the kidneys. Since that time chronic nephritis either with or without dropsy associated, has been the subject of a great deal of original research and study. But of late this study especially of the treatment of chronic nephritis, has been greatly stimulated to activity by the assertion on the part of a number of surgeons of recognized ability, that it can be, and has been, cured by purely surgical procedures. Assertions of this kind following the rule in all such cases, are received with the greatest amount of scepticism, and this scepticism deepens when one reflects for a moment upon the varied pathological phases of chronic nephritis. Edebohls claims to be able to cure any kind of chronic nephritis coming under his classification, viz., chronic parenchymatous, chronic diffuse, and chronic interstitial nephritis, which to a certain extent embodies all kinds of chronic kidney inflammations. He states further "that this cure is brought about by removing a barrier in the shape of the capsule proper, to the creation of a new and increased and more active blood supply to the diseased kidney." "The removal," he further states, "of this barrier by decapsulation, is followed by the formation on the most extensive scale possible, of a new vascular connection between the kidney and its fatty capsule." That this new vascular supply is formed, is denied by at least three observers who have had the opportunity to examine minutely kidneys that have been decapsulated some length of time before removal (Jewett, Cutler, and Boncz-Osmolowsky). These observers seem to have found but little connection between the blood supply of the new formed capsule and the kidney. That a new capsule, denser than the one removed, is formed after decapsulation is sufficiently proven by the observations of several observers, including Edebohls himself, Hall and Herxheimer, Johnson, and Ferguson. Edebohls further states that the probable manner in which the cure is effected, is by this new blood supply removing by absorption the products of inflammation, which might be the case if the exudate was comparatively recent, but this method of reasoning is hard to understand in the case of a chronic interstitial nephritis. This same thing might likewise be said concerning the increased nutrition brought to the kidney epithelia by this new formed blood supply, but here the etiology of nephritis is ignored, which cause still exists probably, and will be just as potent as ever against this so-claimed new blood supply, causing a return of all the symptoms after a certain length of time. The following facts are interesting, viz., that Edebohls arrived at the idea of treating chronic nephritis by decapsulation, by noting the fact that movable kidneys which were secreting urine containing casts and albumin ceased to do this when fixed; and Harrison and Israel, in cutting down upon the kidneys of patients apparently suffering from renal colic,—kidneys that were secreting albuminous urine,—found nothing to account for the symptoms of obstruction, and upon relieving the tension of the kidney capsule by puncture or slitting, observed that the urine cleared up and that the other symptoms likewise disappeared. Dr. Winfield Ayres, working in another direction, stated in a paper read before the Urological Society, in June, 1904, that beginning nephritis under certain circumstances could be cured by lavage of the kidney pelvis, and cites several cases which have shown marked improvement while washing out the pelvis of the kidney, originally begun to cure an existing pyelitis. His cases cited all secreted a urine, when first examined by him, containing albumin, casts, kidney, and pelvic epithelia, and had many general symptoms of mild urea poisoning. "The character of the urine greatly improved," so he stated, "and all of the general symptoms cleared up in the course of his treatment." In looking over the cases reported by Edebohls, 72 in all up to 1904, I find many of them unilateral, a condition that might exist in the beginning of a chronic nephritis, but certainly not likely to exist at the late time at which he operated on a great number of his cases. According to 500 autopsies looked up by Guiteras, both kidneys were equally affected. Kummel and Strauss, by catheterizing both ureters in nephritis, found both kidneys equally affected. My own experience does not entirely coincide with that of the above observers, as I found in at least one case of chronic diffuse nephritis the disease apparently further advanced in the right kidney than in the left, but this might be explained by the fact that the right kidney was movable to the second degree. I find likewise, in looking over the cases operated on, those described as chronic interstitial nephritis secreted urine of high specific gravity and contained a large amount of albumin and many granular and hyaline casts. This might be the case at the termination, or even rarely during the course of this kind of nephritis, but it is certainly not the ordinary history of chronic interstitial nephritis. It is a well-known fact that the results of urine examinations do not present an unalterable or distinct picture always of the type of chronic nephritis under observation, nor does a large kidney always mean a parenchymatous or diffuse nephritis, but may mean a nephritis where the involvement predominates in the interstitial tissue, but containing many areas of healthy kidney tissue enlarged from overwork. This kind of an interstitial nephritis may cause pain in the back, produce urine of high specific gravity containing casts and albumin, and might be helped by decapsulation, which relieves the pressure caused by a tense capsule giving the healthy part of the kidney room to functionate. Those who practice decapsulation on such kidneys give a temporary relief to the patient, but do not cure chronic interstitial nephritis. Such a concentrated urine, containing casts and albumin, I found complicated many of the cases of floating kidney operated on by Edebohls, and reported as cures of chronic interstitial nephritis. In looking over the cases of other observers I find the diagnosis of chronic nephritis based principally upon finding urine containing hyaline casts, epithelial cells from the kidney tubes, and albumin. These methods of diagnosis may do very well for the quick cure of chronic nephritis by surgical or other kinds of local treatment, but there is a question in my mind as to whether they are sufficient to thoroughly establish a true diagnosis of this condition. My belief is, in doubtful cases, that the diagnosis of any of the forms of chronic nephritis cannot be made by a few examinations of specimens of urine collected at random, but other things must be looked into, as symptomatology, diet, exercise, and the general physical condition of the patient. In other words, in order to come to a reasonably correct idea of the condition of the kidneys, repeated examinations must be made of specimens of twenty-four hour urine, its quantity being known. Information should likewise be had concerning the quality of diet, habits as to exercise, etc., and any other condition of the patient which might affect the kidneys either directly or remotely. Especially all causes which tend to congest the kidneys or put tension upon its capsule, such as nephroptosis, or any obstruction, inflammation, or irritation of any part of the urinary canal, or cardiac diseases, or pressure from without, as pregnancy, tumors, adhesions, and constipation must be eliminated before one can make an unerring diagnosis of chronic nephritis as such. Do not believe me to say that any of these conditions may not cause chronic nephritis if left undisturbed for a long enough time, but I do say that it is my belief that these conditions may cause simply a disturbance of the kidney function, probably by producing an increase of the internal kidney pressure and tension of the kidney capsule. Such kidneys may secrete urine containing hyaline, hyalogranular casts, *i.e.* hyaline casts with a few granules stuck to them, albumin varying in amount, a lessening of the quantity of urea to a certain degree, together with many of the subjective symptoms of mild urea poisoning, such as backache, headache, spots before the eyes, and nausea, and still there not be present a true chronic nephritis. In other words, I consider many of these cases giving symptoms and secreting urine of this kind in the beginning simply renal inadequacies, where the kidney is unable to functionate normally, probably on account of some mechanical obstruction, which obstruction being removed, the kidney does its work properly, but is not cured of chronic inflammation in the true sense of the word. It is incredible to my mind that when a true nephritis from any cause has advanced to that stage where the urine constantly contains casts of different kinds, and there is a lessening of its urea and solids, with a marked secondary cardiovascular involvement present, with a pronounced anemia due to chronic poisoning, that any surgical procedure or local treatment can cure the pathological process that must necessarily be present. Decapsulation or even lavage of the kidney pelvis might produce a temporary relief at certain stages, and in certain forms of chronic nephritis where the tension of the capsule simply increases the symptoms, but that is all, unless the cause is at the same time eliminated, and even then this treatment at best can only help that part of the kidney which remains in a healthy condition. Guiteras suggests that decapsulation relieves the kidney tension and congestion, allowing a freer flow of blood, and in so doing takes the strain off the heart, reducing general arterial tension and clearing up anasarca. It is my belief that much of the anasarca in parenchymatous and diffuse nephritis is due to this increase of internal kidney pressure, as that part of the cortex of the kidney which secretes the watery portion of the urine is squeezed against an unyielding capsule and cannot functionate. I find in most of Edebohls' cases of decapsulation, that when this tension and pressure is relieved, anasarca, if present, immediately disappears, an object lesson conducive of enthusiasm for the time being, both in the surgeon and patient. Any one who has seen much of clinical medicine has observed hyaline casts and albumin disappear from urine when their presence was due to failure on the part of the heart after this organ had been treated successfully for its incompetency. It is common for the same thing to occur in fevers and anemia. In primiparæ it is not a rare occurrence to see general anasarca or edema, with scanty urine, which contains albumin and casts, and a lessening of its urea, with all the symptoms of mild uremia accompanying, and at term, or even before if the fetus is expelled, the urine clear up and all symptoms disappear, and the patient go on to repeated pregnancies with no signs of kidney trouble reappearing. That some patients go into convulsions, coma, and die under similar circumstances, or develop a chronic nephritis afterwards, is really not a proof that the first was more than a renal inadequacy, probably due to pressure by the gravid uterus, causing an increase of internal pressure and tension of the kidney capsule. That one person has more vulnerable kidneys, or kidneys less able to resist traumatism than another, cannot be successfully denied, for reasons of heredity, habits, hygienic surroundings, etc. That urine clears up and symptoms disappear very often in nephropexies for nephroptosis is abundantly proven by many cases now on record, the abnormal urine and symptoms in these cases being due probably to torsion of the kidney ligaments, ureters, and blood-vessels, causing increased kidney pressure and tension of the capsule. Arthur Tracy Cabot of Boston asserts that an increase of internal pressure in the kidney may be brought about by an obstruction to the outflow of urine, as occurs in enlarged prostate. He finds that a continuous drainage of the bladder in patients of this kind (who in addition are secreting urine containing casts and albumin, with mild uremic symptoms), caused all symptoms to disappear and urine to clear up. A patient who came under my personal observation with a small stricture of the deep urethra had the albumin and hyaline casts disappear from the urine and all the symptoms subside when the stricture was thoroughly dilated and straining on the part of the patient to void urine ceased. A constant irritation of the mucous membrane of the pelvis of the kidneys and ureters by the passage over it of urine rich in uric acid, oxalate of calcium, etc. (gouty urine), will, to my mind, if continued long enough, produce an increase of pressure in the kidney. Pyelitis due to an ascending inflammation or to calculi will produce the same condition. Any pressure from without on the ureters or blood vessels, such as tumors, adhesions, or constipation, will likewise produce the same condition, and as Schreiber states, palpation of the kidney will often produce albuminuria, caused, as he thinks, by direct pressure upon blood-vessels and lymphatics. Falkenheim, according to von Jaksch, reported a case of intermittent albuminuria due to pressure of a tumor on the left kidney. Thus it can be judged with a fair amount of certainty that decapsulation of the kidney, or puncturing its capsule, or performing any of the other manipulations, as lavage of the pelvis, or relieving an obstruction in any manner, does cure what often appears to be a nephritis, not a truly pathological one, but simply an obstruction to the normal kidney function, caused directly by an increase of the internal pressure of the kidney and tension of its capsule; in other words, a renal inadequacy. It is not claimed here that decapsulation, and even pelvic lavage, do not benefit any case of chronic nephritis, but, on the other hand, both of these methods do produce good effects in certain cases, but should be confined to their individual spheres of usefulness, which are necesasrily limited ones. Any case of renal inadequacy, due to kidney congestion or tension of the kidney capsule, may be benefited by decapsulation, and any case of renal inadequacy due to a pyelitis may be benefited by lavage. I will go still further and say that, in case of true nephritis, where many of the symptoms are due to capsular tension, as occurs in parenchymatous and diffuse nephritis, and as rarely occurs in interstitial nephritis, decapsulation will do good often. Pelvic lavage will do good, as Ayres states, in the beginning of true nephritis due to an ascending inflammation. Sir Andrew Clark, in 1883, first described renal inadequacy. He stated in describing this condition that the patient passes a normal or subnormal amount of urine daily, with less than 2 per cent. of urea and no casts or albumin, is puffy under the eyes, and suffers from other symptoms of inadequate functions on the part of the kidneys. Loomis states that the urine and urea both are in subnormal quantities in renal inadequacy. My own belief is that in renal inadequacy the urine may not only be lessened in quantity, but contain albumin and hyaline casts and epithelial cells from the kidney tubules, together with certain subjective symptoms, such as backache, headache, languor, loss of appetite, etc., without there being present an active pathological process as is commonly found in chronic kidney inflammations. On reading Dr. Ayres' statement that he was getting good results in cases of chronic nephritis by washing out the pelvis of the kidney several times a week, I began to treat a number of cases by this method. In selecting cases of nephritis for this kind of treatment I chose those who apparently had symptoms due partly at least to an increase of the internal kidney pressure, and others who had a positive nephritis of long standing without these symptoms. I soon came to the conclusion that cases of the latter kind, which might include nearly all cases of chronic interstitial nephritis, and many cases of parenchymatous and diffuse nephritis, were not benefited at all, but in some instances made worse. In a number of cases, however, of the first kind, which principally included cases of chronic parenchymatous and diffuse nephritis, who gave symptoms of backache, headache, nervous twitchings, and pains radiating down back and legs, I feel that some good results were gotten, as many of these symptoms were relieved entirely in one case, but for how long I am not prepared to say, and allayed in others, as well as some improvement in the condition of the urine. In several other cases treated, where the internal kidney pressure was increased as a result of pyelitis, causing renal inadequacy, good results certainly followed this kind of treatment. The treatment consists simply in passing catheters, by means of the cystoscope, into each ureter once or twice a week, after which collecting about four cubic centimeters of urine from each kidney for purposes of examination, then washing out the pelves with a warm aqueous solution of nitrate of silver of the strength of one to five or ten thousand. Further treatment was to cut off all proteids from the diet and keep the patient at rest as far as possible. The only medication given was cathartics, when necessary, and Bashams' solution three times daily. I will state that the cases of true chronic nephritis which were treated by this method had been receiving various kinds of medication for a long time before this, with but little change in their condition.

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* Read before the Section on General Medicine of the New York Academy of Medicine.

Case I.—The first patient which I wish to call your attention to is a woman who has probably a chronic diffuse nephritis. Mrs. M., aged 32 years, Hungarian, housewife. Habits good in every respect. Always perfectly well until marriage. Patient was married nine years ago, six months after which she had a miscarriage. Six months later she became pregnant again, and at the fifth month developed all the symptoms of nephritis, which caused her to lose the fetus one month later, and confining her to the bed for six weeks. One year after this, became pregnant again, which resulted in the birth of a healthy child at term. There was no trouble of any kind during the time the patient carried this child. Patient had three other miscarriages after this, all due to kidney trouble. Since the last one of these the patient has been suffering with headache, nausea, backache, nervous twitchings, edema of the lower extremities, spots before her eyes, and constipation. The condition of the patient's urine before treatment was begun was as follows: Acid, yellow, cloudy, sp. gr. 1,018, urea 14 gr. to the ounce, albumin 6 gms. to the liter, numerous hyaline and granular casts, epithelial cells from the bladder, ureters or pelvis, and kidney tubules. The quantity of urine passed in twenty-four hours was about 35 ounces. August 23, 1904, the patient received her first treatment. She received eight treatments in all, the urine from four of which was lost. Blood pressure was taken by means of Janeway's modification of Riva-Rocci's sphygmomanometer, and seems to have risen, if anything. The urine was increased in quantity, but otherwise remained practically unchanged. Patient refused further treatment after November 11, saying that she felt a great deal better, and that her sleep was undisturbed by nervous twitchings. There was but little cardiovascular change in this patient.

Case II.—Miss M., aged 55 years, single, cook, born in Ireland. Alcoholic and venereal habits negative. Mother and father dead, cause unknown. One sister died of pleurisy. Always well up until one year ago, except for the fact that she was constipated. Patient has never been married. One year ago illness began, with headache, dizziness, spots before the eyes, and muscular weakness. These symptoms were soon followed by shortness of breath and edema of the lower extremities, which compelled her to give up her work. Physical examination showed pronounced vascular changes, some cardiac enlargement, with faulty compensation. Some edema of the lower extremities, but the other organs normal except the kidneys. Repeated examination showed the urine to be of acid reaction, cloudy, yellow, sp. gr. 1,018, urea 1 per cent., albumin large quantity; hyaline and hyalogranular casts, and many epithelial cells from bladder; quantity in twenty-four hours, 45 ounces. This was probably a case of chronic diffuse nephritis. There were five treatments in all given this patient. The patient had not worked for many months previous to beginning this treatment, but felt so well about the middle of September that she again sought work. Shortly after going to work she fell and broke her arm, so had to discontinue treatment. This treatment seems to have produced but little change of any kind in the patient's urine or blood pressure.

Case III.—J. C., aged 50, housewife, married, born in United States. Drinks moderately of beer, venereal history negative. Father died at the age of 47 of typhoid fever, mother died of heart disease. Has several brothers and sisters and three daughters and one son all living and well. Patient has suffered from stomach trouble and constipation for years, otherwise perfectly well. Has had pain in the small of the back for about one year. One week ago patient began to vomit, felt very weak and dizzy, and immediately following this her breath became short and her legs began to swell. Heart dilated, failing compensation, and moderate arterial change. Patient was very anemic, but otherwise normal, except for swelling of the feet and chronic nephritis. Urine then was acid, yellow, cloudy, sp. gr. 1,018, large quantity of albumin, urea about 1 per cent., a few hyaline casts, and passing about one quart of urine in 24 hours. Treatment was begun on this patient on September 6. She had previously had no other treatment from me. This was probably a case of diffuse nephritis. In this case, after the first treatment—there being three in all—the albumin in the urine was greatly diminished. The patient did not return after the third treatment, but affirmed at that time that she felt as well as she ever did in her life. These three cases were treated at my clinic connected with the New York University and Bellevue Hospital Medical College. Blood pressure seems to have been changed but little.

Case IV.—Dr. Ayres' case, which the doctor kindly allowed me to see in consultation with him, and which he has permitted me to report here. "W. S. H., age 34, occupation clerk, came to the office June 20, 1904. His appearance was typical of one in the late stages of parenchymatous nephritis. He said that with the possible exception of a few pains in the back in December, 1903, and a urethritis fifteen years ago, he had been perfectly well until March 15, 1904; then, from a description of his symptoms, he apparently had had an acute attack of nephritis that came on after catching cold. From that time until June 20 he had had considerable edema, at times becoming quite pronounced. During May he had had three attacks of uremic convulsions. He had been troubled constantly by shortness of breath upon exertion, and at times had had considerable nausea. He said that there had been a constant uriniferous odor to his body. He was unable to walk over two blocks without resting, and said that it seemed impossible for him to stoop to pick up his shoes. From March until June 13 he had not done any work, but had remained in bed nearly all the time. He was on the diet and medicine usually prescribed in these cases. When he came to me he had been at work one week, and during that time he had become rapidly worse. I found that his legs were markedly edematous to above the knees. There was also an area of edema over the sacrum. Pulse 88 and of fairly high tension. Heart moderately increased in size; first sound roughened, second sound accentuated. Quantity of urine said to be 50 to 60 oz. per day. Urine quite cloudy, sp. gr. 1,020, becoming solid on heating. Microscopic examination showed a large number of granular and hyaline and a few blood and epithelial casts, with a moderately large number of pelvic and tubule cells, all in a state of fatty degeneration. He was treated twice a week, silver nitrate 1-8,000 being used, with the result that at the end of two weeks the casts had all disappeared. The albumin had decreased markedly, at that time being 50 per cent. by bulk, or 5 gms. to the liter, by Esbach's test. He continued treatment twice a week until August 5. The report of that date shows that no casts were found, very few pelvic and tubule cells, and the albumin reduced to 3½ gms. On the 12th a few granular, hyaline and epithelial casts were found on both sides; albumin 3 gms. on the right and 4½ gms. on the left side. On the 19th there were no casts found, and the albumin had dropped to 2 gms. on both sides. He contracted a severe cold on August 27, and on September 2 the albumin was 5 gms. From this date until the 28th there were usually a few granular casts found on both sides. The last treatment was given on September 28, but since that time I have kept a fairly close watch on him, and ever since there has been steady improvement. When he came to me he was on milk diet with toasted bread. He was also taking Murdock's liquid food. He was taking diuretin and nitroglycerine. I made no change whatever in his diet nor medicine. When he came to me he had been at work one week and was rapidly getting worse. Since June 20 he has lost three days from work owing to severe attacks of bronchitis. When he came to me he could hardly walk, yet during the latter part of September he ran his own lawn-mower, and thought nothing of sprinting to catch a train when he was a little late. November 21.—General appearance excellent; passes about 75 ounces of urine in twenty-four hours, but this large quantity may be due to the diuretic and the large amount of water he is drinking. Sp. gr. 1,014. Found very, very few granular casts after looking over four slides. Albumin, 1½ gms. to the liter. January 18, 1905.—General appearance, perfect health; pulse soft and normal. He has no symptoms pointing to uremia, headaches, or any other similar condition. Has had a constant cold since last November, and at Christmas had an attack of grippe. Lost one day from work at Christmas. Drinks a very large amount of water and passes about 75 to 100 ounces in the twenty-four hours. Sp. gr. 1,008; albumin, ¾ gms. to the liter; three granular casts were found in four fields. There were also a very few pelvic cells and one or two tubule cells."

The four cases above reported are undoubtedly cases of true nephritis, which apparently have been benefited by lavage of the kidney pelvis. I have, however, in my records the histories and treatments of several patients suffering undoubtedly from chronic interstitial nephritis, who not only received no benefit from this method of treatment, but, on the other hand, were apparently made worse, if anything, and refused to be treated further. They all complained that the treatment caused them to have severe pain in the small of the back, and in one case there appeared to be a temporary suppression of urine. This proved, however, not to be a true suppression, but was due to a constriction of both ureters, preventing the flow of urine from the kidneys to the bladder, causing severe pain in back and abdomen. This obstruction we encountered in attempting to catheterize the ureter, the pain in the back and absence of urine in the bladder appearing shortly after our manipulations. The patient was put to bed, hot applications put over the kidneys, and soon the pain ceased and the urine came in gushes. These were probably fibrous strictures, as it was afterwards found that several of the patient's joints had undergone a fibrous ankylosis.

In addition to the above, I wish to speak of two other cases which I consider renal inadequacies, due to an ascending inflammation, and are not cases of nephritis, properly speaking. They were patients of Dr. Bremerman, with whom I studied them. They were undoubtedly benefited, and, I might say, cured by lavage of the renal pelvis.

CASE V.—Mr. S. This patient several years ago contracted gonorrhea, followed by prostatitis and vesiculitis, for which he was treated successfully by Dr. Bremerman. Two years later, which is the beginning of the present illness, patient began to have pains in the small of his back and head, and developed sexual impotence, with a generally depressed feeling. September 10 of this year patient's ureters were catheterized, and it was found that the urine from the right kidney contained many pelvic epithelial cells, hyaline casts, and much albumin. The urine from the left kidney contained no casts, but otherwise was similar to that which came from the right kidney. The patient was treated several times, with the result that the urine cleared up and the general symptoms disappeared. There was no further treatment then until October 20, when the symptoms returned. A casual examination of a specimen of this patient's mixed urine on September 10 would lead to the diagnosis of nephritis, which, to my mind, is incorrect, as the patient was simply suffering from a renal inadequacy, due to an escending inflammation. The urine record shows that the patient again got well.

CASE VI.—Mr. Le C. This patient gives a history of having gonorrhea for a long time, which was cured, with the exception of a slight gleety discharge. This was likewise afterwards treated successfully, and patient applied to a life insurance company for a policy, but was rejected on account of his urine containing albumin. Patient then came to Dr. Bremerman for treatment, with the result that the albumin disappeared from his urine and the pain in the small of his back and other general symptoms were relieved. The record of his urine examination during the time he was being treated shows a constant improvement. He was discharged as cured by Dr. Bremerman on November 11, 1904, as the albumin had disappeared from the urine and subjective symptoms were no longer present.

In conclusion, it is my belief (1) that chronic nephritis is never cured by purely surgical procedures or any kind of local treatment so far known to me. (2) That many symptoms of chronic nephritis which are due to an increase of internal kidney pressure can be relieved by decapsulation. (3) That many so-called cases of chronic nephritis are simply mechanical interferences with the normal kidney function, and that the inflammatory process, if any, is of secondary importance. (4) That lavage of the kidney pelvis is limited in its good effects to two conditions only, viz., pyelitis from any cause which affects the functions of the kidneys by increasing its internal pressure, and, secondly, in parenchymatous and diffuse nephritis where there is a great deal of cellular débris, a concentrated urine, increased kidney pressure and tension of the capsule. If I might hazard an explanation of the seeming good results gotten by pelvic lavage, I would say that they are gotten in pyelitis by clearing the pelvis and ureters of irritating substances, and in the parenchymatous and diffuse nephritis principally by reflexly influencing, as a counterirritant does, the blood supply of the kidney, accelerating the sluggish current, expelling the more or less stagnant blood, thereby bringing to the organ fresh blood, which in turn stimulates the kidney epithelia to more vigorous action, and reducing the internal kidney pressure and capsular tension, and thus tending to re-establish the normal conditions. I am greatly indebted to Dr. Bremerman for performing most of the lavages for me, and to Dr. Ayres for many valuable suggestions.

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THE PROPHYLAXIS AND TREATMENT OF PYOSALPINX.*

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It is characteristic of human nature to look lightly upon dangers or evils to which we are accustomed. A man engaged in a dangerous occupation soon becomes used to the danger involved in his particular calling and ceases to shrink from it; while, if suddenly confronted with a peril of a different kind, he quails before it.

The disease under consideration, although terrible in its character and far-reaching in its results, is a perfect illustration of this principle. We have become, from the very beginning of our medical studies, familiar with its presence, and therefore entirely too indifferent to it. Do we do all that is in our power to prevent it? I am sure that we do not.

It is with a feeling of sadness that one turns to this subject, on account of the contemplation of the suffering to which some of the most innocent and lovely of that sex are uselessly subjected. The profession should take up this disease and fight it as it has fought puerperal sepsis.

In an analysis of reports of many thousands of pathological examinations of tubal contents I conclude that 62½ per cent. of the cases are due to gonorrhea; and about 16 per cent. are the results of incomplete abortion; the remaining 21½ per cent. being of uncertain origin, a few undoubtedly arising from the pathogenic organisms conveyed to the tubes from other parts of the body, as tubercle bacilli, colon bacilli, bacillus lanceolatus, or other microorganisms. Some cases are due to the introduction of germs into the uterus by instruments or fingers. We must then assume that about 78½ per cent. of the pyosalpinx cases are possibly preventable.

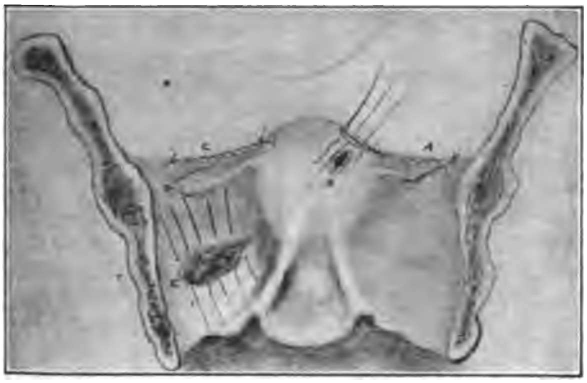

Fig. 1.—Pyosalpinx, posterior view. *a*, right tube and ovary exsected and wound closed; *b*, hole in uterus near right horn made with curette; *c*, incomplete exsection of left tube; *d*, healthy left ovary not removed, *e*, rent in broad ligament, where profuse bleeding occurred, showing method of repair.

Let us consider the most frequent cause, gonorrhea. To go back to the source of most infections, we must trace them to the male, and here leave its treatment in the hands of the general practitioner and the genitourinary specialist. It is for us, however, to emphasize to them that the slightest trace of gonorrhea is a bar to marriage, and that if, in spite of this warning, the subject persists in having marital relations, he is subjecting his victim to the danger of a foul infection, which entails long-continued suffering, sterility, and possibly death. Let us all consider that the slightest inoculation of a woman should be taken seriously and treated most carefully and persistently until all traces of it have disappeared.

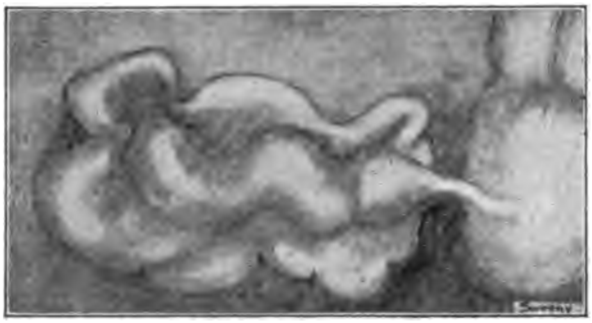

Fig. 2.—Pyosalpinx complicated with a very large appendix; posterior view. The uterus is seen in the center and above; the large appendix stretches over the pelvis; on either side and below are seen the diseased adnexa.

We will not dwell further upon the treatment of the more superficial infections, as upon those about the vulva, urethra, and glands of Bartholin. The disease must be fought from its very beginning up to what point? Many will say that we must go no further than the cervix, and that if the gonococcus beats us to the cervix we must admit that he has gotten into his hole and there the chase must cease and we must stand by, await results, and let the germ do its worst.

I am not yet ready to take this position. Curettage, of course, is out of the question here, as we would only open up fresh surfaces for infection and could look only for the worst results. I have treated two cases by washing out the uterus through a cervical speculum with an alkaline solution and following this with a solution of nitrate of silver, 1-240. In both cases great care was taken to first establish the fact that the uterus was the seat of infection, by making a microscopical examination of

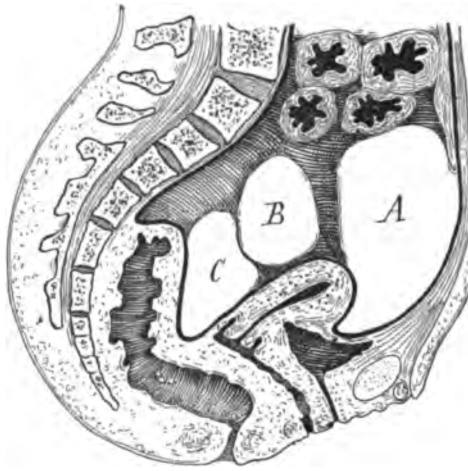

Fig. 3.—Complicated case of pyosalpinx; drainage; recovery. *A*, peritoneal cyst drained by gauze through incision in anterior abdominal wall; *B*, large pus tube on left side drained into vagina with gauze and later by self-retaining catheter sewed in place and removed after six weeks; *C*, peritoneal cyst in Douglas' cul-de-sac, first opened in exploring pelvis and drained with gauze. The right tube cannot be seen in the cut, but was in the same condition as the left and treated in the same way.

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*Read before the New York Obstetrical Society, March 14, 1905.

the discharge under proper precautions. One of these patients I saw about two months after treatment had ceased, and there was apparently no discharge from the uterus and not the slightest evidence of invasion of the tubes. The other woman I lost sight of in a few weeks. She seemed much improved when I last saw her. If both these cases had been cured, I would not claim from them alone that the procedure was to be recommended, but I do not even know whether they were cured or not. I can only say that one appeared to be so, after two months, and that the other was improved when I last saw her, and that I feel encouraged to try the same treatment upon the next patient whom I find with a fresh gonorrheal invasion of the uterus. In addition to this, the usual dietetic and hygienic measures suitable for such cases were carried out.

Let us now consider the prophylaxis in the 16 per cent. of cases caused by infection following incomplete abortion. Opinion is much divided about the treatment of abortion. It is this very question which applies most closely to the subject of this paper, "Prophylaxis of Pyosalpinx." The evils of incomplete abortion, especially as related to pyosalpinx, have been so forced upon my attention at my clinics that my views upon this subject are very decided. I believe that in every case of inevitable abortion, the fact that the abortion is inevitable having been thoroughly established, the patient should be operated upon. If the cervix is already dilated, the operation of emptying and cleaning out the uterus with semi-dull curette or finger should be performed as soon as proper preparation of the patient can be made. If not yet dilated, the cervix and the top of the vagina may be packed with a 5 per cent. iodoform gauze, after thoroughly preparing the patient for this procedure, and then twelve hours later, or in less time, the operation may be performed. Before proceeding, when conditions permit, the bowels should be emptied and all the usual preparations for any serious operation about the vagina made. The only exception being where hemorrhage makes instant operation necessary. The patient should always be put under an anesthetic. If this plan be universally followed, there will be no cases of pyosalpinx following abortion.

The technique of the operation is most important. After curetting, one should be assured that the uterus is emptied by passing the finger into it. It should then be washed out with hot, boiled water, with a teaspoonful to the quart of Churchill's tincture of iodine in it. Packing with gauze is rarely necessary; but if hemorrhage should be considerable, I am in the habit of packing with a strip of 5 per cent. iodoform gauze, squeezed out once in a 1-1,000 bichloride solution, to wash out the excess of iodoform. The packing should be removed in twenty-four hours.

The cases of pyosalpinx caused by the introduction of dirty fingers or instruments or improper aseptic preparation about the labia and vagina are absolutely preventable through the practice of surgical cleanliness, and therefore such infections are inexcusable on the part of the operator.

Treatment.—The proper treatment for pyosalpinx is operation; but when, where, and how to operate has probably been the subject of more monographs and discussion than any other in the whole range of gynecological literature, thus emphasizing its importance.

When a patient presenting the symptoms of pyosalpinx consults me, I first obtain a knowledge of the stage to which the disease has progressed. In the more advanced cases, oftentimes, the walls of the tubes and ovaries and the plastic material deposited about them having yielded to the destructive influences of the invading microorganisms, melt down and coalesce into one large abscess having several communicating chambers. A patient in this condition should be operated upon as soon as proper preparations can be made, and the operation performed in the manner to be described later.

If, however, the case is one of the acute and virulent ones, and examination shows that it is not a suitable one for vaginal incision and drainage, the patient should be placed in bed for observation and local treatment. In addition to the general hygienic and dietetic measures which suggest themselves as suitable in such a case, an ice-bag protected by one thickness of flannel is placed over the lower part of the abdomen and there maintained by a bandage of woolen material passing over it and entirely around the body, thus keeping the cold to the part where its effect is desired and preventing a chilling of the body. Hot vaginal douches and rectal irrigations are made alternately every four hours. Under this treatment, the pain quickly diminishes and the pulse and temperature are lowered. There is, as a rule, no longer any necessity of administering anodynes. The inflammatory action is checked and exudate often diminishes.

This, however, is only a lull in the storm. In judging of the time to operate, one must remember that, provided the patient is not losing strength too rapidly, procrastination is, in one way, to her advantage, for as the disease advances, the organisms causing it are becoming less virulent. Bacteriological examinations of the contents of pus tubes at the time of operation have demonstrated that the virulence of the microorganisms and their presence is in inverse proportion to the duration of the disease. However, there comes a time when delay is certainly no longer advisable. The patient shows signs of failing and there is evidence that the disease is assuming a subacute and septic character.

There are several prominent operators in Germany who believe in delaying until this time on account of the lessened danger of infection; but, on the other hand, the tubes and ovaries and other tissues are being destroyed. I do not think that we should wait more than a few days in any case after the discovery of the disease until we operate. The use of peroxide where pus has been spilled so neutralizes the danger of infection from this source that it is no longer necessary to allow the disease to run a long course, waiting for the virulence of the infectious agents to die out.

Upon a case presenting the conditions first described, that is, where one or more large abscesses impinge upon the cul-de-sac, I adopt the following procedure: The patient being in the lithotomy position and the vagina retracted with a weighted speculum, the cervix is seized with a double vulsellum forceps and drawn towards the pubes, and an incision is made crescentic in shape and about an inch and a quarter in length and about a half-inch posterior to the cervix. The incision is continued upward in the axis of the pelvis until the abscess is well opened. Having then a free incision into the abscess, *not a puncture,* it is thoroughly washed out with a 2 per cent. carbolic solution and through a return catheter. Now, if thorough drainage is established and maintained for a sufficient length of time, a majority of such cases will make a good recovery. I sew a self-retaining rubber catheter into the opening with a No. 2 ten-day chromic catgut and pack the interior of the cavity lightly with iodoform gauze, using one strip on each side of the catheter and bringing the end of each strip into the vagina where they can be easily reached. This gauze is drawn down gradually, so timing it that all will have been removed by the sixth day. The self-retaining catheter being sewed in place, remains, and by the time the catgut which holds it there has been absorbed, the opening in the vaginal vault will have contracted down so as to hold it in the desired position for any length of time. I believe that five weeks is usually long enough.

The above treatment is that usually adopted for pelvic abscess from other causes than tubal disease, and in it the question of effective drainage is solved by the use of the self-retaining catheter as described. The usefulness of this form of drainage, however, is by no means limited to the above class of cases. I have used self-retaining catheters to drain double pus tubes by the vagina in three cases, in all of which the results have been good. One was that of a young woman who had the misfortune to develop a double pyosalpinx as the result of incomplete abortion coming on in her first pregnacy. Both she and her husband were most anxious to have children, and I felt so disinclined to deprive her of any possibility in this that I resorted to the following expedient: Both tubes being distinctly felt to be enlarged, and the history indicating collections of pus, a good incision was made in the vaginal vault into the cul-de-sac of Douglas; guided by the finger, a long sharp-pointed pair of scissors was introduced into first one and then the other tube, evacuating the pus; each tube was then irrigated gently with a 2 per cent. carbolic solution through a return irrigator, then a self-retaining catheter was introduced past the neck of the catheter into each tube and sewed to the vaginal vault with ten-day chromicized catgut and cut off at a point just within the introitus vagina. The cul-de-sac was then gently packed with a 5 per cent. iodoform gauze wrung out once in a 1-1,000 bichloride solution. This gauze was placed in the space between the tubes and the end brought into the vagina. It was gradually drawn down, beginning at the end of the first 24 hours, until all was removed by the sixth day. This was done without disturbing the drainage tubes, as they were sewed in place, and also careful aseptic precautions were observed with every withdrawal of gauze; the outside parts, as well as the vagina, being first thoroughly douched with a 2 per cent. carbolic solution. The drainage tubes were left in place six weeks. This patient was operated upon about two years ago and there has never been any return of abscess. The woman enjoys excellent health. She has not conceived and may never do so; but had the operation been done by the abdominal route, in the usual way, she would have very probably lost her ovaries as well as her tubes.

A second case in which this method proved most useful to me was operated upon at the Post-Graduate Hospital about four months ago. This patient was 36 years old and had borne three children; the youngest was 11 years old. She presented herself at the clinic, having been ill two months. The cause of her infection could not be ascertained. There was nothing unusual in her menstrual history. She had complained of pain in the lower part of her abdomen and pelvis. Her temperature was at this time 102.5, pulse 110. Examination showed a large mass in the lower part of the abdomen and pelvis. She was sent into the hospital and put into bed with an ice-bag over the lower part of the abdomen, and hot vaginal douches given every four hours. Notwithstanding this treatment, she steadily grew worse. The temperature became more elevated and the pulse more rapid, and while the ice-bag controlled the pain, it was evident that her condition was rapidly growing more serious. Under ether, the mass appeared so large and of such uncertain outline, that I doubted the first diagnosis of pyosalpinx. The uterus could not be mapped out. The mass extended from the cul-de-sac to the umbilicus and into the iliac regions on each side. The cul-de-sac being full, I decided to explore it and make an incision into it through the vaginal vault. About a pint of clear fluid gushed away, causing me to think that I had opened into a cyst or into the abdominal cavity. However, higher up I could feel the ovaries and two large distended tubes. These were situated so high that I determined to open the abdomen from above and do a radical operation.

A three and a half-inch incision was made, whereupon about a pint and a half of clear fluid gushed out. The walls of the cavity were formed by the abdominal wall and omentum in front and coils of intestine, uterus, tubes and plastic material below and above. One could easily pick up large masses of lymph resembling pieces of fat. Having evacuated this cyst, I washed it out with one-half strength peroxide, and then with normal saline solutions. The great extent of this inflammatory area, and the firm character of the adhesions, caused me to give up the idea of a radical operation, and with the guiding hand within the abdomen, I incised the tubes through the vaginal incision, emptied and washed them out. The upper cyst was then lightly packed with gauze and the abdominal wound closed, leaving a sufficient opening at its lower part for thorough drainage. Then each tube was packed from the vagina with a separate strip of gauze, and another strip packed between them in the cyst cavity in the cul-de-sac, the three strips of gauze being brought into the vagina. This packing was gradually removed, and by the tenth day the abdominal cyst had entirely closed. By the seventh day all gauze had been removed from below, and on the tenth day the patient was lightly anesthetized and a self-retaining catheter sewed in place in each tube. One week later the patient was allowed to get up and was sent home with the drainage tubes still in position. Their presence did not seem to seriously impair her comfort or ability to move around. They were removed five weeks after they had been put in place. Now, four months after the first operation, this woman seems to be perfectly well. She weighs as much as she ever did, and a pelvic examination reveals scarcely a trace of the tremendous inflammatory process which had taken place. She now does all the light work of her household. It was, at the time, and still is my firm belief, that a radical operation would have resulted in her death.

My general plan of operation is to remove the tubes, leaving one or both ovaries, is possible. If the uterus seems to be in a necrotic condition—the seat of an abscess, or very badly injured in the course of the operation—it also is removed. The drainage method above referred to by me has only been used in special cases.

The general plan of procedure is as follows: If the cul-de-sac seems to be bulging with a large abscess, it is incised and washed out with a 2 per cent. carbolic solution; then the abdomen is opened and the tubes removed by clamping them off and tying the main vessels and sewing over the tops of the broad ligaments with a plain No. 2 catgut suture, and making a gauze drainage through the cul-de-sac into the vagina.

If the tubes are of such size or in such position as not to suggest a vaginal incision, the abdominal opening is at once made, the intestines freed from the lighter adhesions and the field of operation thoroughly walled off with abdominal tape pads, the patient being in Trendelenberg position. This done, the table is brought to a horizontal position, and the removal of the tubes without rupture, if possible, accomplished. If this attempt be successful and there has not been very great traumatism and there is no great oozing, the abdomen is closed in layers with catgut, using No. 1 40-day, in the fascia. If, however, pus has been split, it is at once douched with a one-half strength peroxide, immediately followed by normal saline solutions. The enucleation is then rapidly performed while an assistant mops out the fluid.

Vaginal drainage of the cul-de-sac with gauze is always resorted to where there has been great traumatism, where pus has been split in the pelvic cavity, or where there is excessive oozing from ruptured adhesions.

It is only under exceptional circumstances and extremely rarely that any drainage is made through the abdominal wall. Injury to the intestines and complications with the appendix are very frequent; I believe, therefore, that in all cases where the tubes are to be removed, this should be done through an abdominal incision.

When requested to read a paper before this society, my mind turned to this subject, as being one of especial interest to me, and I looked over the records of my cases for one year past and found that I had operated upon thirteen. In eight of them vaginal gauze drainage had been used; in two the ovaries and uterus had been removed as well as the tubes; in one of these the pus had burrowed down between the vagina and the rectum, nearly to the perineum, and in separating the adhesions, two openings were torn into the intestines and closed at once. The complicated case, where extensive lesions prevented their removal, was the only one of the series where the diseased tubes were not removed. Complications were dealt with as met.

All cases recovered, and it is this fact which has caused me to go into the minute details of the operative technique used.

To sum up in conclusion, the following suggestions occur to me:

1. That all cases of abortion should be operated upon.
2. That gonorrheal invasions should be fought from their start to their finish.
3. That the greatest possible aseptic precautions should be used whenever the uterus is entered either by instruments or fingers.
4. That all cases of pyosalpinx should be operated upon.
5. That certain cases may be relieved by a proper form of drainage.
6. That an operator should not enter upon a case with a fixed determination to do a radical operation.
7. That the vaginal route is unsuitable for a radical operation.
8. That vaginal gauze drainage is the best form and has its definite indications and use.

71 West Forty-ninth Srreet.

FORMIC ACID IN RHEUMATIC CONDITIONS.

By LOUIS BRADFORD COUCH M.D.

NYACK, N. Y.

My attention has recently been called to accounts of the use of formic acid, or rather its sodium salt, as a "strength producer" of wonderful efficacy. As I have been experimenting with this remedy since August, 1902, I think it well to record my experiences, as they show that formic acid, exhibited as indicated below, possesses a therapeutic power of the greatest value and efficiency in the treatment of all kinds of rheumatic affections. Not only is it practically a specific for lumbago, muscular rheumatism, etc., but in sciatica it has proved in my hands to be a remedy of great power and rapidity of action. I never think now of treating neuralgia or muscular rheumatism with anything else. I have repeatedly seen acute inflammatory rheumatism with a temperature of 103.5° subside in from 48 to 72 hours. It is withal the only remedy that has proved of any practical permanent value in that dreaded, hopeless disease known as arthritis deformans.

On August 12, 1902, if I remember right, I saw in the New York *Sun* an account of the case of a Long Island bee farmer who had been speedily cured of chronic rheumatism by being stung by his honey bees. Being interested, I wrote the farmer, and received a speedy answer informing me that the statements made in the *Sun* were "so" in every particular.

I then began an investigation into the chemistry of the poison of the honey bee, and learned that formic acid was its main ingredient, and doubtless, I thought, its most important therapeutic constituent as far as the cure of rheumatism was concerned.

Procuring a pound of formic acid (c. p.), I began a series of experiments, which have shown that this drug is wonderfully effective as far as rapidity of action and relief of pain are concerned.

My first case was that of Mrs. S., 45 years old, a victim of arthritis deformans, who had been a helpless cripple for the better part of six and a half years. She had to be lifted from the bed to a rocking chair, and from the chair back to the bed, several times each night. She could not even turn herself in bed at night or help herself in any way. Her shoulders, elbows, fingers, ankles, and knees were ankylosed, the muscles being long ago atrophied from non-use. The knees were white, shiny, and swollen, and so sensitive to touch, pressure, or movement that, if the slightest twist or motion of knee or ankle were produced in dragging her about in her rocking chair, three hours of painful suffering was the result. As the patient said to me afterward: "Doctor, I often prayed that I might die, I suffered such agony and my condition was so hopeless and helpless. I could not sleep, being racked with pain night and day, with not even the power left to change my position to rest my wearied body."

I prepared a 5 per cent. aqueous solution of formic acid, and gave about 15 subcutaneous injections of 5 drops each, two and a half inches apart over the knee joints. These injections were very painful, but the pain lasted only about three or four minutes. In 48 hours all pain and suffering ceased, and the poor woman was enabled to get the first real rest and sleep she had had for years. This cessation of pain was so remarkable that the patient was highly delighted and I had hard work making her adhere to the regimen I vigorously insist upon in these cases. This is, (1) no drink of any kind during, or fro three hours after eating; (2) perfect mastication of all food and thoroughly mixing the same with saliva; (3) no coffee, pepper, mustard, acids, vinegar, or acid foods in general, sugar, pastry, cakes, stimulants, carbonated drinks, such as beer, vichy, seltzer, or soda water.

This first treatment was followed in one week with an increased mobility of all the joints, fingers, and a gradual decrease of swellings all over the body. Though the patient was formerly a perfect cripple she can now walk with assistance given, mainly to steady her. The limbs under friction and judicious exercise have become developed nicely in a muscular way. When I saw her first she could not raise her forearms above the elbows. She now, however, puts her hands upon her head, combs her own hair, peels potatoes, sews with her needle, runs a sewing machine, and does a great many acts which a useful housewife finds necessary to do, and that, too, without pain or suffering. The patient has had several relapses from colds, exposures, or from using vinegar, pickles, etc., which were forbidden, and transgressing my medical laws as regards drinking during eating, but she has never failed to get beautiful results in 48 hours after any subsequent treatment. I have not, however, treated her more than five times in the last three years, and seldom use any medicine internally.

My second case was one of arthritis deformans of 23 years' standing, during 17 years of which the patient, a woman 53 years of age, had been confined to her chair or bed. She was able to sleep only in the early morning, the rest of the night being spent in being lifted from bed to chair and back again. I gave this woman at the first sitting about 17 injections of a 4 per cent. solution of formic acid, just beneath the skin in the most painful parts of the shoulder, arm, knee, and ankle of one side. In 48 hours she, too, lost all her pain on the side treated and the other side also was much benefited. One week later she received about as many injections on the other side of the body, and in 48 hours all pain of every kind left her and she could sleep all night like a top.

My third case was in a hotelkeeper who used beer freely. He had been suffering with lumbago for about three months. Could not stoop to pick up a thing from the floor to save his life. Had to roll over in bed very slowly and with great deliberation, and gradually assume the upright position. He had to be dressed and undressed by his wife. I gave him eight injections across the lumbar region in a double row. In 24 hours three-fourths of his pain had passed away, and in 24 hours more his pain was gone entirely and he could not tell where the injections had taken place. I saw him 48 hours after treatment. He smilingly showed me his ability to move in any direction, saying, "Just watch me; I can do all kinds of stunts now."

My next case was that of a woman who was afflicted with acute sciatic rheumatism. She came to me early one Sunday morning before sunrise. She could not rest, was suffering dreadfully, having had to walk the floor all night. I gave her about 10 injections along the line of the sciatic nerve just under the skin. In 48 hours she was well and never had another treatment and needed none.

My next case was in a woman, 61 years of age, suffering from arthritis deformans. She had had rheumatism since she was 16 years of age, a period of 45 years. She, too, was a perfect cripple. All her joints were ankylosed, her feet and hands being dreadfully deformed; knees were swollen, white, and very painful to touch or motion. She could not move or change her position, night or day, to rest or comfort her poor body. I gave her 22 injections of a 4 per cent. solution of formic acid subcutaneously, choosing the most painful locations for the exhibition of the remedy. The result was wonderful; all pain and suffering ceased in 48 hours and this condition continued for manv months following, till one day she carelessly exposed herself to a severe draft of air during a storm, and her pains returned. She lived back in the country, and was so far away that I could not continue in attendance, and the patient passed into other hands.

On account of the severe pains experienced with formic acid injections I now use 8 to 10 drops of a 1 per cent. solution of cocaine at first, allowing patient to rest for 12 minutes. I then introduce into the same needle holes the formic acid injections. No pain whatever follows. In all kinds of rheumatism and neuralgias I have found formic acid a wonderfully efficacious remedy. It is not always a specific. It fails occasionally, why I do not at present know, but is is without doubt the best remedy I have ever used for this painful affection, and I am sure it will be many a long day before a better one is discovered. I have cured acute inflammatory articular rheumatism with a temperature of 103½° in 48 hours by exhibiting 32 injections as above.

The following case will also prove of interest, and I hope of value: Mrs. X., aged 64, was operated upon by me for epithelioma of the lower lip about two years ago. Six months afterwards I noticed a hardness in the point of union which gradually increased in size. It became quite painful on account of severe sharp, shooting, burning pains in the parts. I was confident the epithelioma was recurring. For an experiment I conceived the idea of injecting 8 drops of a 4 per cent. solution of formic acid into the growth to relieve the pain and stay the progress of the growth. The growth was "stayed" at once, became smaller in size, and all pain ceased at once, and though the experiment was made two years ago there has been no return of either growth or pain, and the parts are normal.

In conclusion I want to warn my readers against the use of formic acid in solutions stronger than 3 per cent. Strong solutions produce gray round eschars that are difficult to heal.

The following rules, based upon experience, will enable any one to use the remedy with perfect safety:

1. Always cleanse the parts thoroughly before injecting formic acid solution.
2. Never use a stronger solution than 3 per cent., and a 2½ per cent. solution is better.
3. Never use it without injecting 5 to 8 drops of a 1 per cent. solution of cocaine, or other local anesthetic as a preliminary to the formic acid treatment.
4. I always choose extensor or outer parts of a limb for exhibiting the remedy and inject it just beneath the skin, though deep injections may be used when occasion demands.
5. I never use more than 8 drops in any one place of either cocaine 1 per cent. solution or of the formic acid solution. If I use 8 of the cocaine I use a similar amount of the formic acid solution.
6. If large doses are used of formic acid solutions, hard, painful lumps are formed which are slow of absorption and painful; whereas, if smaller doses are used no destruction of tissue results, and no hard, painful growths supervene.
7. I usually inject the most painful points I can find and make the injections not less than two inches apart.
8. I never have used more than 30 injections at a time, and it is far better to use only 12 to 15 and repeat the following day in another place. Avoid all nerve trunks, if possible, since injections involving nerves are apt to be followed by severe pains lasting for 24 hours. Injections may be given every day, or every other day, till all the pain has ceased. It will not be apt to return unless gross carelessness or wilful disregard of plain directions exist.

There is no artificial or animal digestive ferment that can supplant or take the place of a thorough mastication of food and mixing the same with saliva. A man who mixes food with drinks instead of saliva, washing his starchy food into the stomach where there isn't anything to digest it properly, will surely pay the penalty.

And let me give briefly here, just to put myself on record, the following facts, leaving for a later date the exposition of some interesting discoveries I have made after four and one-half years of study and chemical analysis of the excretions in endeavoring to elucidate the causation of rheumatism: (1) All rheumatism, acute or chronic, muscular or articular, is due to self-generated systemic poison. (2) It is not bacterial. (3) It is chemical. (4) It is an acid and a suboxidation product. (5) It is not uric acid. (6) Uric acid is a product of, not the cause of rheumatic conditions. (7) Rheumatism is a product of starchy indigestion alone. (8) It is produced by fermentation. (9) It is caused by carbonic acid gas generated in the stomach and bowels, and is due to drinking at meals and washing the food into the stomach without proper mastication and thorough mixing with the proper ferments—the salivary secretions our Maker designed to digest such foods.

The Etiology of Infantile Eclampsia.—James M. French says that the term infantile eclampsia is used to designate a type of convulsive seizure rather than a condition peculiar to infancy. Some writers refer to the occurrence of the same kind of convulsions in adults. The writer considers the subject in relation only to infants and young children. In studying the etiology, an inherited or acquired predisposition and an immediate exciting cause must be considered When there is a history of similar convulsions, or of insanity, epilepsy, hysteria, or other neurotic disease, the predisposition is to be regarded as inherited. Alcoholism is a striking factor. Malnutrition is another important predisposing influence. The most vigorous child, however, with no hereditary taint, may be overwhelmed by either a chemical or mechanical irritant. The writer has not observed that sex has any influence. The Latin races are more susceptible than are any others. The exciting causes belong for the most part to one of two classes, namely, the direct or symptomatic, and the reflex. In the first class are those cases in which the stimulus acts directly upon the nerve centers. The most important stimuli are fever and toxemia. Anemia and altered blood-states, other than those produced by the toxic substances formed by bacteria and animal parasites are accountable for the eclamptic attacks in certain cases. Acute nephritis illustrates this. Ptomains are another example of chemical poisons which may act independently of fever. The most frequent of the reflex irritants is gastrointestinal disturbance. Over-distention of the stomach and improper food are common exciting causes. Certain forms of peripheral irritation are often referred to, as dentition, phimosis, masturbation, compression of the testicle within the inguinal canal, retention of urine, cutaneous eruptions, foreign bodies in the ear, and scalds and burns. Unless such irritation is very evident, all other possibilities should first be excluded. Careful examination of the disrobed body will sometimes give the cause. Cerebral congestion is the only explanation of some cases, as when the seizure follows crying, violent coughing, and so on. When convulsions in the infant are caused through the milk of the mother who has undergone some violent emotion, the influence should be regarded as a long-ranged reflex.—*California State Journal of Medicine.*

The Treatment of Menorrhagia and Hemoptysis by Inhalation of Nitrite of Amyl.—Horace C. Colman declares that amyl nitrite must be looked upon as a distinct help in the treatment of inaccessible hemorrhage. Hare has proved its usefulness in hemoptysis in a sufficient number of cases to warrant a far more extended use than it probably has at present. The writer tried this treatment in a case of severe metorrhagia, which he had found very difficult to relieve. The use of the drug was most successful. The writer believes that further trial in similar cases will meet with the same success. Doubtless the sudden lowering of the blood pressure is the main factor in the checking of hemorrhage by inhalation of nitrite of amyl. Clotting takes place in the bleeding area, whether this be ulcerated lung surface or engorged endometrium. The blood pressure rises again, but gradually, and so the clots formed are not dislodged. The action of amyl nitrite closely imitates Nature's method of checking severe hemorrhage—syncope, clotting in the ruptured vessels, gradual rise of blood pressure and return to consciousness. This method of treatment seems to have no bad effect on the patients. The headache that is usually complained of is very transient. In the case of menorrhagia cited by the writer, he directed the patient to go to bed as soon as menstruation started, and when there was more than normal bleeding, to inhale three minims of the drug. The results were eminently satisfactory, as the excess of bleeding was at once checked.—*The Scottish Medical and Surgical Journal.*

The Relation of Tetany to Gastrectasia.—James Burnet states that he has been struck with the comparative frequency with which he has found gastrectasia present in cases of tetany. Tetany is most commonly found in rachitic infants and young children, and apart from this gastrointestinal disturbances are often associated with it. In rickets dilatation of the stomach is often met with, and is due to the general muscular atony which is present in this disease. Improper feeding may also have something to do with this rachitic gastrectasia. The writer believes at any rate that the facts that tetany is usually found in rachitic subjects and that the latter generally present considerable gastric dilatation are significant and should not be altogether overlooked. He cites several cases in which tetany was associated with gastrectasia. The relief from the tetany in these cases practically coincided with the return of the stomach to its normal condition. It is possible that fermenting food in the stomach may give rise to toxic substances, and toxic products are bound to affect the body generally, and it may be the nervous system in particular. He thinks that in every case of tetany, attention should be paid to the gastrointestinal tract. The stomach should not be overfilled with fluid and fermenting foods. The stomach ought in every instance of tetany to be carefully examined by auscultatory percussion.—*The British Journal of Children's Diseases.*

Still's Type of Chronic Joint Disease in Children and the So-Called Tuberculous Rheumatism.—F. Parkes Weber, after referring to Still's gloomy prognosis in such cases, reports two. In the first, very great improvement took place, and in the second the affection appears to be relatively mild and quite stationary. The first patient is a boy, seven years and nine months old. Several years ago, the child was ill with what was thought to be articular rheumatism. Cervical rigidity developed, and about a year later there was an attack of endocarditis, and the heart began to show signs of mitral valve disease which have persisted since that time. The hands and feet became swollen, but attempts to obtain microbic cultivations from the swollen joints were not successful. The exudations were apparently gelatinous and into the periarticular tissues rathan than into the synovial cavity of the joint itself. The Röntgen ray showed no change in the bones at the articulations. The swelling of the hands and feet was symmetrical. There was apparent enlargement of the knee and elbow-joints. The spleen extended below the ribs, and the lymphatic glands in the neck, axillæ and groins were somewhat enlarged. The liver was also enlarged. It is now four years since the illness first began, and the child looks well and goes to school. The symptoms have subsided to a great extent. In the second case, Koch's old tuberculin was injected, and this was followed by a definitely positive general reaction. This did not appear to be accompanied by any local reaction in the joints. The writer states that possibly the primary cause of the joint condition may vary in different cases, but at any rate he regards the hypothesis that in at least some of the cases it is etiologically connected with tuberculosis as of extreme importance. Although it is not likely that a multiple symmetrical affection is due to the local presence of tubercle bacilli in the affected joints, it is quite possible that some cases are of the nature of what has been called "tuberculous rheumatism," that is, an affection set up in specially constituted individuals by toxins from tuberculosis in other parts of the body.—*The British Journal of Children's Diseases.*

MEDICAL RECORD.

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THOMAS L. STEDMAN, A.M., M.D., EDITOR.

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SURGICAL SHOCK AND COLLAPSE.

SHOCK and collapse are factors that must be reckoned with in every surgical procedure. They are at times due to the condition for which the intervention is undertaken, but they are further materially contributed to by the anesthesia usually required. Additional influences are the various manipulations during the course of the operation, with perhaps exposure to the air of delicate structures and lowering of the bodily temperature. The result of an operation not rarely depends on the consideration given these several conditions. Accordingly it is incumbent on the surgeon to acquaint himself with the mechanism of shock and collapse and the means of prevention and treatment. In the Hunterian lectures just delivered before the Royal College of Surgeons of England (*The Lancet,* April 1, 1905), Mr. J. P. Lockhart Mummery defines surgical shock as a condition resulting from exhaustion of the vasomotor centers and the consequent great fall in blood-pressure. Collapse he considers a similar condition caused by lowering of the blood-pressure in consequence of hemorrhage or of paralysis of the vasomotor centers. Surgical shock is most common as a result of operations on the abdomen, the most important factors in its causation being injury to or exposure of the peritoneum, the time consumed by the operation, injury to organs richly supplied with nerve-fibers, evisceration, and extensive and prolonged manipulations. The most important factors in causing shock in connection with operations in other parts of the body are injury to large or important nerve-trunks or to parts largely supplied with nerve-endings, the extent of the wound, the time of exposure of the tissues, and hemorrhage. Ether alone or mixed with chloroform is the preferable anesthetic when there is danger of shock. The time required for operation is an important factor, especially in the cases of old persons and of children. So also is the condition of the patient prior to operation, particularly with respect to his nervous system.

In the prevention of shock the method of blocking the main nerves with cocaine seems to be a ready and efficient means except in the case of abdominal operations. Morphine administered, both before an operation and afterward, is useful to the same end. The blood-pressure should be observed during the course of operations in order that injurious influences may be discovered and avoided so far as possible, and that treatment should be instituted promptly when required.

In the treatment of shock stimulants are contraindicated, especially strychnine, as they tend to increase the severity of the condition and to retard recovery. The head should be lowered and the foot of the bed be elevated. Compression of the abdomen, either manually in case of emergency or by the application of a tight abdominal binder, is a most effectual procedure. The establishment of peripheral resistance artificially by the application of external pneumatic pressure is an assured method of maintaining the blood-pressure. The intravenous infusion of salt-solution or physiological serum is a means of raising the blood-pressure applicable to all degrees of shock. Its action, however, is transient and cannot be maintained indefinitely. The procedure is effectual against the collapse due to severe hemorrhage. The introduction of saline fluid into the abdominal cavity following an abdominal operation is a valuable method of combating shock and is not contraindicated by the presence of pus in the cavity. One of the most effective means of treating shock consists in the administration of drugs like adrenalin and ergot, which raise the blood-pressure by increasing the peripheral resistance independently of the nerve-centers.

PULMONARY TUBERCULOSIS AND CLIMATES.

THE belief that climate *per se* has little influence on the progress of pulmonary tuberculosis is perhaps gaining ground. This fact was emphasized at the recent congress of the National Association for the Study and Prevention of Tuberculosis, when the report of the committee on the rôle of climate in the management of tuberculosis was objected to by many present on the ground that too great stress had been laid on climate as a factor in the successful treatment of consumption. Dr. Lawrence F. Flick went so far as to state that in his opinion there was nothing in climate in the treatment of the disease. He believed that common sense ways of living in the open air, proper diet, and proper discipline in any kind of climate would effect a cure.

In the *Journal of the Association of Military Surgeons,* for June, 1905, is an article by Dr. Edward D. Sinks, late Contract Surgeon in the United States Army, on the diagnosis and course under favorable climatic conditions of pulmonary tuberculosis. He first dwells at some length, and with much emphasis, on the need of an early diagnosis of the disease if a successful outcome is to be expected. There is but little doubt that an early diagnosis is one of the most important factors, if not the most important, in successfully treating consumption. This point, however, is so fully recognized and has been so thoroughly discussed that it would be superfluous to enlarge upon it.

Dr. Sinks thinks that patients, as a rule, do not give treatment in the West a sufficiently long trial, and that, therefore, they should come with the idea of making their home in the West for the time being. He does not believe in the "roughing it" system, and ranch life in the West is about as rough and uninviting to the sick as any mode of life could be. It is next to impossible to secure eggs and milk, and canned food is the supply upon which chief dependence must be placed. The writer, therefore, advises those suffering from pulmonary tuberculosis to go to the West with the idea of living in town or city, and of being in the open air as much as possible. Living in a suitable tent is recommended.

All authorities are agreed that in the treatment of consumption, open air, nutritious food, and a routine manner of living are necessary to successful results. A dry climate is probably of the greatest benefit to the majority of patients, but the personal equation must be always considered. If the choice lies between climate and good food and attention, the question of climate is of lesser importance. A sufferer from pulmonary tuberculosis when well looked after in a damp climate stands a far better chance of recovery than does a consumptive in an ideal climate who does not receive proper food and good care.

On the whole, it may be said that the question of climate is losing importance in the eyes of most phthisis therapeutists. The crux of the problem of treating consumptives most advantageously, after all, is in home treatment. There are thousands suffering from consumption in its early stage, who, if the disease were promptly diagnosed and efficiently treated, would recover. The home treatment of consumption, however, cannot be successfully pursued on a large scale until the conditions of life of the poor in large cities are radically altered. Provide thoroughly sanitary dwellings, and plenty of open spaces in our large cities and the most important step in the crusade against consumption will have been taken. In the meantime, the battle must be fought with the best weapons at hand, of which climate, although an effective one, is less easily reached, and, in fact, less to be considered than some others.

Yellow Fever in the Isthmian Canal Zone.

The occurrence recently of several cases of yellow fever among the workers concerned in the building of the Isthmian canal, although not especially alarming, gives further emphasis to the numerous statements that the first and paramount duty of the United States Government is to insist upon a thorough sanitation of the entire district through which the projected canal will pass. The experience of the Lesseps Company clearly showed that the worst obstacle to be encountered in the construction of a Panama canal was disease. The climate of the canal zone is naturally unhealthy, and, of course, the conditions there are greatly aggravated by physical causes, but there would seem to be no valid reason why, if the Health Department at Panama is given a perfectly free hand, the district should not be rendered as little injurious to white men as many other parts of the Tropics. Colonel Gorgas has demonstrated his ability for such sanitary work by the cleansing of Havana, converting that town of evil repute into a salubrious place of residence for white men. He would doubtless have shown much better results by this time had he not been so hampered in his work by officers and ignorant laymen in the old Canal Commission, but there is promise of improvement in the attitude of Gov. Magoon of the new commission. "I know I voice the earnest conviction of the President and the Secretary of War," writes the Governor to Colonel Gorgas, "in saying that yellow fever must be eradicated and proper sanitation accomplished, if it is within the power of human endeavor. Money, means, and men, to the extent of the Commission's ability to supply them, are at your disposal. We rely upon you to ascertain and determine what is required. By 'we' I mean the President, the Secretary of War, the Commission, and the people of the United States." There is a ring in this that sounds very different from the objections of the Grunsky régime, and Colonel Gorgas knows that at last the opportunity is his to show what he can do. In spite of the vastly greater difficulties of the task, we doubt not he will eventually triumph as signally as he did in Havana.

The Fish Theory of Leprosy.

There are few scientific men who have investigated into the origin of leprosy who believe that the consumption of tainted fish is a factor of consequence in its causation. However, Mr. Jonathan Hutchinson is a dissenter of such note from the views ordinarily held concerning this disease that his opinions have been listened to with more or less patient attention. In the *Journal of Tropical Medicine* of May 15, Mr. Arthur Neve of Kashmire, India, again discusses the well-worn subject. With regard to the etiological connection between Christianity and leprosy suggested by Mr. Hutchinson, the writer shows by a mass of evidence that Catholics in India suffer no more from leprosy than do the members of some sects whose consumption of fish is small or nil. Mr. Neve, indeed, maintains that it would be erroneous to assert that native Christians connected with the Roman Church eat more fish than their neighbors. The writer asserts that judging from his personal experience in India, which has been a wide one, he has received no proof that eating decomposed fish has anything to do with the causation of leprosy. Mr. Neve states that in the course of a recent prolonged tour through India he has found a distinct consensus of opinion against the fish theory. He further states that a belief in some form of commensal contagion seems widespread, and is gaining ground; and finally he says: "It is generally felt in Indian circles that Mr. Hutchinson, acting on preconceived notions, has rejected as unreliable the witnesses against his theory; that there are few localities where any modification of the fish theory covers all the facts, and many places where it is in opposition to most of the facts."

Still Another Etiological Theory of Appendicitis.

Mr. Campbell Williams, in the *Clinical Journal*, of May 17, adds one more to the numerous and weird theories which have been offered in the last decade in explanation of the origin of appendicitis. He is of the opinion that appendicitis may be due to a food preservative—boracic acid. He argues that this drug is the most commonly used food preservative, and that it is more or less freely added to milk, cream, butter, meat, fish, and even soups. These articles of food are largely ingested during warm weather, when appendicitis occurs most frequently. It is well known that boracic acid, when given in small doses for a short continuous period, has peculiarly irritating effects on the alimentary tract. An inflamed mucous membrane affords the opportunity for the bacillus coli communis to take on an aggressive penetrative action. If the condition be one of mucous catarrh, one or another result may happen—either the mucus is extruded or the cavity of the appendix becomes distended by it. Boracic acid may set up an inflammatory condition of the intestines, and thus, according to Mr. Williams, it is quite on the cards that it may be responsible for the above condition in that small and seemingly useless fragment of the bowel which is productive of so much activity among the surgeons.

News of the Week.

Examination for Hospital Internes, Panama Canal Service.—The United States Civil Service Commismission announces an examination on July 12 and 13, 1905, at the usual places, to secure eligibles from which to make certification to fill vacancies in the position of hospital interne under the Isthmian Canal Commission on the Isthmus of Panama. As an insufficient number of eligibles resulted from the examination held on January 18, for this position, qualified persons are urged to enter this examination. Men only will be admitted to this examination. Each applicant for the Isthmian Canal Service will be required to submit to the examiner on the day he is examined, a photograph of himself, taken within three years, which will be filed with his examination papers as a means of identification in case he receives appointment. An unmounted photograph is preferred. The date, place, and kind of examination, the examination number, the competitor's name, and the year in which the photograph was taken should be indicated on the photograph. Age limit, 20 to 30 years on the date of examination; salary, $50 per month, with board and quarters, provided that if appointees are retained in the position of interne after one year they will be paid $125 per month. Only graduates of reputable medical schools having a three years' course will be admitted to the examination, which will extend over two days and will consist of the subjects mentioned below, with the relative weights indicated: 1. Letter-writing (the subject-matter on a topic relative to the practice of medicine), 5; 2. Anatomy and physiology (general questions on anatomy and physiology, and histological or minute anatomy), 15; 3. Chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry; the physiological action and therapeutic uses and doses of drugs), 10; 4. Surgery and surgical pathology (general surgery, surgical diagnosis, the pathology of surgical diseases), 20; 5. General pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of disease), 25; 6. Bacteriology and hygiene (bacteriological methods, especially those relating to diagnosis; the application of hygienic methods and prophylaxis and treatment), 10; 7. Obstetrics and gynecology (the general practice of obstetrics; disease of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical), 15. This examination is open to all citizens of the United States and also to aliens who comply with the requirements, provided that aliens appointed for service on the Isthmus of Panama shall not be eligible for appointment or transfer to any other branch of the public service. No person will be appointed for service on the Isthmus who is not physically sound and in good health. Persons appointed to positions under the Isthmian Canal Commission will be expected to proceed promptly to the Isthmus. Persons examined for positions under that Commission will not be eligible, as the result of such examination, to positions in the United States or Philippine services. Applicants should at once apply to the United States Civil Service Commission, Washington, D. C. No application will be accepted unless properly executed and filed with the Commission at Washington.

Looking for a Site for a Sanatorium.—The Health Commission of this city recently went to Orange County to inspect a proposed site for the new tuberculosis hospital which, it is said, he has been assured can be obtained in that county. Under the terms of the Bedell bill, which provides for the erection of a tuberculosis sanatorium by this city, the consent of the county in which the hospital is to be situated must be obtained before a site can be purchased. Several sites have been favorably considered, but in every instance the residents of the county have opposed bitterly the placing of the hospital among them. Sullivan County was the last to make a successful fight. It is said that the Orange County site under consideration is an ideal one in every respect and that there will be little or no opposition to the building of the hospital there.

A Threatened Cholera Outbreak in Russia.—There is some anxiety in St. Petersburg lest an epidemic of cholera add to the troubles of that unhappy country. A despatch from Sosnovice, Poland, reports that deaths are occurring daily there, and that three suspected cases are reported at Tula. The authorities of both these cities have ordered anti-cholera inoculations in the infected regions. At Harbin about 100 deaths occur daily from cholera and dysentery, and it is feared that the disease may spread thence along the Siberian railway into European Russia.

Claim Against the County for Mad Dog Bites.—Whether the county must pay damages for bites by mad dogs within its limits is a question now puzzling the commissioners of Hamilton County, Ohio. There is a statute in the Ohio code which allows persons bitten by mad dogs a sum of not more than $500, but until recently no one ever presented a claim of this kind. Two claims have now been presented from a woman and her mother, both of whom were bitten by the same dog on two different days, and both of whom went to the Chicago Pasteur Institute for treatment. One woman wants $201, and the other $191.

The Texas State Medical Association.—The annual meeting of this association was held at Houston, April 27-28, under the presidency of Dr. F. E. Daniel. The following officers were elected: *President,* Dr. J. Edward Gilcrest of Gainesville; *Vice-President,* Dr. B. Marvin Grace of Seguin; *Secretary,* Ira C. Chase of Fort Worth.

South Carolina Medical Society.—At the fifty-seventh annual meeting of this society, held in Greensville, under the presidency of Dr. Robert Wilson, Jr., in April, the following officers were elected: *President,* Dr. Davis Furman, Greenville; *Vice-Presidents,* Drs. Stewart W. Pryor, Chester, Crown W. Torrence, Union, and David B. Frontis, Ridge spring; *Secretary,* Dr. T. Prioleau Whaley, Charleston; *Treasurer,* Dr. Charles P. Atmar. The society will meet next year in Columbia, the third Wednesday in April.

American Association of Genitourinary Surgeons.—At the annual meeting of this society in Montreal, the following officers were elected: *President,* Dr. F. Tilden Brown of New York; *Vice-President,* Dr. Wm. K. Otis of New York; *Secretary,* Dr. John Van der Poel of New York; *Member of Council,* Dr. Hugh H. Young of Baltimore. Next place of meeting, New York City.

Medical College of Ohio.—The following changes have been made in the faculty of the Medical Department of the University of Cincinnati: Dr. F. Forchheimer was elected Dean, in the place of Dr. P. S. Conner, resigned. Dr. Joseph Ransohoff was made professor of surgery, Dr. H. J. Whitacre professor of principles of surgery, Dr. S. P. Kramer professor of surgical pathology.

North Carolina Medical Society.—At the annual meeting of this Society at Greensboro, May 23 to 25, the following officers were elected: *President,* Dr. Edward C. Register, Charlotte; *Vice-Presidents,* Drs. L. B. McBrayer, Asheville, W. H. H. Cobb, Jr., Goldsboro, W. O. Spencer, Winston; *Secretary,* Dr. J. Howell Way, Waynesville. The next annual meeting will be held at Charlotte.

Commencement Exercises of Rush Medical College.—The annual commencement exercises of this institution were held in Mandel Hall, at the University of Chicago, June 16. Seventy-one students received the degree of M.D. The honors were: Fellowship in Pathology, Herman E. Wolf; Fellowship in Medicine, Ludwig M. Loeb; De Laskie Miller prize, Emmet James Howell. The commencement address was delivered by Dr. Ira Remsen, president of Johns Hopkins University.

Dr. James A. Egan of Springfield, Ill., secretary of the State Board of Health, has been appointed a member of a committee to inspect the Illinois State military schools.

Indiana Conference of Health Officers.—Under the auspices of the State Board of Health of Indiana, the annual conference of health officers was held at Indianapolis June 1, 2, and 3. Addresses were delivered by Drs. Seneca Egbert and Joseph McFarland of Philadelphia.

St. John's Guild Hospital Opened.—The twenty-fifth season of the Seaside Hospital, maintained at New Dorp, Staten Island, by St. John's Guild, has been opened. The hospital is equipped for the care of children needing prolonged fresh air treatment, and, though not a summer home, well children are received where circumstances are such that they cannot be cared for at home and some member of the family is in need of hospital care. Until the Floating Hospital begins its daily trips, patients for the Seaside Hospital will be met at the Staten Island ferry, foot of Whitehall street, by a nurse and orderly, and, after examination by an inspector from the Department of Health, will be conveyed to New Dorp by boats leaving Manhattan at 10 A. M. and 2.30 P. M. Persons who may know of sick children needing hospital treatment are invited to communicate with the general agent at 501 Fifth avenue.

McGill Commencement. — Convocation exercises marking the close of the seventy-sixth year of the medical faculty of McGill were held June 10, in the assembly hall of the Royal Victoria College. The year has been a notable one for the faculty of medicine in that it has marked the amalgamation with McGill of the medical faculty of Bishop's College, Lennoxville. A most important feature of the year has also been the action of the medical faculty of McGill in applying to the governors for fuller union with the university. The administration of the faculty will now be centered in the hands of the university in the same way as the administration of the other faculties, thus tending to the unification of McGill as a whole. Seventy-three candidates received their medical degrees.

International Prizes for Essays on Lead Poisoning.—The Internationales Arbeitsamt, in Basle, Switzerland, has offered twelve prizes, amounting in all to 27,000 marks for the best essays dealing with the various problems connected with the prevention of lead poisoning in the various industries in which this danger exists. Papers may be written in English, French, or German, and must be submitted before December 31, 1905. Information may be obtained by addressing "Das Internationales Arbeitssamt, Basle, Switzerland."

Dispensary Cures of Tuberculosis.—The number of cures of tuberculosis by home treatment under the direction of the Post Graduate Hospital Dispensary has now reached forty-five. The last five cases reported by Drs. T. W. Bickerton and D. M. Barstow, included a tailor, a clerk, a barber, a saleswoman, and an elevated railroad guard. All continued their work during the treatment, which lasted from two months to two years.

The German Association of Naturalists and Physicians will hold its seventy-seventh annual meeting this year at Meran from September 24 to 30. The work of the scientific branch of the congress will be distributed among fourteen, that of the medical branch among seventeen sections. At the general meetings addresses will be delivered by Professor Langley of Cambridge, on recent researches on the nervous system, and by Professor Correus of Leipzig, and Professor Heider of Innsbruck, on the laws of heredity.

Improving Health Conditions in New York.—According to the weekly report of the Health Department, the death rate of the city for the week ending June 17 was 16.77 per 1,000, as compared with 22.69 for the corresponding week last year. There were forty-two deaths from cerebrospinal meningitis, as compared with fifty-four for the corresponding week last year, and 120 deaths from pneumonia, against 139 for last year.

St. Vincent's Hospital.—At a recent meeting of the Medical Board of this hospital the following appointments and promotions were made: Dr. Edward L. Keyes, Jr., visiting surgeon; Drs. Charles F. Fitzgerald and William C. Lusk, assistant visiting surgeons; Dr. William M. Ford, acting assistant visiting surgeon; Drs. John J. Morrisey and Peter Murray, assistant visiting physicians.

A Türck Centenary.—The Laryngological Society of Vienna announces that a celebration will take place in Vienna, under its auspices, of the centennial of the foundation on a practical basis of clinical laryngoscopy by Türck. The laryngologists of the world will be asked to take part.

Medical Department of the University of Illinois.—The twenty-third annual commencement of the Chicago College of Physicians and Surgeons was held June 6. A class of 213 was graduated, and of this number there were thirteen women, four of whom appear on the honor list. The doctorate address was delivered by Rev. Wm. A. Quayle, and the degrees were conferred by Prof. T. J. Burrill, Vice-President of the University.

Dr. Frank P. Norbury of Jacksonville, Ill., has been elected Professor of Nervous and Mental Diseases in the Keokuk Medical College, Keokuk, Iowa.

Duplicate Degrees for Dr. Osler.—The Convocation of Oxford University proposes to confer on Dr. William Osler the degree of Doctor of Medicine.

Heavy Fine for a Quack.—A man who was convicted last week for the third time for practising medicine without being registered, was fined $500. He had maintained, according to the testimony, an institute for producing doctors for a fee of $50 (the process requiring only a few weeks), a massage establishment, and an office in which he gave ordinary medical treatment.

Dr. Charles E. Atwood, who has been connected with Bloomingdale for the past thirteen years as assistant physician, has resigned and will be succeeded by Dr. August Hoch, for about twelve years connected with the Psychological Laboratory at the McLean Hospital, at Waverly, Mass.

Dr. Eugene H. Porter, of New York City, the editor of the *North American Journal of Homeopathy,* has been appointed Commissioner of Health of the State of New York, to succeed Dr. Daniel Lewis, whose term of office has expired.

Dr. Fredric Griffith has been appointed a member of the International Peace Conference, to be held in Lucerne, Switzerland. Dr. Griffith attends as the accredited agent of the Pennsylvania State Society.

Explosion in the Presbyterian Hospital.—Through the bursting of a steampipe leading to the sterilizing plant of the main operating room, one of the machines in the Presbyterian Hospital in this city was wrecked recently, and the operative work for the afternoon had to be postponed.

New Private Hospital for San Francisco.—Drs. J. H. and W. F. Barbat, H. B. A. Kugeler, C. G. Kenyon, J. A. Black, E. LeR. Wemple, E. LeR. Wemple, Jr., and several others, are preparing to build a new private hospital at San Francisco, which it is said will cost more than $150,000, in addition to the cost of the ground, and surpass all other institutions of the kind on the Pacific Coast.

Dr. S. S. Bogle, County Physician of Sonoma county, California, has been elected health officer of the same county, to succeed the late Dr. M. M. Shearer.

A Kosher Butcher of San Francisco has been charged with committing an abomination, in that he sold embalmed meat to his people. It was found that he not only preserved the flesh with the aid of formaldehyde, but that he dipped it into coloring fluids in order to give it a fresh appearance.

International Tuberculosis Association.—It is reported from Berlin that the United States National Association for the Study and Prevention of Tuberculosis has joined the International Association, making twenty-one national societies that are members.

Madison County (Ill.) Medical Society.—At the annual meeting of the society these officers were elected: *President,* Dr. Hinchee of Moro; *Vice-President,* Dr. E. E. Lemen of Upper Alton; *Secretary,* Dr. F. T. Joesting of Alton; *Treasurer,* Dr. H. W. Davis.

Kentucky Anti-Tuberculosis Association.—The incorporators of the association have effected a permanent organization by electing the following officers: *President,* W. C. Nones; *Vice-President,* Dr. W. H. Ramsay; *Secretary,* George L. Sehon; *Treasurer,* Theodore Harris.

Wisconsin State Medical Society.—At the recent meeting of this society, held in La Crosse, Milwaukee was unanimously chosen as the place for the next meeting. The following officers were elected: *President,* Dr. J. H. Currens of Two Rivers; *First Vice-President,* Dr. A. W. Gray of Milwaukee; *Second Vice-President,* Dr. A. Gunderson of La Crosse; *Third Vice-President,* Dr. Wm. E. Fairchilds of Green Bay. The secretary and treasurer will be chosen at the annual meeting of the council, to be held in Milwaukee next January.

Maine State Medical Association.—At the annual session of this society, held in Portland, the following officers were elected: *President,* Dr. Randall D. Bibber of Bath; *First Vice-President,* Dr. Chas. D. Smith of Portland; *Second Vice-President,* Dr. Daniel W. Hayes of Henderson; *Treasurer,* Dr. Arthur C. Gilson of Portland; *Secretary,* Dr. Walter H. Tobie of Portland. The next meeting is to be held in Portland on the first Wednesday, Thursday, and Friday of June, 1906.

New England Eclectic Medical Association.—The following officers were elected at the Montpelier, Vt., meeting of this society: *President,* Dr. Frank Winchester Snell, Dennysville, Me.; *First Vice-President,* A. H. Flower, Boston; *Second Vice-President,* Chas. J. Percival, Boston; *Third Vice-President,* Amos E. Parlin, Barton Landing; *Secretary,* Sylvena A. Abbott, Taunton, Mass.; *Treasurer,* Frederick W. Abbott, Taunton, Mass. Portland, Me., was selected as the next place of meeting.

Arizona State Medical Association.—At the meeting of this association, held in Prescott, the following officers were elected: *President,* Dr. J. W. Coleman of Jerome; *First Vice-President,* Dr. A. W. Olcutt of Tucson; *Second Vice-President,* Dr. O. E. Plath of Phoenix; *Third Vice-President,* Dr. Early of Kingman; *Secretary,* Dr. J. W. Foss of Phoenix; *Treasurer,* Dr. R. F. Palmer of Roosevelt. Phoenix will be the next place of meeting.

Maine Homeopathic Medical Society.—The thirty-ninth annual meeting of this society was held in Portland, and the following officers were elected: Dr. E. F. Root, Salt Lake; *First Vice-President,* Dr. Samuel Worcester; *Second Vice-President,* Dr. R. J. Wasgatt; *Recording Secretary,* Dr. Cora M. Johnson; *Corresponding Secretary,* Dr. L. A. Brown; *Treasurer,* Dr. William S Thompson.

Utah State Medical Association.—The following officers have been elected for this society: *President,* Dr. E. F. Root, Salt Lake; *First VXice-President,* Dr. C. F. Osgood, Morgan; *Second Vice-President,* Dr. A. Raucher, South Cottonwood; *Treasurer,* Dr. J. N. Harrison, Salt Lake; *Secretary,* Dr. W. S. Ellerbeck, Salt Lake.

Worcester District of the Massachusetts Medical Society.—The following officers were elected for the coming year at the annual meeting of this society, held in Worcester: *President,* Dr. E. W. Norwood, Spencer; *Vice-President,* Dr. David Harrower, Worcester; *Secretary,* Dr. G. E. Emery, Worcester; *Treasurer,* Dr. George O. Ward, Worcester; *Orator,* Dr. L. F. Woodward, Worcester; *Committee on Funds,* Dr. H. M. Quinby, Worcester; Dr. S. B. Woodward, Worcester; Dr. O. H. Everett, Worcester; *Commissioner on Trials,* Dr. C. H. Perry, Worcester.

Middlesex East (Mass.) Medical Society.—At the annual meeting held at Stoneham, the following officers were elected for this society: *President,* Dr. Silas H. Parks, Reading; *Vice-President,* Dr. Harrison G. Blake, Woburn; *Secretary,* Dr. Corydon W. Harlow, Melrose Highlands; *Treasurer,* Dr. Charles Dutton, Wakefield.

Ohio State Medical Association.—At the annual meeting of this association at Columbus the following officers were elected: *President,* Dr. Thomas Charles Martin of Cleveland; *First Vice-President,* Dr. B. H. Lean, Lebanon; *Second Vice-President,* Dr. W. B. Hedges, Delaware; *Third Vice-President,* Dr. John A. Dickson, Ashtabula County; *Fourth Vice-President,* Dr. D. R. Silver, Sidney; *Councillors*: Second district, Dr. Horace Bonner, Dayton; Fifth district, Dr. Will E. Lower, Cleveland; Seventh district, Dr. J. C. M. Floyd, Steubenville. Canton was selected as the next place of meeting.

Louisiana State Medical Society.—At the last executive session of the meeting of this society, held in New Orleans, the following officers were elected: *President,* Dr. C. J. Ducate, Avoyelles; *Vice-President,* Dr. J. F. Oechsner, New Oorleans; *Second Vice-President,* Dr. J. J. Ayo, Lafourche; *Third Vice-President,* Dr. D. S. Sarter, Richland; *Secretary,* Dr. P. L. Thibaut, New Orleans; *Treasurer,* Dr. M. H. McGuire, New Orleans.

St. Ann's Foundling Asylum, St. Louis.—This institution is said to be the first of its kind founded in this country. The work was begun by the Sisters of

St. Vincent de Paul in 1852, and since that time over 18,000 abandoned infants have been cared for. The Sisters have just moved into a new building on Page and Union Boulevard, erected at a cost of $250,000.

Physicians' Club of Chicago.—At the annual meeting of this Club, recently held, Dr. Chas. L. Mix was elected *Secretary,* and Drs. Clarence A. Earle, Henry F. Lewis, and Arthur M. Corwin were elected *Directors.*

Marine Surgery.—One of the stewards on the White Star lined *Majestic,* who was making his first trip, became so seasick that his efforts caused an old hernia to become strangulated. The ship's surgeon, Dr. Francis, successfully performed a herniotomy, the ship being stopped during the time of the operation.

A New Hospital for San Francisco.—Plans are being completed for the building of a new City and County Hospital at San Francisco. One million dollars, it is claimed, will be expended upon it.

The Late Dr. John H. Hinton.—At a stated meeting of the Medical Association of the Greater City of New York, held June 12, 1905, a minute on the death of Dr. John H. Hinton was presented, after which the following resolutions were adopted:

Resolved, That by the death of Dr. John H. Hinton this Association has lost a distinguished and honored member.

Resolved, That we extend to the bereaved family our profound sympathy for them, in this, the time of their sorrow.

(Signed) R. E. Van Gieson, *Chairman;*
P. Brynberg Porter,
J. Blake White.

Obituary Notes.—Sylvanus S. Finkbiner died at Parkersford, Pa., on June 12, at the age of 61 years. He was graduated from Jefferson Medical College in the class of 1865.

Dr. David Denison Stewart died of appendicitis at Philadelphia on June 13, at the age of 46 years. He was graduated from Jefferson Medical College in the class of 1879. He was well known for his exposure, some fifteen years ago, of the use by bakers of lead chromate for the purpose of giving an attractive yellow color to cakes and from which a number of fatalities of obscure origin had occurred. He was an able clinician, of latter years more particularly in the field of diseases of the stomach and intestines. He occupied the chair in these subjects in the Philadelphia Polyclinic for a number of years and he was one of the physicians of the Episcopal Hospital. He was also at one time physician to St. Mary's Hospital and to St. Christopher's Hospital for Children. He was consulting physician to the Kensington Hospital for Women.

Dr. Matthew W. Donavin of Baltimore died June 4, after a lingering illness, at the age of 67 years. He was born in Shippensburg, Pa., and was graduated from the Medical Department of the University of Maryland in 1866.

Dr. Charles W. Bush, a native of Pennsylvania, who crossed the plains in an ox-wagon in 1849, died at his home in Los Angeles on May 9, where he had lived since 1861. Dr. Bush was elected State Senator in 1872 and served two terms. He was the author of the first medical practice bill drafted in California. He retired from active practice several years ago.

Dr. Edward L. Newhall of Lynn, Mass., died on June 12, at the age of 83 years. He was born in Lynn, and was graduated from the Harvard Medical School in the class of 1848. He retired from active practice several years ago.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE PARIS TRIP—CONCENTRATION OF MEDICAL TEACHING—LYMPHORRHAGES — HYPNOTICS IN INSOMNIA — MEDICAL COUNCIL—FEEBLE-MINDED.

London, June 2. 1905.

The visit to Paris seems to have been a marked success, for those who have returned are full of the delightful entertainments provided. Most of them say that our reception of our French confrères has been completely eclipsed by the return compliment. That is indeed no more than might have been expected, the French being masters in such arts with whom we cannot compete. The excursions provided, Vichy, Pau, Biarritz and others, were on a scale worthy of the great French Spas.

The amalgamation of the medical schools, or as it is sometimes expressed, the concentration of teaching, has long been a subject of discussion, and recent events have invested it with fresh interest. The pourparlers I mentioned are still going on, and perhaps a degree of concentration may be attained. Meantime it should not be forgotten that London is a big place, and what suits a good sized provincial town, may not be best for the metropolis. The larger schools have always considered that the competition of the smaller ones was unnecessary, but these latter being independent, were mostly ready to show their capabilities. With the reorganization of the London University the advocates of concentration have taken courage and declare unification is the "counsel of perfection." Such a glamour has fallen upon them that they see in the new medical institute of the university a prospect of complete success, and the supporters of the scheme number many who, at one time, were its opponents. Many difficulties will arise—some are already acute. For instance, financial. It has been said that the number of schools led to extravagant expenditure. But the University is actually asking for £375,000 to start its new institute for teaching the medical sciences. The cost of maintaining it, when established, is estimated at £25,000 annually. The teachers of anatomy and physiology are to have £10,500 per annum. The number of students is put at 500. The 11 schools educate more than double the number at much less cost—how much less is questioned. Mr. Morris, in his recent oration, estimated it at something like £16,000 a year. Clearly, the charge of extravagance ought not to be brought against the schools. With regard to anatomy and physiology, the further question arises as to whether it would not be injurious to separate the laboratories altogether from the hospitals for the sake of concentrating the professorial teaching in a single building. Men actively engaged in practising in the wards are perhaps the best teachers of these subjects.

"Lymphorrhages" is a name proposed by Dr. Farquhar Buzzard for small collections of cells resembling lymphocytes which he found scattered irregularly between the cells of a glandular organ—their general appearance suggesting to him that of capillary hemorrhages, except that the cells were not red blood corpuscles. A small, empty capillary vessel lined by a single layer of endothelium had been seen in the vicinity of some of these lymphorrhages. These collections he had found in a smaller or larger number of the muscles in 5 cases of myasthenia gravis, which he brought before the Pathological Society. In some of them a prolonged search was required before they were found. The ocular muscles had been most fruitful in result. The only other changes found in the muscles of these cases were that a few fibers had become swollen and rounded, more hyaline and granular, often showing a tendency to stain paler with eosin or fuchsin. Lymphorrhages had been found also in the liver, adrenals, thyroid, and heart muscle. In one instance a similar condition was met with in a posterior spinal root ganglion. In glandular organs these deposits are often unaccompanied by other changes, but in a few instances, where the collections are larger, the neighboring gland cells have undergone degeneration or destruction. The discovery of these changes in the muscles of five consecutive cases is suggestive of a definite morbid anatomy, though the absence of blood changes or any change in the general lymphatic system, leaves the origin of the deposits obscure. Much attention of late years has been directed to the state of the thymus in this disease, but the success has not been great, and it looks as if Dr. Buzzard may have struck a more fruitful field for research.

The use of hypnotics in insomnia has been freely discussed by the Medico-Psychological Society, and I think you will be interested in some of the opinions expressed. Dr. Robert Jones thought arteriosclerosis had often to do with cases in which great mental distress prevented sleep, and that alcohol helped sleep by dilating the arteries of the cerebral cortex. He had frequently used alcohol for this purpose, and one extremely restless lunatic, who was not taking his food, had been given a meal and half a pint of stout through a tube twice a day with benefit. He admitted much may be said in favor of chemical restraint. He had found benefit follow 10 grains of calomel. He felt certain he had seen in asylum practice, the judicious use of a hypnotic avoid puerperal insanity.

Dr. Blandford recognized the necessity of considering the digestion, but he was sure he had seen patients prevented from drifting into insanity, by giving narcotics, and he constantly saw cases at an earlier stage than those in asylums. A restless patient put into a padded room was very likely to go to sleep and, of course, he would not give drugs in such case. He agreed with Dr. Jones about a full dose of calomel. Hyoscine was out of fashion, and seemed rather dangerous.

Dr. Mercier suggested that a wave of therapeutic nihilism had invaded the specialty. Patients were sent to asylums and then the cry was no restraint; but if they were to be treated by the open-door, why not outside? He saw no objection to chemical restraint, and mentioned cases of sudden breakdown cured at once by narcotics. He further laid stress on a full stomach as an aid to sleep.

Dr. T. D. Savill said before giving hypnotics the arterial tension ought to be tested, as nearly all these drugs acted on the arteries in some way.

Dr. H. Corner said he rarely gave hypnotics without regretting it. About 90 per cent. of the cases could very well be treated without them, by means of mechanical and food aids, and the watching and care of a good nurse.

The General Medical Council continued its sittings through the week, but not much more than I have reported will specially interest your readers. A good deal of its business consisted in accepting the reports of committees, and the unwieldy size of the council for its work necessarily leads to legislation by such devolution. It was remitted to the examination committee to prepare for the May session next year a report on the whole cycle of visitations and inspections of the final examinations. The report of the Dental Committee occupied much attention, and various recommendations as to dental examinations and diplomas were agreed to. The dentists indeed seem to have set the council an example of efficiency in the administration of the acts.

It was proposed by Mr. Brown, and seconded by Mr. Jackson, but declined, that the fees for attendance at the council be reduced. It was remitted to the Finance and Executive Committees to consider whether a small fee might not be charged for registration of students. The President had suggested that a fee of 5 shillings would cover the expense of the student's registration.

The subject of increasing the number of direct representatives was again brought up by Mr. Brown, who based his argument this time on the increase of the members of the profession. Mr. Jackson seconded and Sir V. Horsley said the intention of the Act evidently was that the profession should be fully represented. Dr. Little thought the council already too large, and work would be better done by smaller numbers (an opinion which coincided with that of all observers of the council's doings).

Dr. Moore did not like the idea that those who represented the universities and corporations were not also representatives of the profession. He should have learned by this time that the profession utterly repudiates the notion that it is represented by those who are merely sent to the council by the small governing bodies of the corporations. No reform or enlargement of the council will do good until the formation of the corporations is extended to all who hold their diplomas. Then the profession would be represented in reality as well as the several licensing authorities.

Sir J. Crichton-Browne gave evidence before the Royal Commission on the care of the feeble-minded, and some of his statements will not be generally accepted. He estimated that 30 per cent. of the population are underfed, badly clothed, and living in unsanitary conditions, things which conduce to mental deterioration. He thought the effect of intemperance had been exaggerated and not more than 15 per cent. of idiocy was the result of parental alcoholism, though others estimate this evil at more than double that figure. He blamed more the proprietary foods so often substituted for natural feeding. Babies looking plump were often pale, flabby, and subject to rickets through artificial feeding. They were in reality partially starved just when the brain was growing.

He did not know a case benefited by a stay in a home for dipsomaniacs, and in some of these retreats he believed drinking went on and the idle loafing life was certainly demoralizing. The best results were obtained by residing in a doctor's house—always provided he were the right sort of doctor.

He suggested that weak-minded people who had lived in special schools should, on leaving, be sent to a house of observation for a time. Criminals, too, after a sojourn in prison, should be sent to an institution for observation. One doctor of a jail had stated that a third of the prisoners showed signs of weak-mindedness.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

GERMAN SURGICAL CONGRESS—BLOOD STASIS IN INFLAMMATION—APPENDICITIS—RENAL TUBERCULOSIS—TESTS OF RENAL FUNCTION—POST-OPERATIVE PNEUMONIA—TREATMENT OF FRACTURED PATELLA.

Berlin, May 24, 1905.

It was a difficult matter for the visitors to the Surgeons' Congress and the Röntgen Congress which followed, to hear all of the papers which were read before the illustrious society, but the effort was richly rewarded.

This was the thirty-fourth meeting of the German Surgical Congress, and was held from April 26 to 29. It was presided over by Krönlein of Zurich. For the first time a plan was introduced of having one or two papers read by noted men who have done original work along the line which was made the special topic of the day. This was a very interesting feature. As it is impossible to give extended accounts of all of these papers in one letter, I shall restrict myself to a few of the chief points.

Bier of Bonn presented a paper on a "Method of Treating Acute Inflammatory Affections by Means of Blood Stasis." He demonstrated his method by exhibiting a number of cases which he intended to treat during the Congress. He believes that recovery is accelerated by means of increasing the inflammation by the afflux of blood. He brings this about by compression exerted by a bandage or by suction tubes. The latter are very practicable in cases of panaritium and mastitis. The soft rubber bandage must be employed from ten to twenty-two hours. Abscesses should be opened. Pain stops immediately after the application of the bandage. After removal of the bandage, the extremity is suspended for two hours after which the compression can be repeated. Phlegmons, joint suppuration, mastoiditis, tendovaginitis, and purulent affections are cured in a very short time.

The perityphlitis question came in for a great deal of discussion. Körte of Berlin read the introductory paper on "The Favorable Time for Operative Interference in Inflammation of the Appendix." Koerte has changed his former views and now always prefers early operation. His experience in 137 cases has led him to adopt this view. He operates within the first forty-eight hours of onset in every case. Later he may open abscesses, but removes the appendix only after the disappearance of every inflammatory symptom. By this method he avoids many complications such as oöphoritis, and also the necessity of an interval operation which still shows a mortality of 1 per cent. Of the same opinion on this subject were Kümmel of Hamburg, Rotter of Berlin, Payr of Graz, Riese of Berlin, König of Altona, and Hochenegg of Vienna. Sonnenburg of Berlin and Roux of Lausanne alone preferred the interval operation. Sonnenburg distinguishes between two great groups—the early cases which at once show diffusion of the inflammation and which should be operated on immediately, and the simpler cases in which the inflammation is limited to the appendix, or in which at least the left side of the abdomen is not affected. and which do not require early operation, because in most of these cases spontaneous recovery takes place. According to Körte and other speakers, the leucocyte count does not offer any certainty in diagnosis, or any other advantage.

Another subject of great interest came up for discussion, and was considered by the most eminent authorities. This was renal tuberculosis. Rovsing of Copenhagen and Israel of Berlin, read the introductory papers: "Concerning the Indications and Results of Special Kidney Extirpation in Renal Tuberculosis" and "The Influence of the Functional Diagnostic Methods on the Results of Nephrectomy for Renal Tuberculosis." Rovsing warns against placing confidence in the functional diagnostic methods. The measurement of nitrogen, the phloridzin test, and cryoscopy give misleading results. He has operated in cases in which, to judge from these criteria, operation was contraindicated, and with good results. Two patients who, according to these signs, were considered well, died from renal insufficiency. Rovsing believes that his good results are due to the following routine: Regular measurement of nitrogen and catheterization of the ureters and exact examination of the urine which allow one to judge of the condition of both kidneys. When the urine of the healthy kidney contains albumin without tubercle bacilli or other elements, the alteration is only toxic and suggests the extirpation of the other kidney. When catheterization of the ureter is impossible, he explores the kidneys by means of a double lumbar incision. The urine segregator does not always separate both urines perfectly. Israel condemns the functional diagnostic methods for the reason that the cryoscopic results are untrustworthy. He observed the normal freezing point in urine from a solitary kidney which was already destroyed to a great extent. The phloridzin test is superfluous because in every case it is possible to determine by other methods which of the two kidneys is the more seriously affected. All of these methods must yield false results because they measure only the work performed in a short time, and not the function itself. It is only when the kidney is forced to work up to the limit, for example, after the ingestion of large quantities of water, that its condition can be determined. Even the Luys method employed according to this point of view has been found wanting. The question was raised how Casper had been able to present such good results obtained by men who made use of functional diagnostic methods, as compared with the less favorable results of the surgeons who did not employ them. This fact is due simply to difference in statistics. Casper has shown on the one hand only the older operators who had not had so much practice, and on the other hand, those who had had large experience. Israel's results have become better since 1901, and better (7 per cent.) than those of Kümmel (8 per cent.), when he took out of his statistics malignant tumors as Kümmel did. The real cause of the improvement in the mortality rate depends upon the indications in the cases. Now the earlier cases are operated on contrary to the custom of former times. Early operation does away with a number of cases in which both kidneys are affected; it prevents the development of cardiac trouble which occurs in cases of longer standing, and finally, it is easier to perform.

In opposition to the views of these two speakers, were those of Kümmel and Casper who advocated the use of cryoscopy and the phloridzin test. Casper admitted that his method gives different results at different times, depending upon the quantity of urine secreted. He has improved his method. He now gives from 50 to 100 grammes of milk and makes an examination two hours later, when he injects 1 centigramme of phloridzin. By this method he has been enabled to determine the presence of sugar in one hundred cases.

Kümmel believes that when the freezing point is normal, there is sufficient kidney tissue to functionate. After using cryoscopy in one thousand cases he has had no cause of regret in a single case. He has never had a death from renal insufficiency. He believes that the unsatisfactory results of other workers comes from their imperfect technique. In these cases several examinations should be performed. He believes that nephrectomy should never be performed when the freezing point exceeds 0.6° C. Barth of Danzig, and Strauss of Frankfort, preferred the functional methods which they thought made the operator more certain and also permitted of an early diagnosis of tumors. Völker of Heidelberg, recommended his indigo-carmine method, and Frank of Berlin and Kocher of Berne have had great succes with the segregator of Luys in cases in which it was impossible to catheterize the ureter. By this method, too, is avoided the polyuria caused by the catheter. After the admirable papers of Israel and Rovsing, it is most probable that confidence in functional methods will be diminished. However, after hearing the decided opinions of Casper and Kümmel, still further investigations must be made along these lines before the final judgment is given.

Kelling of Dresden read a most interesting and important paper on "Post-operative Pneumonia." According to Kelling, pneumonias are more frequent after operations in the upper parts of the abdomen. They are caused by aspiration and are favored by the more difficult expiration and by the pains which prevent the patient from indulging in deep respiration. The embolic processes which take place in the blood or lymphatic vessels are not so important in the development of pneumonia. Kümmel of Hamburg had better results after the employment of the scopolamin-morphine narcosis. Franke of Braunschweig, and Kausch of Breslau, reported results contradictory to those of Kümmel, however. According to the opinions of twenty-three speakers, including Häusler, König, Rehn, Rotter, and Friedrich, there are still many facts to be explained in regard to the development of pneumonia. Krönlein of Zurich, scarcely ever met with post-operative pneumonia.

The last important paper was read by Thiem of Cottbus, on "The Results of Bloodless Treatment and of Operation in Subcutaueous Transverse Fracture of the Patella." All of the speakers, and they were the best surgeons, agreed that the cases should be operated on as soon as possible when it was impossible to separate the broken parts. According to Thiem's statistics, the patients who were operated upon suffered less from unhappy effects of the fracture than those who were not operated upon. The best argument is the fact that the operatives' insurance societies have to pay 1,960 marks for every man who is operated upon, and 3,000 marks for every man who is not operated upon. The elder König of Berlin advised operation in all cases without exception.

OUR LETTER FROM THE PHILIPPINES.

(From Our Regular Correspondent.)

ELECTRIC CARS IN MANILA—NEW PRIVATE HOSPITALS—IMPROVEMENTS IN THE CIVIL HOSPITAL—SMALLPOX AT SHANGHAI—RELAXING QUARANTINE RESTRICTIONS—A NEW COMMISSIONER OF PUBLIC HEALTH.

Manila, P. I., April 29, 1905.

The opening of the Manila electric street car system, which took place April 10, was a most agreeable surprise in many respects. It was freely predicted that the fast moving cars, operating upon the narrow streets of this ancient city, among a population that since time immemorial has spent much of its time in the streets, and which has not been accustomed to move in other than a leisurely manner, would certainly result in many accidents until the danger was fully appreciated. So firm was this belief that an operating room and hospital facilities were hastily prepared for the purpose of taking care of the persons whom it was anticipated would be injured. The cars have been running now for more than two weeks and only a few accidents of the most minor character have been reported. This is merely another instance which goes to show how easily the Filipino people accommodate themselves to modern innovations.

The hospital facilities, the lack of which has been so keenly felt by the American population and the medical profession of Manila, will shortly be provided for, at least to a limited extent. Archbishop Harty, of the Catholic Church, and Bishop Brent, of the Episcopal Church, are each about to start a hospital, to be conducted by the respective organizations which they represent. The large stone building situated in the walled city on Calle Palacio, which was formerly used as the headquarters of the provost marshal general, is being renovated, new plumbing is being installed, and equipment purchased for the same. It is expected that it will be ready for the reception of patients within the next few weeks. The hospital is to be under the direct supervision of the Sisters of St. Paul. The principal medical officer will be Dr. J. R. McDill, the former president of the Philippine Islands Medical Association and of the Manila Medical Society. It is planned to have an out-patient department, which will include among other dispensaries a free dental clinic, in charge of Louis Ottofy, D.D.S. The latter believes that there are certain matters in connection with the eruption of teeth which have a direct bearing upon the high infant mortality which occurs in Manila, and he expects to make an exhaustive study of this matter with the material which presents itself at the clinic. The hospital is unfortunately located, in that it is in a closely built-up section of the city, where the streets are narrow and the free entrance of light and air will be hindered; but a hospital which is not ideal is obviously so much better than no hospital that it would be idle to discuss this matter.

Bishop Brent has just returned from the United States with sufficient funds to start a hospital of modest proportions. It is his intention to build a new structure on a site suitable for the purpose. His church has for some years past conducted a free dispensary on Calle Magdalena, where many hundred indigent natives have received relief. For the new hospital much of the equipment has already arrived, but it will probably be some months yet before the building will be ready to receive it.

It is also hoped that the Civil Hospital, which is operated by the government for the benefit of the civil employes, will soon be removed to larger and more suitable buildings. It is believed that negotiations are now under way between the army and the insular government with the view of the former vacating the buildings at present occupied by the First Reserve Hospital. The capacity of the latter is over three hundred beds. The plan is to have the army remove all of its sick in the First Reserve Hospital to the new hospital, now being constructed at Fort William McKinley. The latter is about five miles from Manila. With all of the foregoing contemplated improvements, Manila will have advanced a long step in the direction of relieving distress, not only among the white population, but among the natives as well.

With the abatement of the cold weather at Shanghai, there has been a decided improvement in the smallpox situation at that port. The number of cases of smallpox which have occurred among the crews of vessels which call at Shanghai has undergone a marked diminution, and the restrictions placed upon commerce from that port have, to a great extent, been removed.

In view of the large number of cases of plague occurring in India, it is most satisfactory to observe that there have been less cases in Manila this year than last. It is expected, however, that there will be an increase during the months of May and June, which are the months of the year during which the greatest number of cases have occurred in the past.

The sanitary situation in the islands has improved so much that the quarantine authorities have removed many of the restrictions which have heretofore been placed upon interisland commerce. Vessels are now only required to await quarantine inspection at the ports of Manila, Iloilo, and Cebu, and this is only maintained with the hope of improving the mechanical cleanliness of vessels. After May 15 bills of health will no longer be required of interisland vessels.

Major E. C. Carter sailed for the United States to-day. He was succeeded as Commissioner of Public Health for the Philippine Islands by Dr. Victor G. Heiser, of the U. S. Public Health and Marine Hospital Service.

A CASE OF BRADYCARDIA.

To the Editor of the Medical Record:

Sir: It has recently occurred to me that I should finish the history of a case of bradycardia reported in your columns in the issue of November 21, 1903. My patient steadily improved from the time of my report, his pulse reaching 65 and his strength increasing very decidedly, so much so that he could walk several blocks, but notwithstanding these gains he developed a peculiar fear of being alone, wanting some one always to be up with him if he awoke at night, and although his head seemed to be perfectly clear for business, he would not let his assistant discuss any details of his business with him. In fact, he tried the patience of his family to the utmost in keeping him in good humor, and could not bear to have his old friends call on him. From time to time I had to decrease the small dose of caffeine that at first seemed to make him more comfortable, because it made him too wakeful. In the same way the nitroglycerin made his heart pump so that I had to stop that, and finally the only medication he would tolerate was ⅛-grain doses of morphine. This drug seemed really to accelerate his heart action and quiet the almost insane fear that he had of dying while asleep of heart failure, this idea really making his life a burden to himself and his family. He still would have an occasional slight epileptiform seizure, these being worse and usually brought on when he was worried or tired.

On January 1, 1904, he felt well enough to superintend the making out of a complicated yearly report of his insurance business, and expressed himself as feeling remarkably well, and yet, to my alarm, I found his pulse 18 per minute. A week later he ate an indigestible supper and afterward sent for me. I found his pulse 10 to 12 per minute. He had had several epileptic seizures, some of which his wife assured me involved the whole body. He had several while I was with him which were milder, and only affected his head. After each one of these seizures he would thrust his fingers down his throat and attempt to vomit, not from nausea, he told me, but to remove something he felt in his throat and which something he felt brought on the attacks. There was no paralysis of the soft palate or vocal cords. Again the fear of sudden death became an unpleasant feature of his case, and at the same time he seemed to want to die, and, being of an intense religious nature, prayed to be released from his sufferings by death.

His condition grew gradually worse, and he finally died in an unusually severe convulsion on January 19. His pulse during the last week of his life never being over 10 per minute. His mind was clear to the last. Unfortunately, I never saw him in an unusually severe convulsion, but several observers assured me that these severe ones always brought on rigidity of the legs and arms, as well as the head, but he never frothed at the mouth or uttered a cry.

L. E. Norfleet, M.D.

Tarboro, N. C.

Lichen Spinulosus.—According to Adamson (*British Journal of Dermatology*) this is an affection of the skin occurring in children, usually boys, which is characterized by the appearance of fine filiform spines arranged in groups. more or less symmetrically distributed over trunk and limbs. The filiform spines arise from pilosebaceous follicles, the mouths of which are slightly raised to form pin-head sized papules, either of the normal color of the skin or slightly red. They are unaccompanied by itching or other subjective sensations, and there is little or no disturbance of the general health. Histologically the lesions show a hyperkeratosis of the follicle, perifollicular inflammation being absent or slight. Lewandowsky (*Archiv für Dermatologie und Syphilis*) writes upon the same subject, but finds the affection a follicular one of inflammatory nature, with secondary parakeratosis or parahyperkeratosis. The case he describes showed inflammatory papules with a tendency to pustulation two or three weeks before the formation of spines which is not in accord with English observations of the affection as described by Adamson. The diagnosis is to be made from lichen planus, lichen scrofulosorum, pityriasis rubra pilaris, keratosis follicularis contagiosa, and possibly Darier's disease.

Progress of Medical Science.

Boston Medical and Surgical Journal, June 15, 1905.

Hypochlorization Method in the Treatment of Epilepsy.—Arthur Morton says the salt-poor diet has been in use at the Massachusetts Hospital for Epileptics for several years. It consists in the substitution of sodium bromide for sodium chloride in the patients' food. The claim is made that the bromide salt is rapidly absorbed and becomes a part of the body tissue when administered in this way. It is also stated that when the bromide is given in this way, only about one-half the usual quantity is needed to produce the sedative effect. From a study of the results obtained at the hospital mentioned, the author formulates the following conclusions: The hypochlorization method controls the convulsions, requiring only about one-half the amount of bromide usually given. It has little or no effect on the general nutrition of the patient. It is apt to cause constipation. It does not furnish enough salt to satisfy the patients' craving. It may be used with success with intelligent patients. It is practically useless in the middle grade of epileptics, as they have neither the desire nor the will power to carry it out properly. A modified salt-poor diet, in which about equal parts of sodium chloride and sodium bromide are used by the food may be employed to advantage with idiotic and demented patients if their diet can be controlled absolutely. Bromism is comparatively rare.

New York Medical Journal, June 17, 1905.

Observations on the Diagnosis and Treatment of Herpes Zoster.—The treatment of this form of skin disease is summarized by D. M. O. Robinson as follows: Rest, attention to the general nutrition of the body, the combating of the microbes, the application of cold over the affected ganglia, a coal tar preparation for the toxemia, and codeine and bromide of potassium for pain not controlled by the antipyrin. Local treatment consists in aseptic and antiseptic measures. If the case is seen at a very early stage, the affected area can be disinfected in the usual manner by soap and alcohol and then painted with flexible collodion—and when convenient an antiseptic gauze applied. If seen later, when vesicles are changing in color, an ointment of boric acid and bismuth subnitrate, and avoidance of soap and water meet the indications. Later ichthyol can be added to the ointment, or an antiparasitic preparation, as the ammoniated chloride of mercury ointment with rose ointment, to which bismuth may be added, and also ichthyol. For the persistent neuralgias following zoster, anodynes and the faradic current or *x*-ray may be of some curative value, but on account of probable structural changes in the nerves and connective tissue of the ganglia, the condition is very rebellious to usual methods of treatment for neuralgia. Tonics, such as phosphide of zinc, and alteratives, such as arsenic, are also recommended.

Fibroid Tumors of the Uterus; Their Surgical Treatment.—The conclusions presented by F. H. Martin are based (1) upon an analysis of the last 200 consecutive cases, operated on by him; (2) on the analysis of 1,188 cases, previously reported by C. P. Noble, and (3) on knowledge gained by the different forms of less radical operative procedures and on the non-operative methods of treatment employed by himself during a period of over eighteen years in caring for more than four hundred cases not submitted to radical operation. The conclusions are as follows: (1) The routine treatment for fibroids of the uterus, presenting symptoms, in women under 45 years of age should be supravaginal hysterectomy, except as hereinafter stated. The exception to this rule should be (*a*) in subperitoneal tumors, either pedunculated or not, in which only one or more distinct developments exist which do not materially increase the size of the uterus proper and the area of its endometrium, when myomectomies may be resorted to; (*b*) in fibroids which present excessive hemorrhagic tendencies, in which hemoglobin is reduced below 25 per cent., or in which serious vascular cardiac or kidney complications exist which greatly increase the risk of the operation, when a preliminary operation of vaginal ligation of the uterine arteries should be resorted to; (*c*) in cases where a radical operation will not be accepted, a curettage and vaginal ligation of the uterine arteries may be resorted to, or, if no operation at all will be accepted, general tonics, ergotin in tonic doses, and galvanism scientifically applied may be depended upon to relieve the patient materially, and occasionally tide them over the menopause to a complete symptomatic cure. (2) The treatment for large, complicated tumors without regard to age, or large apparently uncomplicated tumors in which symptoms of hemorrhage or pressure exist, should be supravaginal hysterectomy. (3) Tumors of medium size apparently uncomplicated in women over 45 years of age may be managed by one of the less radical forms of treatment, as, (*a*) when the tumors are of the symmetrical development type, enlarging uniformly the uterus, and the principal symptom is an exaggerated menstrual flow, the cases may almost invariably be relieved by galvanism and tided over the menopause; or (*b*) if the growth is of the irregular type which has distorted more or less the uterine cavity, the case should be submitted to dilatation, finger exploration, curettement, and, if considerable flowing is a symptom, vaginal ligation of the uterine arteries, with the idea of obtaining a symptomatic cure over the menopause. (4) The extremely small class of tumors coming under the head of "inoperable" cases must be managed on general principles—rest in bed, general tonics, treatment of the cardiovascular and kidney complications when they exist, curetting and irrigating for septic endometritis, electricity for pain and hemorrhage, ligation of the uterine blood supply if practicable for intractable hemorrhage, and vaginal incision of impacted cysts or pus accumulations.

The Medical News, June 17, 1905.

The Value of Lumbar Puncture; with Particular Reference to the Diagnosis of Tuberculous Meningitis.—The paper of E. P. Bernstein is based upon the results of examination of 265 cerebrospinal fluids received at a hospital laboratory. Of this number 46 were specimens of inflammatory fluids, 40 of tuberculous fluids. In 84 meningococcus cases, the organism was found in all but 14, streptococci were found in a series of 9 cases five times, staphylococci twice, while two were negative, while the pneumococcus was found in each of a series of 3. The author has never been able to demonstrate the presence of glucose in the fluid in any stage of tuberculous meningitis, although Comba has declared that it is found in small amounts at the onset but is absent toward the end. Bernstein attaches the greatest value to the cytological examination of the fluid. The centrifuge must be used and spreadings made from the sediment. His elaborate tables give full details of each case in this respect. In a general way, a mononuclear leucocytosis goes with a tuberculous, and a polynuclear leucocytosis with a purulent meningitis, but no absolutely hard and fast lines can be laid down. Cryoscopy is of no value. Positive diagnosis can be made only from the bacteriological findings. The diplococcus intracellularis meningitidis was found most frequently in the author's studies, while the bacillus tuberculosis was next in frequency. He describes his technical methods in full. In regard to prognosis in tuberculous meningitis, he finds only four apparently authentic non-fatal cases on record.

The Carbohydrate Reactions of the Paratyphoid or Paracolon Group.—From the study of a series of bacterial cultures, W. W. Ford submits the following scheme of the various organisms found in the bowel from B. alcaligines to B. coli: Type I.—Ferments no carbohydrates. Represented by bacillus fecalis alcaligenes Petruschky. Type II.—Ferments the monosaccharids, dextrose, galactose, levulose, mannose, and the polysaccharid maltose. Represented by a number of cultures isolated by the writer from the contents of the normal intestine. Type III.—Ferments the monosaccharids, dextrose, galactose, levulose, mannose, the polysaccharids, maltose and rhamnose, the alcohols, mannite and dulcit. Represented by the bacillus of hog cholera, all cultures of which agree in their fermentative reactions. Type IV.—Ferments the monasaccharids, dextrose, galactose, levulose, mannose; the polysaccharids, rhamnose, maltose, and arabinose; the alcohols, mannite and dulcit. Represented by bacillus typhi murium, bacillus paratyphoid Müller (Schottmüller), bacillus paracolon Gwyn, bacillus paracolon Olsen (Howard), bacillus paracolon Badach (Johnson), bacillus paracolon Milefsky (Johnson). Type V.—Ferments the monosaccharids, dextrose, levulose, galactose, mannose; the polysaccharids, maltose, rhamnose, arabinose, xylose, the alcohols, dulcite and mannite. Represented by bacillus enteritidis Gärtner, bacillus cattle disease Möhler, bacillus rat plague Rosenau, bacillus septicus murinus, bacillus of guinea-pig disease Carter, bacillus of swine dysentery Theobald Smith, bacillus icteroides Saranelli, bacillus icteroides Pasteur Institute, bacillus paracolon Cushing, bacillus paracolon Strong, bacillus paracolon Buxton, bacillus paratyphoid Hunnamann (Schottmüller), bacillus paratyphoid Kurd. Type VI.—Ferments the monosaccharids dextrose, levulose, galactose, mannose; polysaccharids, saccharose, lactose, maltose, xylose, arabinose, rhamnose, melitose, raffinose, melibiose; alcohols, dulcit and mannite. Represented by bacillus coli.

American Medicine, June 17, 1905.

Relations of Public Health to Other Sciences.—William T. Sidgwick traces the development and progress of public health science and allied sciences from the eighteenth century down to the present time. He divides public health science as it is to-day into a consideration of (1) epidemiology; (2) sanitation of the environment; and (3) immunization of the human mechanism. Medical men must always participate in the management of public health science in connection, particularly, with the control of epidemics and in those forms of preventive medicine which have to do with vaccines, serums, and other means of modifying the vital resistance of the human body. But as regards the care and control of the environment, medical knowledge is not indispensable, and, therefore, the entrance of the engineer and the sanitary expert upon the field is to-day a conspicuous, and probably a wholesome fact.

Knee Injuries and How to Manage Them.—De Forest Willard says sprains of the knee are often followed by long continued results from the fact that ligamentous, tendinous, or fascial structures are torn. Permanent disability and weakness are common. An early diagnosis of the existence of such tear, or of fracture, or of dislocation of cartilages or of loose bodies, is essential. The Röntgen ray may assist. Rest, complete or partial, is the initial element of treatment. Heat and cold are the most powerful abortives of synovial inflammation. Partial fixation by adhesive plaster strapping, or fixation by plaster-of-paris or other solid splint, with the use of crutches, is helpful. The limitation of the period of rest is, however, most important. As soon as the inflammatory signs have subsided, massage and voluntary movements are important lest chronic tenderness of the joint be induced. Serous effusion is to be removed by compression, tapping, or incision. Blood clots should be removed. Displaced semilunar cartilages should be replaced by manipulation and recurrence avoided by an apparatus limiting motion. Upon recurrence of the injury, the cartilage should be stitched in place or removed. Loose bodies in the joint should be removed, when discovered. Sensitive or hysterical joints are induced by too long continuance of rest. These can only be cured by involuntary and voluntary movements, which should usually be preceded by anesthesia. Fibrous ankylosis can be overcome by forcible and cautious movements, with persistent massage, dry heat, manipulations, etc.

Tropical Anemia.—M. J. Rosenau gives his practical experience with the anemias found in the tropics. The causes of this condition are mostly uncinariasis and malaria. Kala-azar and other causes are also discussed. The clinical diagnosis is considered; but the importance of microscopical methods in recognizing hookworm eggs in the feces and the malarial parasites in the blood is strongly emphasized. The best methods of accurate diagnosis are stated. The treatment, prophylaxis, and economic importance of the diseases are considered.

Encephalitis and Other Nervous Diseases Complicating Scarlet Fever.—John H. W. Rhein reports the results of a pathological study of the brain taken from a patient who died of scarlet fever. While there were no clinical manifestations of meningeal irritation, the miscroscopic study of the brain showed the presence of a moderate degree of infiltration of the pia, and the presence of a few subpial hemorrhages, and in the cortex of the brain a moderate degree of distention of the perivascular spaces was observed. Studies made to discover miscroorganisms were not successful. The literature of the subject is carefully covered, and the following conclusions made. Hemiplegia and peripheral neuritis are the most common complications of scarlatina. More rarely scarlatina may be followed by paraplegia, optic neuritis, amaurosis, tetany, pseudoataxia, neuralgia, epilepsy, disseminated sclerosis. Friedreich's ataxia, chorea, hydrocephalus, meningitis, and disordered mental states. The prognosis is good excepting for hemiplegia and imbecility, if those rare organic cases are excluded such as Friedreich's ataxia, disseminated sclerosis, and epilepsy. The postmortem findings consist of thrombosi, embolism, small cerebral hemorrhages, abscess of the brain, congestion of the brain and meninges, and finally, meningitis and encephalitis.

Journal of the American Medical Association, June 17, 1905.

The Aortic and Mitral Valves.—John Homans and J. Burrage publish the results of their studies in the normal and pathologic histology of the aortic and mitral valves. They studied especially the normal structure and the variations of these bodies, their degenerative lesions with the relations of these to acute infections. After describing their technic and reviewing the literature which, they remark, is not full or accurate on this subject, the authors report their own findings in detail which were disappointing, in that they failed to find the expected relations between the degenerative lesions of the valves and acute infections. They can only conclude, they say, from their observations that mucoid and fatty degeneration of the valves do not apparently predispose to infection; that "benign thickenings" likewise do not, though it is hard in the case of the mitral valve to tell whether a thickening is benign or due to repeated acute attacks; that the thickenings in mitral valves when infected are better repaired than those of aortic valves; and that acute toxemias do not cause what they can recognize as degenerations predisposing to infection.

Turning in Organic Hemiplegia.—R. Pemberton has examined thirty-six cases of organic hemiplegia with special reference to the direction of turning in walking, to test Kidd's conclusion that if the patient turns to the affected side, an organic lesion is present. He found that only about two-thirds of the cases turned to the affected side; of the remainder about half turned to the sound side and the remainder turned indifferently to either side. Much depends on the degree of paralysis or deformity, according to Pemberton. If there is marked foot-drop and contracture of the affected limb, requiring it to be swung in a wide circle, the well leg will be the pivot. If the deformity is not so great and it is not necessary to swing the leg around, or it is difficult to do so, the affected leg may be the pivot. There may also be intermediate condition in which either limb can be used. He therefore considers Kidd's conclusion not universally applicable and not so reliable a test for organic involvement in hemiplegia.

The Prevention of Shock.—Assuming that surgical shock is due to the functional impairment or even exhaustion of the vasomotor centers through afferent impulses set up by trauma, exposure, etc., G. W. Crile discusses the means of its prevention, as well as that of hemorrhage, in various surgical procedures. Aside from the impulses mentioned, there are a number of important accessory causes to be reckoned with, he states, including psychic emotions such as fear, hemorrhage, cold, acute and chronic infections, anemia, cachexia, etc., and age and sex. One or more of these is met with in every case. Crile summarizes his views as follows: "Every tissue and organ has a more or less individual shock-producing value and must be individually considered. The amount of shock produced by a given trauma varies according to the amount and special quality of its nerve supply and the number and intensity of the afferent impulses originated by the injury or operation. Cocaine or eucaine may wholly 'block' these shock-producing impulses. When one or more of the accessory causes of shock are present the highest possible tax is laid on the surgical judgment of the operator. A precise technique offering a minimum of exposure and trauma, grafted on a comprehensive grasp of all the factors entering into the operative consideration, are the ideals for which we must strive."

Treatment of Middle Ear Disease.—A. E. Bulson, Jr., thinks that the prophylaxis of middle ear disease is too often neglected. Every slight earache should be looked after, constitutional conditions be attended to and proper treatment be given to conditions of the nose and throat. Opiates mask symptoms and should not be used for pain; dry heat will usually suffice. As the pain is due to pressure from congestion, the essential treatment is depletion, and this may be accomplished by catharsis, leeching, the application of carbolic acid and glycerin to the membrana tympani for its osmotic effect, or by direct incision. Bulson does not favor waiting for bulging of the membrane before incising. He has never seen any bad effects from an early incision done with proper antisepsis and precautions, but he has seen delayed cessation of discharge, impairment of hearing and even more serious results from waiting. Summing up his recommendations, he says: 1. The patient should be kept quiet, preferably in bed, and the more active the symptoms the more necessary the enforcement of this measure. 2. Secure a prompt and free movement of the bowels by calomel and salines. 3. Secure depletion of the vessels or the membrana tympani and of the tympanic cavity by leeches applied immediately in front of the tragus, and the osmotic effect of carbolic acid (10 per cent.) and glycerin tampons applied directly against the drum membrane. 4. Cleanse the pharyngeal and nasal mucous membrane with a saline antiseptic spray or douche. Remove any existing hypertrophied lymphoid tissue. 5. Advise cautious blowing of the nose to avoid infection of the tympanic cavity. 6. Apply dry heat for control of pain. 7. Incision of drum membrane under strict asepsis on appearance of pronounced redness of any portion of that organ when accompanied by pain, impairment of hearing, and other evidence of acute inflammation. 8. Following perforation of drum membrane, the use of aseptic dry gauze packing to exclude infection from without and also to withdraw the discharge from the tympanic cavity by capillary attraction. 9. Judicious inflation by Politzer's methods only after the acute symptoms have subsided or after the drum membrane has been opened to facilitate removal of discharges and to prevent adhesive changes in the sound-conducting apparatus.

Exophthalmic Goiter with Unusual Complications.—A. R. Elliott reports a case of exophthalmic goiter complicated with diabetes, Bright's disease, mitral disease, and retinitis. He discusses the association of glycosuria and this form of goiter, the influence of the latter and of Bright's disease in causing valvular lesions, and the differentiation of secondary cardiac lesions so caused from antecedent obscure endocarditis origin, as well as the question of the association of glycosuria and nephritis and the interpretation of retinitis in cases with both glycosuria and albuminuria. Glycosuria is not a very rare accompaniment of exophthalmic goiter, which generally antedates it. The most reasonable explanation, in Elliott's opinion, is that it is a toxic symptom, due to increased thyroid or parathroid activity, and as such it may have some prognostic importance. In his case the thyroidism clearly preceded the glycosuria by a considerable interval. In the case reported an analysis of the conditions existing indicated that the double mitral lesion found was due to an earlier endocarditis. While chronic Bright's disease is not reckoned among the epiphenomena of exophthalmic goiter, Elliott thinks it not impossible that the toxemia of the latter disease might set up degenerative renal changes if long enough continued. Diabetes and chronic Bright's disease are, on the contrary, very often associated, but in the case reported the latter is entirely out of proportion to the former, and displays an activity seldom seen in the nephritis of diabetes. Hence he thinks there is little likelihood of any relation between them. The interpretation of retinitis in cases with both glycosuria and albuminuria may be somewhat difficult, but it is a terminal symptom in both diseases, and if due to the diabetes the latter would not be amenable to medical control, as in the case reported. We have, therefore, co-existing in this patient exophthalmic goiter with secondary mild diabetes, valvular heart disease of antecedent endocarditic origin, a true renal albuminuria and albuminuric retinitis.

The Lancet, June 10, 1905.

Some Notes on Plague.—A. M. Elliott states his impressions derived from some 9,000 cases of the disease seen in India. He finds that local reaction after infection does not take place at the site of the latter, but in the nearest group of lymphatic glands. The seat of election is the lymphatic system. He does not believe that fowls, pigeons, or ducks contract the disease. Rats are the most susceptible animals, and next come guinea-pigs. Cats are susceptible to the disease, and may convey it to man. The channels of infection in any susceptible individual are (1) the skin and mucous membranes, (2) the alimentary canal, and (3) the respiratory system. Inguinal buboes occur more frequently in adult males than in women and children. Axillary buboes are more common in women than in men or children. Cervical buboes occur most frequently in children. From the channels of entrance of the infection we have three types of the disease, bubonic, pneumonic, and alimentary; either of these may take on a septicemic form, and death occurs from acute septicemia. The author is inclined to think that there are two forms of the plague bacillus—namely, the acute and the chronic. The latter continues the disease from one epidemic to the other, while the former gives the three types above mentioned, each type being entirely dependent on the channel of entrance, and the difference in death rates being to a great extent dependent on the group or groups of glands primarily infected. He thinks that in bubonic plague the gravity of the disease is greater when axillary and cervical glands are infected than when inguinal glands are attacked. As to treatment, he finds that cardiac stimulants are the only class of remedies offering any substantial aid. He mentions the fact that, as suppuration advances, the plague bacillus disappears, and suggests that the streptococci and staphylococci may be inimical to the bacillus. Antistreptococcus serum given in 21 cases led to 13 recoveries.

Some Remarks on Electrostatic Treatment.—J. C. Webb finds this form of electricity useful under the following conditions: (1) All acute or chronic inflammations not of microbe origin or due to pressure of a growth, congestion of the liver with constipation, chronic inflamed joints, inflammation of nerves or of their sheath—*e.g.* neuritis, neuralgias, lumbago, sciatica, ulcers, certain skin troubles, ifinammatory glandular swellings, etc., Certain laryngeal affections form another class that is greatly benefited by the wave current. (2) Certain cases of hemorrhoids in which the rectal veins are of a varicose character. (3) Certain cases of nervous disease—*e.g.* early cases of tabes, affections due to inflammation of the cord or meninges, neuralgias, headaches, spesmodic dysmenorrhea, and functional neuroses. The local and general effects of the current are described, and the author insists that each case shall be carefully studied, in order to enable the physician to make the proper application of the current. "Static treatment," without a definite application, is useless.

Dislocation of the Carpal Scaphoid.—A. Fullerton refers to the case of an elderly man who slipped on the pavement, striking heavily on the front of his wrist. Examination three weeks later showed a small, hard projection, irregular in shape, on the dorsum of the left wrist, the middle being about three-quarters of an inch from the radial border, and just below the level of the styloid process of the radius. The carpus was stiff and painful, and the bones appeared to be welded together. Flexion and extension were very limited. Several skiagrams were taken, and revealed an undue sharpness of the styloid process of the radius and a want of distinctness and separation of the bones in the center of the carpus. It would appear from the skiagrams that the os magnum had become fused or closely joined to the neighboring carpal bones. A longitudinal incision was made on the dorsum over the projection. The scaphoid was found displaced backwards, and rotated so that the tubercle presented on the back of the carpus. The bone was removed, and two small fragments, flat and irregular in shape, about one-third of an inch in length and rather less in breadth, were found lying loose in the cavity left. It could not be determined whether these were originally chipped off from the radius or one of the carpal bones. Healing took place by first intention, but movements at the wrist joint and carpus are limited.

Successful Vaccination After the Onset of Smallpox.—F. Robinson refers to a series of 22 cases in which vaccination performed at dates varying from the first to the fifteenth day was successful in 8. In one instance success followed the vaccination on the third day of the eruption and the fifth day of the illness. In 7 of the whole series there was no history of any previous vaccination. Of the 8 successful cases, 4 were confluent in type, 2 were of the severe discrete type, while two were mild. The confluent cases were all severe, were all primarily unvaccinated, and one of the four resulted fatally. The author's impression from watching the cases was that a favorable therapeutic influence was exerted by the vaccinia.

British Medical Journal, June 10, 1905.

Spirochæte in Syphilis.—E. J. McWeeney refers to the work of Schaudinn and Hoffmann, in which they described organisms of spirochæte type which they find constantly present in syphilitic lesions. There are two sorts of organisms; one larger, thicker, and more readily stained, the other smaller, thinner, and staining with difficulty. The writer has also made investigations in this subject. In every one of the nine cases of undoubted syphilis in the primary and secondary stage which he has examined, spirochæte were easily demonstrated. In a case of advanced tertiary ulceration of the palate he failed to find the spirochæte, and he also missed it in a case of mucopurulent vaginitis, which was not considered to be syphilis by the medical attendant. These organisms that were found by the writer were spirally twisted, extremely delicate, actively motile, with peculiar corkscrew movement in either direction. The length averaged about 12μ. The thickness was too small to measure. As to staining reaction, the writer had the best results with the Giemsa mixture. The spirochæte were extracellular. In the fresh state, they were often attached to the pus cells by one end. A species of spirochæte has lately been shown by Schaudinn to be a stage in the life history of a trypanosome of the stone owl. This raises the query as to whether all spirochæte are also protozoa, and only stages in the life history of flagellates. Metchnikoff has found spirochæte in the syphilitic lesions which he has recently succeeded in producing in apes. It would not seem improbable that the microorganism may be etiologically connected with syphilis. It would be well to search for it in deep lesions beyond the reach of surface contamination.

Drug Treatment for Inebriety.—J. S. Bolton treated an inebriate as an out-patient. He began by injecting into the biceps muscle of the left arm a watery solution containing 1-60 gr. of strychnine hydrochloride and 1-30 gr. atropine sulphate. He also gave him a mixture every four hours containing red cinchona bark. The patient was fed at first on eggs, milk, soups, cocoa, and so on till appetite for solid food returned. The atropine affected the eyes till it interfered with his work. It also made his mouth dry. The writer then injected a large dose at night and a small dose in the morning. The patient was treated twice a day for forty days, then every other day for about four months. He is now well and strong, and has no desire for stimulants and is keeping straight. The writer believes that time and patience will secure the recovery of some of these cases.

A Factor in Seasickness.—A. Vavasour Elder emphasizes the importance of considering congestion of the liver as a factor in seasickness. When the voyage is begun with fine weather, travelers are apt to over-eat, sleep excessively, and neglect exercise. Sluggishness of the portal system results, and then trouble begins. The writer has found that the administration of calomel, gr. 1-8 to gr. 1-6 every hour till a grain has been taken, followed by a saline, will ameliorate seasickness. He refers to the danger of pushing cerebral depressants.

Münchener medizinische Wochenscrift, June 6, 1905.

The Preservation of Milk with Peroxide of Hydrogen.—Bauman reviews the various disadvantages attending the sterilization or partial sterilization of milk by means of heat or the addition of the ordinary chemical antiseptics, and describes a series of tests he has made with the object in view of determining the value of peroxide of hydrogen for this purpose. The results indicate that this measure should prove a commercially practical one, as although the addition of even .2 per cent. of the peroxide does not wholly sterilize raw milk, as little as .35 parts per thousand serve to exert a strongly bactericidal action on the ordinary pathogenic organisms occurring in milk, such as those of typhoid fever, cholera, dysentery, and tuberculosis. The activity of the antiseptic is greatly increased if the milk be heated to a temperature of 50°, and it was found that small quantities of it are completely eliminated from the milk in short periods of time through decomposition into water and oxygen, so that no foreign substance is left behind. Artificial digestion experiments seem to show that the digestibility of the milk does not suffer on the addition of peroxide of hydrogen, but the author says that this point can only be settled after clinical tests. There is therefore no indication that the addition of peroxide of hydrogen to milk exerts any undesirable effect, and if added promptly to milk collected as carefully as possible it should prove a satisfactory means of preservation.

Two Unusual Operations on the Gall Ducts.—Kehr describes these cases, in one of which he removed a stone from the common duct of a patient presenting complete transposition of the viscera, while in the other a secondary operation became necessary for the purpose of restoring permeability to a common duct that was the seat of a cicatricial stenosis following a previous cholecystectomy. The first patient was a man of 55, with somewhat atypical symptoms, but the diagnosis of transposition of the thoracic and abdominal viscera of impacted stone in the common duct made by both the attending physician and by Kehr was confirmed at the operation. The patient made a good recovery. The second patient was a woman, whose gall-bladder was removed on account of its inflammatory condition and the presence of stones. In ligating the unusually large cystic artery, or the cystic duct, the wall of the common duct must have been injured, for after the operation the discharge of bile through the wound could not be brought to a stop, and finally a secondary operation became necessary. The fistulous tract was dissected out, together with a short section of the common duct, which was completely occluded by cicatricial contraction. The two stumps were united by silk sutures, the ends of which were left long, so that they could be removed in due time, and the patient made a prompt recovery, with a perfectly healed abdominal wound.

Deutsche medizinsche Wochenschrift, June 1, 1901.

The Technique of Goiter Operations.—Reidel is very much in favor of performing these operations under local anesthesia, as he claims that not only is the mortality greatly reduced in this way, but also that the steps of the operation are much facilitated. For large growths, he makes a semicircular incision, beginning a short distance below each ear and curving downward and forward nearly to the jugulum. Large quantities of 1-1000 encaine solution are used to infiltrate the skin and the superficial muscles, which are cut across and dissected back with the skin flap. In the deeper layers, however, when the large vessels are to be ligated and the recurrent nerves identified, infiltration must be dispensed with, as it tends to distort the relations, and during these steps, as well as during the separation of the growth from the trachea the patient is likely to experience some discomfort. This is never extreme, however, and in spite of the fact that it is well known in the country round about Jena that at Riedel's clinic goiters are removed without a general anesthetic, the number of patients is steadily increasing. The author emphasizes the necessity for leaving a portion of the gland to prevent postoperative cachexia, and he also devotes some space to the discussion of malignant disease of the thyroid, which he considers beyond the reach of surgery.

Codeinism.—Pelz publishes what he considers the first case of true codeine habituation reported in the literature. The patient was a degenerate individual of 26, who had inherited constitutional depression, and after an attempt at suicide was given a prescription for codeine pills by a physician. The relief he experienced on taking the remedy impelled him to consume larger amounts, and a marked degree of habituation rapidly developed, until, as he alleged, he consumed 70 to 100 half-grain pills daily. Attempts to dispense with the drug resulted in restlessness, irritability, loss of energy, an intense longing for it, and finally even large doses did not produce the desired effect, and he resorted to other narcotics, though only to a slight extent. The treatment consisted in immediate withdrawal of the codeine, and only a very few doses of other sedatives were given. At first the abstinence symptoms were severe, and included insomnia, vomiting, and diarrhea, but in about two weeks most of the complaints had ceased, and after that the patient made steady progress. The author believes that greater care should be taken in prescribing narcotics for those physically weak, as this man was, and he considers that it was this mental defect which made it possible for a codeine addiction to be developed. It is mainly because codeine is universally regarded as harmless that it is a source of danger, and it is essential to exercise precaution in putting it in the hands of patients.

Spirochæte Pallida in Syphilis, and Its Variations from Other Members of the Group.—Schaudinn and Hoffmann describe their observations on a microorganism occurring in the tissue juices of syphilitics. The organism which Schaudinn believes belongs to the protozoa, and is not to be confused with the genus spirillum, is a very delicate form, difficult to recognize by ordinary methods, and most easily demonstrated with Giemsa's eosin azure stain. It differs from other varieties in its small size, and in its corkscrew-like spiral form, the convolutions being numerous, regular, narrow, and deep, in distinction to the coarser and more refractile spirochæte refringens occurring in balonitis and papillomata. Metchnikoff has already succeeded in obtaining the spirochæte pallida from syphilitic lesions produced in monkeys, and the present authors found it in the splenic blood of a syphilitic the day before the appearance of the roseola. So far, the organism has been found in seven primary and nine secondary lesions, and in twelve typically enlarged inguinal glands. Buschke and Fischer also found it in the liver and spleen of a child that had died of congenital syphilis. Although Metchnikoff's results in monkeys are highly significant, the authors refrain from drawing any conclusions as to the etiological position of the organism, and content themselves with a statement of the facts.

French and Italian Journals.

An Old Hydatid Cyst of the Liver; Biliary Lithiasis.—Gaston Cotte describes this case. The patient was a woman, sixty-seven years old, with the following clinical history. She had entered the hospital with acute symptoms of calculous obstruction of the gall duct. A year before she had passed through a crisis of hepatic colic with jaundice, but for ten months she had had no further troubles of this nature. Palpation detected a distended gall-bladder the size of a fist, and very painful on pressure. The patient's general condition was bad, and she was very weak. Operation was out of the question, and medical treatment for lithiasis was instituted. The duct became permeable two days after her entrance to the hospital, and the gall-bladder diminished in size. Jaundice decreased and the temperature dropped. Nevertheless, the patient remained very weak. Six days after her entrance to the hospital, the parotid gland became inflamed, and pointed to the fact that an infection of the biliary passages existed. Twenty-four hours later the patient died. At autopsy, the gall-bladder was found to be filled with calculi; the hepatic duct was as large as a thumb, the liver, slightly hypertrophied, was peppered with small abscesses. On the convex surface of the organ there was a pocket filled with caseous matter, with calcified walls. Examination in the laboratory showed hydatid débris, and the characteristic hooklets of the echinococcus. The clinical history is interesting because in the evolution of a suppurative angiocholitis there was no thermic reaction or any febrile phenomenon. Examination of the liver showed that there had been spontaneous recovery of a hydatid cyst by cretaceous transformation of its wall. The coexistence of a hydatid cyst and lithiasis is interesting.—*Lyon Médical*, May, 1905.

Adenoepithelioma of the Thyroid Body Treated by Extirpation of the Tumor.—Latronche and Charrier had this patient under their charge. The tumor developed within a month. It was considered to be malignant. The patient was a young woman, twenty-six years old. Sabrazès gives the following histological report of the neoplasm. It was an adenoepithelioma of the thyroid gland, with a marked fibrous reaction. Certain segments of the tumor were almost entirely fibrous, while others had the structure of an almost normal gland, the elements of which were separated by dense connective tissue. Still other segments showed evidence of a neoplastic process passing beyond the limits of the adenoma. The writers state that the extirpation of this tumor was very difficult. There were strong adhesions to the laringotracheal tissues, and the growth pressed upon the lateral right wall of the trachea. At this point it sent out a prolongation, which had grown between the posterior surface of the trachea and the anterior surface of the esophagus, and which adhered closely to these two tubes. There were also adhesions to the large vessels in the neck. Nevertheless, it was taken out without much injury to these vessels; nor was the pneumogastric disturbed. The left lobe appeared normal, but it was nevertheless extirpated.—*Journal de Médecine de Bordeaux*, May 21, 1905.

The Lactofarinaceous Régime in Intestinal Autointoxications.—R. Morichau-Beauchant states that in the majority of cases intestinal autointoxication manifests itself by special symptoms, such as vomiting, colic, and diarrhea. However, in other cases autointoxication shows itself only by symptoms relating to general nutrition, to the nervous system and to the skin. Intestinal antisepsis is considered absolutely insufficient to disinfect the intestine. All authorities agree on this point. The administration of large doses of antiseptics scarcely diminishes the number of microorganisms in the intestines. Repeated purgatives and enteroclysis diminish in large proportion the microbic flora, but they, nevertheless, only aid in this work, and their employment cannot be indefinitely continued. By introducing into the régime a large quantity of carbohydrates in which microbes do not find the necessary elements for their existence, and by cutting out as far as possible nitrogenous food from which the microorganisms of the intestines gain their nourishment, much may be done in these conditions. The lactofarinaceous diet, in cases of this kind, is a true antifermentative régime. Both milk and farinaceous foods have a true antiputrid action, but the advantage rests with the latter. Farinaceous foods are also admirably supported in all affections of the large intestine. These foods, then, should be associated with milk, for they correct, to a certain extent, the inconveniences of the former and make it more digestible. Combe has shown that when albumin is ingested, about five times its volume of farinaceous food should be taken. The lactofarinaceous régime constitutes to a certain extent the ideal régime for combating intestinal putrefaction. But in order to lessen the severity of the treatment in cases which are not serious, nitrogenous food may be given in the form of meat, but at the same time five times its weight of farinaceous food should always be ingested.—*Revue Française de Médecine et de Chirurgie*, May 22, 1905.

Phenic Acid in Traumatic Meningoencephalitis.—E. Fossataro injected pure phenic acid into the brain of the guinea pig, and later examined the hemispheres and cerebellum to ascertain if there was a destructive effect on the brain. He found that pure phenic acid did not affect the nerve cells or fibers, but was dispersed and absorbed in the vascular plexuses of the brain. There it exerted its coagulating effect, and produced general thrombosis and rupture of the walls of the capillaries, and innumerable small hemorrhagic foci. He believes that the resistance of animals differs under injections of phenic acid.—*Annali di Medicina Navale*, April, 1905.

Surgery of the Stomach.—Casati, after operating on a large number of cases of cancer of the stomach, concludes that it is useless and even harmful to operate on such cases when it is not possible to interfere at an early stage of the disease. He advises the physician to have recourse to the surgeon as soon as possible after the disease is diagnosed, and not to let the case go until the disease is in an advanced stage, when surgical interference is useless. The neighboring lymphatics should not be permitted to become infected, because it is not possible to extirpate all these glands, as can be done in cancer of the breast.—*La Riforma Medica*, May 27, 1905.

Modifications of the Leucocyte Formula from the Injection of Iodoiodurate in Children.—A. B. Gianasso gives us the result of the treatment of tuberculous cases in children by the injection of iodoiodurate solution. The cases were of orthopedic nature, and no other treatment was given except rest, in bed when needed, or by immobilization of the joints. He first injected a solution of peroxide of hydrogen, then the iodoiodurate of potassium, which holds the iodine in a nascent state, in 2 per cent. solution. This was followed by slight massage of the locality of the injection. The iodine has a general action as well as a local one. It is easily absorbed and passes rapidly into the circulation. It increases the power of resistance and of defense against the tubercle bacillus, promotes metabolism, increase elimination of old cells and the substitution of new and vital ones, and places the body in a condition to resist the development of the bacilli. The iodine is fixed by the tissue cells and the red blood globules. Twenty cases were treated, most of them affected with bony, or articular tuberculosis. One had cervical adenitis, one pulmonary tuberculosis. They were from 13 to 14 years of age. Blood examinations were made before and after treatment, and injections were given daily, about thirty being given. The author's conclusions are given as follows: These injections have a general, as well as a local action, exciting lymphoid activity. This produces a leucocytosis, with preponderance of mononucleated cells, representing a reaction of the organisms by the phagocytic action of the white blood cells against the tubercle bacilli.—*La Riforma Medica*, May 27, 1905.

Book Reviews.

Les Nerfs du Cœur; Anatomie et Physiologie. Avec un Préface sur les Rapports de la Médecine avec la Physiologie et la Bactériologie. Par Élie de Cyon. Avec 45 figures dans le texte. Paris: Félix Alcan, 1905.

We have here a monograph on the innervation of the heart from the pen of the veteran physiologist Cyon. Before entering on the subject-matter of the book, the author in a most readable and entertaining preface shows the importance of the study of physiology to the student of medicine; he points out the limitations of bacteriology, and pays his respects to Metchnikoff in a somewhat severe criticism of the phagocytic theory. In addition to his own work on the innervation of the heart, Cyon passes in review the observations and researches of other workers in the same field; in successive chapters there are discussed the intracardiac nerves, the extracardiac nerves, the depressor nerve (of Cyon), circumstances which modify the action of the cardiac nerves and the laws governing the same; and finally there is a chapter on the various theories that have been entertained concerning the nerves of the heart. The volume is instructive and important; and coming, as it does, from one whose name has been connected for nearly forty years with the physiology of the heart, it carries with it the imprint of authority.

De l'Endométrite et de la Métrite Parenchymateuse Infectieuses (Étude clinique et thérapeutique). Par le Dr. E. Ozenne, Ancien interne des hôpitaux, Ancien chef de clinique adjoint de la Faculté, Chirurgien de Saint-Lazare. Paris: A. Maloine, 1905.

This little book treats of inflammatory conditions of the uterus caused by infection. It is written from the clinical standpoint, and deals with the etiology, symptoms, course, treatment, and sequelæ of these conditions. Under the head of treatment, a dozen pages are devoted to hydrotherapy.

The Open-Air Treatment of Pulmonary Tuberculosis. By F. W. Burton-Fanning, M.D., Physician to the Kelling Open-Air Sanatorium, etc. New York: Cassell & Co., 1905.

So many manuals have recently appeared on the subject of the open-air method of handling consumptives that each must be largely a repetition of its predecessor. The present one is to be commended for the simplicity of its statements and the fact that the author shows that elaborate institutions are not necessary for the good results which aerotherapy can secure. Special emphasis is laid upon the importance of helping the consumptive workingman after his discharge from the institution. Expenditure in this direction is often productive of much greater good in the aggregate than when money is spent on costly sanatoria. The pages have a hopeful tone running through them, while the chapter on diet is excellent.

Les Dégénérescences des Fibro-myomes de L'Uterus par G. Piquand, Ancien Interne Lauréat des Hôpiteaux, Prosecteur Provisoire à la Faculté de Médicine. Paris: G. Steinheil, 1905.

This is an interesting monograph on the subject of the degenerations occurring in uterine fibromyomata. The author's observations are based on the study of forty-two tumors of this type, the degeneration in eleven cases being fibrous, in six calcareous, in seven edematous, in five sarcomatous, in four cystic, suppurative and necrotic in one each, gangrenous in three, and malignant in four. The conclusion drawn is that thirty per cent. of fibromata undergo degeneration, and that the older plan of expectant treatment is distinctly dangerous on this account. Such changes are especially apt to take place during the menopause and the period immediately before it, so that operation is always to be advised before this time if possible, in order to avoid the complications otherwise likely to be encountered later.

König's Lehrbuch der Chirurgie. Allgemeine Chirurgie, von Dr. Otto Hildebrand, Vol. IV, 2nd Edition. Berlin: Aug. Hirschwald, 1905.

After his retirement from active surgical practice, König took up the task of personally supervising the completion of the eighth edition of his celebrated textbook on special surgery. His experience, particularly in certain lines, has been a most extensive one, and although he is now well advanced in years, the book still bears the marks of the freshness of youth. The present volume is noteworthy because it includes the branches of surgery with which his name is most intimately associated, viz., tuberculosis of bones and joints, and the diagnosis and treatment of fractures. Although fully presenting the views of others we find that the author's own individuality entirely pervades the book, and it is a question whether a scholarly treatise of this nature is not superior to the more extensive, but also disjointed, encyclopedic manuals. The present edition has been brought up to date as demanded by the progress in the various branches of surgery and especially the increased knowledge of bone surgery brought about by the use of the Roentgen rays.

The fourth volume on "General Surgery" has been edited and revised by Hildebrand of the Charité in Berlin. The extent of this portion of the work may be surmised by the fact that almost one thousand pages are occupied in its presentation, and the thoroughness which characterizes the other volumes is fully carried out in this, the concluding one. The material is too extensive for a detailed review.

Malformation of the Genital Organs of Women. By Ch. Debierre, Professor of Anatomy in the Medical Faculty at Lille. With 85 illustrations. Translated by J. Henry C. Simes, M.D., Emeritus Professor of Genito-urinary and Venereal Diseases in the Philadelphia Polyclinic. Philadelphia: P. Blakiston's Son & Co., 1905.

The first chapter of this book contains a brief sketch of the anatomy of the female genital organs; in it we note: the length of the uterus given in *cubic centimeters* (three times on one page), the expressions labium majorum and minorum frequently occur, the uterine and vaginal arteries are both said to be given off from the hypogastric artery, the clitoris and labia minora are said to be "the fundamental organs of copulation." Chapter two contains seven pages of the development of the genital organs. The third (and last) chapter describes the malformations. The sections on hypospadias and epispadias are furnished with illustrations of these conditions as they exist in *the male*. The translation is at times obscure; and the book, throughout, is sketchy and superficial.

Acute Contagious Diseases. By William M. Welch, M.D., Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases; Diagnostician to the Bureau of Health, etc., Philadelphia, and Jay F. Schamberg, A.B., M.D., Professor of Dermatology and of Infectious Eruptive Diseases, Philadelphia Polyclinic; Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases, and Assistant Diagnostician to the Philadelphia Bureau of Health, etc. Illustrated with 109 engravings and 61 full-page plates. Philadelphia and New York: Lea Brothers & Co., 1905.

The diseases discussed in the present volume are of such paramount importance to all medical men that the appearance of a new book devoted to their study is to be greeted with pleasure. The interest inspired by the work only increases on closer perusal, for it is in all respects thoroughly original and modern. The authors have had unusual opportunities for observation in the Municipal Hospital of Philadelphia and have used them to the utmost in producing this useful compilation of their experiences. As is natural, smallpox with its congeners is given the lion's share of space and its discussion occupies about one-third of the volume. The historical sketch of this disease and of Jenner's work is not the least satisfactory feature of the book, which throughout all its pages bears evidence of careful scholarship not in medical fields alone. Vaccinia, the relationship of cowpox to smallpox, variolous diseases of lower animals, smallpox and its sequelæ and complications, are the main headings under which the subject is elaborated. The illustrations, which are especially numerous in this section, for the most part are full page photographic plates depicting various stages and types of the exanthem, etc., and in view of the limited experience with the disease that most physicians fortunately have, they afford a very satisfactory substitute for clinical observation. The other diseases written on are chicken-pox, scarlatina, measles, rubella, typhus fever, and diphtheria. The closing chapter is on disinfection and is very good as far as it goes, but we feel that a space of four pages is hardly enough to allot to so important a topic. The eruption of typhus is shown on only a single plate, which is an excellent one, but considering the fact that the disease is so rarely seen in this country that the profession at large are compelled to draw their knowledge of it from books, it would seem that a larger number of illustrations might profitably be devoted to this subject. These are slight faults, however, and the practical character of the book should secure for it a wide circle of readers.

The Medical Epitome Series. Diseases of the Eye and Ear. A Manual for Students and Physicians. By Arthur N. Alling, M.D., Clinical Professor of Ophthalmology in Yale University, Department of Medicine, New Haven, Connecticut, and Ovidus Arthur Griffin, B.S., M.D., Late Demonstrator of Ophthalmology and Otology, University of Michigan, and Oculist and Aurist, University Hospital, Ann Harbor, Michigan. Philadelphia and New York: Lea Brothers & Co., 1905.

This volume is an epitome of diseases of the eye and ear; twenty chapters are devoted to the former, and five to the latter. The section on the eye would be improved by the addition of an introductory chapter on the anatomy of the eye. The book will be useful to students.

Society Reports.

AMERICAN GYNECOLOGICAL SOCIETY.

Thirtieth Annual Meeting, Held at Niagara Falls, May 25, 26, and 27, 1905.

Dr. Emilius C. Dudley of Chicago, President.

An address of welcome was delivered by Dr. Carl G. Leo-Wolf, of Niagara Falls, which was appropriately responded to by Dr. Ely Van de Warker, of Syracuse.

Accidental Rupture of the Non-Parturient Uterus, with Report of Cases.—Dr. George W. Jarman of New York had seen five cases of accidental rupture of the non-parturient uterus. These were detailed. To draw some deductions from his own cases and those reported by others, it seemed to the author (1) that the operation of invading the cavity of the uterus should not be regarded lightly, and that the same care in the details of asepsis should be carried out as in a laparotomy. (2) That great care should be used in the introduction of steel dilators, at no time forcing them into the cavity of the uterus. (3) That as one's experience in gynecology increased, the use of the uterine sound decreased, and the fingers more and more frequently took the place of the curette to remove secundines from the uterus. (4) That sterile water was the best fluid for irrigating the uterine cavity. (5) That if a rupture or perforation of the uterine wall occurred, it was better to perform a laparotomy and assure one's self of the safety of the patient than to hope that no untoward results would ensue. (6) That if one could not be certain of the asepsis of the curettage, it was better to use a small drain through the vagina, with a slightly elevated posture of the patient, than to regret its non-use after the development of septic peritonitis. (7) That in properly conducted cases observed soon after the accident, there should be almost no mortality.

Dr. A. Palmer Dudley of New York had perforated the uterus four times. In one case, after introducing the instrument into the uterus, he withdrew what he supposed was a fungous growth of secundines, but which proved to be eight inches of the small intestine. The intestine was passed back through the opening made in the uterus, and the patient let alone. She had since borne two children.

Dr. Herman J. Boldt of New York said it was not always that a perforation of the uterus caused serious trouble. Great discrimination should be used in those cases in which there was danger. In all instances of criminal abortion where there was any suspicion that infection had taken place, the abdomen should invariably be opened. He had perforated the uterus a number of times, and had seen it perforated by others. In those instances of perforation of the uterus, the physician should do nothing except perhaps, insert a small piece of gauze through the cervix, and he believed the majority of cases would recover.

Dr. Eugene Boise of Grand Rapids, Michigan, reported two cases of perforation of the uterus, one of which occurred in 1871. The physician in attendance passed a sound clear up to the handle. Nothing was done, and the patient developed no symptoms. In the other case the uterus was perforated with a curette; the cavity was thoroughly washed out, the patient put to bed, without anything further being done, and she made an uninterrupted recovery.

Dr. Fernand Henrotin of Chicago had seen five cases in which the uterus was perforated. One was accidental. One was the result of the work of an abortionist, and on opening the abdomen, the patient being septic nine days after the supposed operation, the speaker found a bougie nine inches long in the abdominal cavity. The patient recovered after undergoing a severe trial.

Dr. Andrew F. Currier of New York agreed with the previous speakers that in many of the cases in which perforation of the uterus had occurred, no damage would result if the intestine had not been withdrawn. If there was a mere puncture of the uterus, if the woman was not septic, it was safe to leave her alone and do just as little manipulation as possible. But supposing the uterus was in a soft, friable condition, one was presented with the alternative of either closing the perforation or of removing the uterus. In many cases the removal of the uterus was preferable, and more than likely would result in more benefit to the patient than the mere closure of the hole. The key to successful treatment was complete drainage, and if there was already a condition of sepsis in the uterus, and one simply closed the wound, he was by no means sure that the sepsis would not continue. Therefore, in cases of that kind it would be prudent to remove the uterus, leaving the wound in the vagina open, and establishing free drainage.

Dr. A. Lapthorn Smith of Montreal did not think it was the curette which was responsible in most cases for perforation of the uterus. He confessed to having perforated the uterus about six or eight times. He had no fear of the result if the parts were thoroughly aseptic.

Dr. Clement Cleveland of New York had perforated the uterus with a sharp curette on one occasion when he was talking to his class about the carefulness with which the instrument should be used. The patient was to be operated upon for a lacerated cervix and lacerated perineum. He postponed this operation, put the patient to bed, and no bad results followed. The Society should exercise its influence toward eliminating the sharp curette from the bag of the general practitioner, or else it should be relegated to the junk heap. It was fraught with the greatest harm to future women if it was used in the careless way it was to-day.

Dr. William E. Moseley of Baltimore said both the dull and sharp curettes had their place. Personally, he first introduced the dull instrument for diagnostic purposes, and then the question as to whether the dull or sharp curette should be used depended upon the character of the tissues one had to deal with. There were some cases in which there was more danger of perforation of the uterus from the use of the dull than from that of the sharp curette.

Dr. William H. Wathen of Louisville did not think the dull curette had any place in the surgery of an experienced gynecologist. The man who could not use a sharp curette without injuring his patient had better refer his cases to someone who could. Occasionally, he admitted, cases were reported where the uterus had been perforated by experienced operators. Curettage should be done by the sharp curette, or decidual remains should be removed by the finger, if possible.

Dr. Ely Van de Warker of Syracuse, N. Y., stated that uterine curettage was attended with more or less danger, and should be confined to the hands of good gynecologists, and rarely ever, or never, done by the general practitioner.

Dr. Seth C. Gordon of Portland, Maine, said occasionally he had pushed a sound through the uterus, but on leaving the patient alone he had not seen any harm result.

Dr. Philander A. Harris of Paterson, N. J., had perforated the uterus twice, once through the corpus posteriorly, and once anteriorly. The perforation posteriorly was done by the curette, and the one anteriorly by his dilator. With his present dilator there was a device attached to it which registered the exact number of pounds exerted by the operator in dilating the cervix.

Dr. T. A. Reamy of Cincinnati, Ohio, had perforated the uterus with a sharp curette within the past two years. He curetted a woman a short time ago, whose condition was such that his consultant was in doubt as to whether there was cancer of the body or the result of a chronic endometritis. The speaker in curetting the uterus rather thoroughly, perforated it. A pelvic abscess resulted from the perforation, which was opened, and the patient made a good recovery.

Dr. Emilius C. Dudley of Chicago stated that within five weeks he perforated a uterus with a curette. The uterine wall was not more than the thirty-second of an inch thick, due to a localized pathological condition. A considerable quantity of bloody fluid was found in the cul-de-sac of Douglas, which was sponged out, the abdominal cavity flushed out with salt solution, and after closing the wound in the uterus with a purse-string suture, the abdominal wound was closed, and the patient made a good recovery.

The Treatment of Retroversion of the Uterus by Shortening the Uterosacral Ligaments.—Dr. Arthur W. Johnstone of Cincinnati stated that the first step in either retroversion or prolapse was due to a stretching of the uterosacral ligaments. This was proven by clinical experiences and a study of the comparative anatomy of the subject. This stretching was most commonly due to a low grade of infection spreading to these ligaments from the uterus or other contiguous structures, that made them lose their tone. A few cases were due to direct violence. The operation consisted in shortening the uterosacral ligaments through the vaginal incision. The uterus was replaced and prolapse cured. Shock was *nil*, and convalescence smooth.

A New Plan of Procedure in Retrouterine Displacements.—Dr. E. E. Montgomery of Philadelphia stated that retrodisplacements of the uterus more frequently demanded restoration to normal position than any other form of displacement. Nature's forces should be imitated as far as possible in relieving malpositions. The Alexander operation and its modifications were in this line of procedure. Its usefulness was limited to the uncomplicated and mobile uteri, in which operative interference was least demanded. The majority of the intraabdominal operations on the round ligament employed the best part of the ligament in their manipulation and left unaffected its weakest portion. The various operations of ventrofixation and ventrosuspension were departures from the normal, placed the uterus in abnormal relation, and rendered painful and difficult the performance of its normal functions. The vaginal procedures required considerable dissection, were ineffective in restoring normal relations, and were to that degree to be condemned. The operative procedure he would suggest was a combination of operative procedures employed by Gilliam, Ferguson, and Simpson. It permitted of treatment of diseased ovaries and tubes, left the uterus a freely movable organ, supported it by normal elastic and muscular structure capable of undergoing evolution and involution, and, finally, afforded no opportunity for the formation of unfortunate adhesions.

Arteriosclerosis of the Uterus as a Factor in Uterine Hemorrhage.—Dr. Palmer Findley of Chicago read a paper on this subject, in which he gave a résumé of all cases, and reported four new ones. The writer dealt exclusively with the so-called essential or idiopathic hemorrhages, the cause of which was not definitely determined. He argued that arteriosclerosis of the uterus was not the prime factor in bringing about these obscure hemorrhages. In his opinion, muscular insufficiency was the underlying cause, and the sclerosed vessels were but contributing factors. He drew the following conclusions: "1. Metritis, as a primary lesion and independent of infection, is not accorded the consideration which the frequency of its occurrence and its clinical significance would warrant. 2. The muscular fibers of the uterine wall have an important function in controlling the caliber of the blood vessels, and hence in regulating the blood supply to the uterus, as evinced in the relaxed condition of the uterine wall during menstruation, in postabortion, and postpartum hemorrhages, and in the free bleeding which accompanies curettage when the uterus has relaxed under the irritable influence of the curette. In all these conditions the hemorrhages are controlled by the contractions of the uterus. 3. Any event which lowers the muscular tone of the uterus may occasion an abnormal loss of blood into the endometrium and uterine cavity. 4. Prominent among the factors which contribute to muscular atony in the uterus are the wasting diseases, anemias, and acute febrile diseases, which are not infrequently accompanied and followed by uterine hemorrhages as the result of weakened support to the vesical walls. 5. Fibrosis uteri is a far more common cause of muscular insufficiency. The building up of connective tissue in the uterine wall at the expense of the muscular elements is the result of long-continued passive congestion, which in turn is due to numerous general and local lesions, such as an incompetent heart, obstructions in the lungs, liver, kidney, and spleen, abdominal swellings, varicose veins of the pelvis, and uterine displacements. 6. The walls of the blood-vessels share in these hyperplastic changes, in that the media and adventitious coats of the vessels are thickened. In this manner the elasticity of the vessel walls is impaired, and if the lumen of the vessels is not narrowed by contraction of the vessel walls, and thickening of the intima, there will be added reasons for various engorgements of the uterine wall and capillary oozing at the endometrium. In such cases the prime factor in the causation of uterine hemorrhages is the muscular incompetency; the thickened vessel walls and the remote embarrassments to the circulation are but contributory factors. 7. This condition of the vessel walls is to be distinguished from the arterio-obliterans of the normal senile uterus, in which the vessels are partially or wholly obliterated by the thickened intima. In such cases hemorrhages do not occur, for the reason that the blood supply is greatly diminished. 8. In none of the recorded cases were hemorrhages seen to come from ruptured blood-vessels, nor were aneurysms of the arteries seen in the uterine wall. On the contrary, the escaped blood was farthest removed from the sclerosed vessels and more evidently capillary. We are therefore not justified in ascribing the hemorrhages directly to the sclerosed vessels. 9. The diagnosis can only be made by first excluding all other possible causes, such as polyps, carcinoma, and fibroids. 10. Hysterectomy has been frequently resorted to after repeated curettages have failed. Palliative methods—rest, ergot, styptic applications to the bleeding surface, and finally tamponading the uterine cavity—may be resorted to, but have repeatedly failed."

Postoperative Vomiting.—Dr. Eugene Boise of Grand Rapids, Michigan, said it was assumed as proved that there was a vomiting center from which all impulses toward vomiting were sent. These impulses might be received through various channels. The conditions that led to postoperative vomiting were numerous. They might be grouped as (1) those conditions pertaining to the anesthetic; (2) those pertaining to the general condition and surroundings of the patient; and (3) those pertaining to the stomach. The anesthetic caused vomiting (1) by its direct irritant action on the vomiting center; (2) by causing a toxemia, and (3) by saturating the secretions of the stomach. The conditions pertaining to the stomach were (1) chronic, such as atony, dilation, chronic disease of the mucous membrane, etc. (2) Acute, as saturation of the tissues and secretions of the stomach by the anesthetic. Treatment must therefore be preventive as well as curative, involving greater care in the preparation of the patient. Four things must be kept in mind: (1) The abnormal irritability of the vomiting center; (2) the condition of the stomach; (3) the condition of the blood; and (4) the condition of elimination. Treatment must be adapted to the conditions found. Theoretically, the indications were to obtund the sensitiveness of the vomiting center; to neutralize, if possible, the irritant character of the anesthetic; to cleanse and soothe the stomach; to keep the patient quiet in order to avoid circulatory disturbances; to aid elimination, and to support the patient and nourish the irritated nerve centers by rectal feeding when indicated.

Dr. A. Lapthorn Smith emphasized the necessity and importance of preliminary preparation of patients. Careful attention should be given to diet, to getting the bowels thoroughly cleaned out, so as to reduce the amount of vomiting after operation to a minimum. He advocated the drinking of large quantities of hot water by patients to wash out the ether that had been swallowed during its administration. Hot water taken in this way amounted to the same thing as gastric lavage.

Dr. Matthew D. Mann did not believe the character of the anesthetic had as much to do with vomiting as the amount of the anesthetic. The more deeply a patient was anesthetized, the greater the amount of anesthetic used, and the longer time it took the patient to get rid of it, the more the vomiting center was irritated. For three years he had been using ether, preceding it by chloride of ethyl. He had done an operation, lasting forty-five minutes, with two or three ounces of ether, when preceded by chloride of ethyl. Since following this method, vomiting had been greatly reduced, and in many instances the patients had not vomited at all.

Dr. **A. Palmer Dudley** said that if operators considered the preparatory measures mentioned by Dr. Mann, there would be less reflex action on the part of the stomach in postoperative work.

Dr. **Andrew F. Currier** thought the preliminary administration of chloride of ethyl or nitrous oxide, as had been his custom recently, was much more satisfactory than the prolonged and irritating effects which came from the first stage of anesthesia through the administration of ether alone. One could lay down as a principle that given a very careful administration of the anesthetic and a small quantity, one would have much less trouble afterwards from vomiting.

Dr. **C. C. Frederick** agreed with Dr. Mann as to the preliminary use of chloride of ethyl, followed by ether or chloroform. For a year and a half or more he had begun anesthesia with chloride of ethyl, getting the patient under its influence rapidly, then changing to ether or chloroform. Vomiting was much less by this combination.

Dr. **Arthur W. Johnstone** attributed the great decrease in the amount of vomiting after operations largely to careful preliminary preparation of his patients.

Dr. **Daniel H. Craig** of Boston did not consider eserine in any sense a specific against postoperative vomiting, but he thought it had the same effect on cases of postoperative vomiting as gastric lavage, whether resorted to before the patient left the table, or later. The effect of small doses of calomel given before operation, or divided doses of it after operation, was the stimulation of normal peristaltic action. With lavage the stomach was emptied. Eserine had no effect on the motility of the stomach itself, but it did in reestablishing or preventing stoppage of intestinal peristalsis. Eserine did the work far more efficiently and effectively than divided doses of calomel, which necessitated giving the patient medicine by the mouth at a time when she was nauseated and unprepared to take it.

Dr. **Malcolm McLean** of New York said one should give as little of the anesthetic as possible. Anesthetics should be given by men who were skilled in this work. By giving a preliminary anesthetic, such as chloride of ethyl or nitrous oxide, the preparation was such that when ether or chloroform was given, large toxic doses of it were not carried through the circulation so as to poison the patient in the postoperative stage.

Dr. **George Gellhorn** of St. Louis stated that for about a year he had employed as a preliminary the hypodermic injection of scopolamin-morphine, about an hour before operation. This combination arrested secretions from the mucous membrane of the mouth and throat. He gave scopolamin and morphine in the proportions of 1-150 of a grain of scopolamin to 1-6 of a grain of morphine. The effect was that the mouth and throat were absolutely dry, and remained so during the operation, and the amount of ether used was materially minimized.

Dr. **Reuben Peterson** said his experience had been different from that of Dr. Gellhorn in the use of morphine and atropine. He had used this combination for years, giving about 1-6 of a grain of morphine, and 1-150 of a grain of atropine, about three-quarters of an hour before the anesthetic was given. Before he used these drugs there used to be excessive secretion; there was gurgling, so that the mouth and throat had to be swabbed out; but since their use this had almost entirely ceased. He had not attributed the absence of vomiting to the use of these drugs entirely, but to thorough preliminary preparation of the patient, and to better methods of administering chloroform and ether.

Dr. **Edward P. Davis** said that the remarks made concerned patients with whom there had been abundant time for preparation. One was obliged sometimes to operate upon emergency cases, as ruptured ectopic gestation. In these postoperative vomiting might be very depressing and dangerous. What could be done to prevent it? While the patient was on the table, and before the operation was quite completed, intravenous saline transfusion or injection would prevent postoperative vomiting as well as prevent shock.

Dr. **Fernand Henrotin** said that one of the most important factors in the reduction of vomiting, as well as in the reduction of shock and of making a patient's recovery reasonably smooth, was washing out the stomach. For a little over a year he had been resorting to quick anesthesia with nitrous oxide preparatory to the administration of ether, using as little of the anesthetic as possible, immediately washing out the stomach thoroughly after every operation, and giving a hypodermic injection of eserine before the patient was taken off the table. The use of this combination had made an immense difference in the results of his general operative work.

Dr. **J. Wesley Bovee** thought the proper procedure was to prepare patients as well as the conditions would permit, and do it with proper discrimination. Then came the proper administration of the anesthetic, giving as little as possible of it, and steadily, not irregularly. After the administration of the anesthetic he had found the administration of oxygen for fifteen to twenty minutes to be the most satisfactory of anything he had used. He objected to the use of morphine because there were so many cases of renal complication in which the use of this drug would handicap the operator.

(To be Continued.)

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held April 24, 1905.

Dr. Henry S. Stearns in the Chair.

The evening was devoted to a consideration, solely from the standpoint of the general practitioner, of certain infections and inflammations, including the following three papers:

Diagnosis and Treatment of Acute Diseases of the Accessory Sinuses of the Nose from the Standpoint of the General Practitioner.—Dr. **C. G. Coakley** read this paper. He said that the profession at large seemed to have only a vague idea of the diseases of the accessory sinuses of the nose. The milder cases got well with little or no treatment and the more severe types became chronic and finally reached the specialist for relief for their "catarrh." He felt that many of the patients that were seen to-day could have been saved much of their suffering had their diseases been diagnosed early and properly treated at that time. The paper was presented with the object of directing attention to the acute stages of inflammation of these sinuses and the means employed in diagnosing and treating them. He then called attention to the structure and position of these various sinuses. As the mucous membrane lining all these cavities was directly continuous at some point with the mucous membrane lining the nose, it necessarily followed that every attack of acute inflammation of the nasal mucous membrane was accompanied by a greater or less involvement of the mucous membrane lining the accessory sinuses.

The antrum might become acutely inflamed either as a result of extension from a diseased process in the nasal cavity or from a suppurative otitis or periostitis of the tooth-sockets. There was a yellowish, thick mucorpulent discharge from the nose which was quite profuse. Frequently pain was complained of in the upper teeth, and perhaps inability to chew food, usually the bicuspids and first and second molars being the most sensitive. If secondary to diseased teeth there might be bulging over the superior maxilla. The lower eyelid was occasionally edematous. Pressure over the external surface of the antrum seldom elicited pain. At times the only pain complained of had been intense supraorbital neuralgia, probably a reflex pain from pressure on the infraorbital nerve as it passed along the roof of the antrum. Not infrequently pain was complained of in the temporal region of the affected side. Intracranial complications followed disease of the antrum less frequently than when any of the other accessory sinuses of the nose was involved, on account of its anatomical position.

The subjective symptoms in the frontal sinus were a profuse discharge from the corresponding nasal cavity and intense supraorbital pain, usually throbbing in character. Tapping the forehead internal to the supraorbital notch always aggravated the pain. Pressure on the under surface of the frontal bone near the nose produced great pain, whereas corresponding pressure on the opposite side was painless. The frontal pain was greatly increased by blowing the nose, and this was almost pathognomonic of frontal sinusitis. Headache might be referred to the temporal region, the vertex, or the occipital region. In severe cases with insufficient drainage there were some redness and edema of the upper eyelid. Such symptoms indicated considerable tension on the walls of the cavity from retained secretion and demanded prompt relief on account of the danger of cerebral complications.

Ethmoiditis, he said, occurred so infrequently that it was difficult to give symptoms due to it. The painful regions were varied, depending upon whether the anterior or posterior group of cells were involved. In the former case the pain was most acute along the side of the nose near the inner angle of the orbit. Supraorbital pain was not infrequent, although pain on tapping the frontal bone and on pressing the orbital surface of the frontal bone was seldom very great. In the posterior group of cells the pain was quite commonly referred to deep in the head, back of the eye or in the eye itself. Occipital pain might be very intense.

In diseases of the sphenoid the discharge was nearly always post-nasal, a dropping in the throat as the patients expressed it. The pain was very much like that of involvement of the posterior ethmoidal cells. When several of these groups of sinuses were involved the pain was so general that at one time patients would refer it to one portion of the head and then to another. Their frequent expression was that the head felt as full as though it were ready to burst. Dizziness or vertigo or unsteadiness of gait was occasionally observed.

The treatment of acute sinus disease he classed under two heads, constitutional and local. Opium and morphine were contraindicated because they masked the progress of the disease. Hot fomentations oftentimes gave great relief and he saw no objection to their use. Some preferred the ice-bag. He advised that the patient be allowed to try first heat and then cold and use that which afforded the greater relief. The local treatment in a case of acute sinus disease consisted in the establishment of an efficient drainage. The swollen mucous membrane of the nose must be contracted and kept so. In cases of moderate severity this was all that was necessary, for the frontal, ethmoid and sphenoidal cells would empty themselves if given a chance. As for the antrum, proper ventilation of the nose allowed the compressed air resulting from blowing the nose to force out of the antrum the bulk of the secretion. Adrenalin (1—10,000) sprayed into the nose once in two or three hours kept the nasal mucous membrane well contracted. Occasionally it became necessary to use as an adjuvant a one or two per cent. solution of cocaine. This was the only condition in which one was warranted in prescribing a cocaine spray for a patient. The thick, tenacious secretion should be removed by syringing the nose, care being taken to do it properly and not induce an otitis media. The least irritating material for irrigation should be used and saline solution with the same proportion of bicarbonate of sodium as of salt, he said, would be found to be the best. Following this treatment, if the symptoms were not relieved, the cause should be sought for and remedied, or else artificial openings made for the purpose of drainage. The most frequent obstructions to drainage were a thickened or cystic middle turbinate and polypi which could not be contracted sufficiently. Then one must have recourse to resection of the anterior third of this body, and the removal of the polypi by snare and forceps. It was not necessary to remove the entire middle turbinate. The opening of the antrum was badly located for the purpose of drainage and consequently one frequently had to puncture and wash out the cavity with saline solution. It was seldom necessary to do this oftener than every other day.

Non-Suppurative Conditions of the Ear Leading to Deafness.—Dr. A. B. Duel read this paper. Leaving out of consideration malformations, malignant, and benign tumors, concussions, chemical and thermal influences, and many other causes, he said the points in the history to be elicited from a patient with deafness (not accompanied by suppuration) practically were as follows: Was the impairment of hearing of long (chronic) or short (acute) duration? Was the onset sudden or gradual? Was it unilateral or bilateral? If bilateral, did it begin in both ears simultaneously? Was the impairment worse in one ear than the other? Was the ear in which the trouble originated still the worse one? Was there tinnitus? If so, of what character (high or low pitch, constant, intermittent, or pulsating)? Was there any vertigo? Was there any pain? Was there any obstruction to nasal respiration? Was there a gouty, rheumatic, or syphilitic diathesis? Next a physical examination of the ears should be made to determine if there was any mechanical obstruction in the meatus and to determine the condition of the drum membrane. The nose, nasopharynx, and pharynx should be inspected for any possible cause of obstruction to respiration or interference with the ventilation of the middle ear by the eustachian tubes. The tuning forks should then be used to note whether the impairment resulted from a lesion in the conducting apparatus (middle-ear deafness) or in the receiving apparatus (internal-ear nerve deafness). The distances at which forced whisper, the tick of a watch or acoumeter was heard should be then noted. With the data thus obtained it would be possible to make a diagnosis in most instances. Broadly speaking, he said there were two classes of cases which would present themselves, the first in which the deafness could not be improved by any local treatment, the defect being beyond its influence, and a second class which might be entirely cured or greatly benefited by local treatment, since the defect in hearing was largely mechanical, owing to interference with the conducting apparatus. In the first class of cases would come all purely labyrinthine or central cases which would be characterized by referring a tuning fork on the forehead to the better ear; air conduction would be better than bone conduction, and the latter would be diminished as compared with a normal ear; low tones would be heard better than higher tones, and the associated tinnitus was likely to be high pitched and continuous rather than low pitched and intermittent or pulsating. In the second class of cases, on the other hand, there was impairment of hearing because of interference with the entrance of sound waves either by mechanical obstruction of the external meatus or by imperfect ventilation of the middle ear, or by structural changes in the conducting mechanism which impeded the freedom of their movements. All such cases were characterized on functional testing by referring the note of a tuning fork placed on the forehead to the poorer ear, by hearing better by bone than by air conduction, and by hearing by bone conduction better in the deaf than in the normal ear. High tones were heard better than low, and with certain exceptions hearing was temporarily greatly benefited by inflation of the tympanum. The accompanying tinnitus was likely to be low pitched, and might be intermitting or pulsating. This class included acute and chronic eustachian tubal catarrh and acute and chronic hypertrophic catarrhal otitis media. It was his belief that these conditions were all due to the same process, viz., owing to obstruction in the nose, nasopharynx, or pharynx, a congestion took place in the enstachian tubes and this extended to the middle ear as an acute, active congestion, or, by mechanical obstruction, caused a passive congestion. Should this process continue unrelieved, the congestion caused an hypertrophy of the submucous tissue first in the tube and later in the tympanum. These chronic inflammations were subject to acute exerbations, and hence the remissions and exacerbations of catarrhal deafness. This deafness due, in the early stages, entirely to interference with ventilation of the middle ear by obstruction of the tube, gradually added mechanical disturbance due to the hypertrophic changes in the tympanum. In the later stages of some cases, atrophy of this hypertrophied tissue took place, but too late to be of any benefit to the hearing, since the distortion of the tympanum had already placed it beyond repair. This, then, he said, was the class of cases for which something could be done, and it should be done quickly. A child with occasional attacks of earache, and the subject of mouth breathing, with slight deafness, was the subject for chronic catarrhal deafness in later years. The obstruction to the proper ventilation of the tympanum should be removed at once. A patient of any age having deafness from a lesion of the conducting apparatus, which showed temporary improvement on inflation, should have the advantage of a thorough removal of any obstruction which might be causing congestion of the middle ear and also the widening of the calibre of the eustachian tube if the patency was not sufficient to ventilate the middle ear properly. This should be followed by inflations of the middle ear, as long as improvement took place. He said it was surprising to see the number of cases in which injury had been done to the canal or the tympanic membrane by efforts to remove impacted cerumen or other foreign bodies by the use of curettes and other instruments. Impacted cerumen should be removed only by the use of a large syringe capable of expelling water with considerable force. With a slight alkaline solution directed against the canal at the junction of the plug of cerumen, the canal meanwhile being straightened by pulling backward or backward and upward on the auricle, would almost invariably force out the plug *en masse.* It was practically never necessary to send a patient away for a few days with ear drops to soften the plug. Other foreign bodies, such as peas, beans, beads, etc., should always be removed when possible by forcible syringing of the canal.

The Etiology, Diagnosis, and Treatment of Mastoiditis.—Dr. Wendell C. Phillips read this paper. Acute suppurative otitis media, he said, was the result of the introduction of infection into the tympanic cavity through the eustachian tube; therefore, any infective process in the nose and nasopharynx whereby an unusual amount of infective material accumulated in the spaces, furnished sufficient ammunition to supply the infection for middle ear suppuration. Even the mildest efforts at relief by blowing could force the infection through the eustachian tube. As types of these infections he mentioned scarlet fever, measles, diphtheria, typhoid fever, and grip and other infectious colds. As remote causes he mentioned adenoids and hypertrophied tonsils. With regard to chronic suppuration of the middle ear, this existed simply and solely as the result of incompetent and neglected treatment of the acute stage and, barring tuberculosis, syphilis, and malignancy, there should be no such thing. He was of the opinion that in nearly every case of acute middle ear suppuration the involvement reached not only the attic, but also the mastoid antrum, and he explained this by means of a rough sketch which showed the anatomical relations. While the usual route by which the infection reached the mastoid cells was the aditus ad antrum, it could not be denied that occasionally there seemed to be a primary infection of the cells, and this was usually attributed to the circulatory and lymphatic systems. Careless treatment or neglect of middle ear suppuration played an important part as a cause of mastoiditis, and he said the physician's responsibility was not fully assumed if he neglected to fulfill the following requirements: (1) That the patient with acute middle ear suppuration should be confined to his bed; (2) that no oily or other substances which might become rancid should be allowed in the external canal; (3) that the external auditory canal be properly sterilized; (4) that a free paracentesis be performed as soon as pus had accumulated in the tympanic cavity; (5) that subsequent to this all cleanly measures should be adopted; (6) that a visual examination of the canal be frequently made.

The diagnosis of acute suppuration of the middle ear was based upon two prominent symptoms, pain and the appearance of the drum membrane. The proper diagnosis of mastoiditis must be based upon the following symptoms: There was dull, deep seated pain in the mastoid region, chiefly located over the antrum, or radiating in various directions from the mastoid process. Tenderness on pressure upon the mastoid process was a constant symptom, and this first appeared usually in the region of the antrum, and was elicited only upon deep pressure at times. Another important symptom was the drooping or bulging of the posterior superior canal wall together with the attic membrane. There was no characteristic temperature in mastoiditis. A symptom not often described was the peculiar anxious expression of the countenance with a more or less fixed position of the head and neck, which was almost always present when the disease had becomed established. The mastoid invasion might be accompanied by a sudden cessation of the pus flow, or again it might rapidly increase; the latter indicated a wider area of infection with a free exit.

The patient should be placed in bed at the very commencement, and special effort should be made to sterilize the external auditory canal by free douching with a 1 to 5,000 bichloride solution at a temperature from 100 to 110 degrees; this procedure should be repeated at intervals of one hour after the discharge had become established. So soon as pus accumulated in the tympanic cavity the drum membrane should be incised. If local bloodletting seemed necessary, the incision should be carried outward into the auditory canal, making sure to go through the periosteum. This was a far more surgical procedure than the use of leeches. The subsequent treatment consisted in maintaining free drainage and observing the laws of cleanliness. A cure was usually effected in from two to three days to as many weeks. Only complicated cases ran a longer course.

Chronic suppurative otitis media was rarely unaccompanied by necrosis which had gone beyond the confines of the tympanum and the nearness of the tympanic cavity to the brain, and the lateral sinus should make this a matter of very serious consideration. The amount of necrosis should be determined and all unhealthy granulation tissue should be removed. The so-called dry treatment proved the most efficacious. At the daily visits various remedies, of which formaldehyde solution, peroxide of hydrogen, chromic acid and bichloride solutions were types, should be employed, after which a light packing of plain sterile or iodoform gauze might be introduced. When the treatments were less frequent the patient should douche the ear several times daily with a warm bichloride solution. This form of treatment might require weeks or even months to effect a cure. Two methods of operating were made use of, the intratympanic (removal of the ossicles and curettage through the external auditory canal), and the radical operation known as the Stacke, or Schwartze-Stacke. The intratympanic operation was permissible when a fairly confident diagnosis had been made that the necrosis was confined to the ossicles and tympanic ring. The radial operation was the more scientific, but required skill and a minute knowledge of the anatomy of the temporal bone, and was performed for the purpose of removing all portions of necrosed bone together with sufficient healthy bone to leave one large cavity which included the mastoid antrum, additus, and tympanum.

After dwelling briefly upon the preventive and operative treatment of mastoiditis, Dr. Phillips offered the following conclusions: (1) Patients suffering from acute otitis media should be confined to the bed during the acute inflammatory stage. (2) Recurrent suppurative otitis media was usually the result of adenoid vegetations in the vault of the pharynx, plus infection. (3) Chronic suppurative otitis media existed only as a result of incompetent or neglected treatment of the acute stage. (4) Grippe infection produced a large proportion of the serious complications of middle ear suppuration. (5) A chronic suppurative and necrotic process in the middle ear, considering its environment, called for serious consideration. (6) The practitioners of medicine should acquire sufficient skill to make an intelligent examination of the drum membrane and sufficient familiarity with symptoms to diagnosticate the serious complications. (7) Well developed suppuration which had gone beyond the confines of the mastoid antrum and involved the mastoid cells in general called for external operative interference. (8) in the treatment of chronic suppurative otitis media local measures should be exhausted before considering radical operative interference. (9) Failure to cure chronic suppurative cases, especially when evidences of necrosis were present, should be followed by some form of operation. The Stacke or Schwartze-Stacke operations, while rather serious in nature and required marked skill, offered the best hope of permanent cure. (10) In the consideration of both the mastoid operation and the radical operation for chronic suppurative otitis media wise conservatism should guide the action of the surgeon.

Drs. Coffin and Berens discussed these papers.

The Ethics of Advertising.—Apropos of a resolution passed at the December meeting of the Society: "That in any directory or list other than a medical one, it is undesirable that any data should appear other than the name, address, and telephone number, and that the use of more prominent type for one name than another is to be severely deprecated," the following resolution was offered and hotly discussed: "Resolved: That the insertion of any advertisement exclusive of name, address, office hours, or telephone number in any directory other than a medical one should be sufficient cause for expulsion of such member from the Society and the disbarment of candidates for membership." During a heated discussion, a motion to adjourn was made and unanimously carried.

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-fifth Annual Meeting, Held at Rock Island, May 16, 17, and 18, 1905.

Dr. William E. Quine of Chicago, President.

(*Continued from page 959.*)

Surgical Section.

Surgery of the Stomach.—Dr. Arthur Dean Bevan of Chicago, said that stomach surgery to-day stood out as the most gratifying surgical field in the process of rapid development. This fact was perfectly patent that the demonstrated value of surgical procedures in treating stomach lesions warranted a much wider application of such methods than were at present practiced. His plea was that the cases must be carefully selected, and the surgeon must be sure that an operation was strongly indicated. Cases that could be cured by a summer's outing or by carefully selected diet should not be operated upon; nor should hopeless cases be operated. He discussed the surgery of the stomach under two heads: (1) Surgical treatment of carcinoma of the stomach, and (2) the surgical treatment of ulcer and its complications and sequelæ. If cases of carcinoma of the stomach were early diagnosed and operated upon at a time when the entire focus of disease could be removed, a cure could be effected. As to stomach ulcer, when intelligent medical treatment failed and the symptoms returned and persisted, then and not until then did the uncomplicated stomach ulcer become a surgical problem. The great majority of cases of perforation of the stomach by ulcer could be saved by early surgical interference. The surgery of the stomach was advancing. The profession should keep pace with it and give the patient the benefits of its demonstrated possibilities.

Dr. Carl E. Black of Jacksonville discussed the surgery of the bile tracts, and Dr. Emerson M. Sutton of Peoria discussed the possibilities of surgery of the duodenum.

Dr. M. L. Harris of Chicago spoke of the surgical treatment of injuries to the spleen due to subcutaneous penetrating wounds; the value of splenectomy in certain anemias associated with enlargements of the spleen.

Surgical Tuberculosis.—Dr. William E. Guthrie of Bloomington in discussing this subject, said that while physicians should study how to help tuberculous patients by the proper removal of diseased tissues, they should not forget that vastly more necessary was the conservation of the power of resistance of the patient to disease through suitable hygiene and forced feeding. He who would treat tuberculosis in any form successfully must have for his watchword ever, Feed, feed, feed.

Tuberculous Nephritis.—Dr. Robert Christie of Quincy reviewed the literature with reference to comparative frequency, and alluded to the more recent investigations and observations, discussing the modes of infection, primary, secondary, metastatic atypical cases, without characteristic symptoms, other than localized tumefaction. He reported a case in which he did a primary abdominal nephrectomy, followed by recovery of the patient.

Errors in the Diagnosis of Abdominal Troubles.—Dr. Clifford U. Collins of Peoria said that protection in diagnosis marked the highest development in science and medicine. With a correct diagnosis it was not hard to institute the proper treatment. The development of diagnosis had been a difficult process marked by many errors. While one was endeavoring to approach perfection in diagnosis, it was highly probable that errors would always be made. Although errors were annoying, each one conveyed a lesson, and if studied and interpreted correctly, would result in much good to the examiner. The keeping of complete case records would permit of close and careful study of each error and lead to success, because "Success does not consist in not making any mistakes, but in not making the same mistake twice."

Congenital Club-Foot.—Drs. John Ridlon and Charles E. Eikenbary of Chicago contributed a joint paper, in which they briefly discussed the varieties of congenital club-foot; also the anatomy of congenital equinovarus and the theories of its causation. The paper chiefly discussed the subject of treatment by manipulation, by braces, by the Thomas wrench, by hand modeling, with the patient anesthetized, by the Granton osteoclast, by simple tenotomies supplemented by modeling, or the use of the wrench, or the osteoclast by the Phelps open incision and Jonas' modification of it, and by linear and cuneiform osteotomies, and enucleation of the astragalus. The methods of after-treatment by plaster splints and by braces were briefly considered and the statistics of Dr. Ridlon's cases for the past twelve years were given.

Stricture of Esophagus Following Typhoid Fever.—Dr. S. C. Plummer of Chicago reported a case of stricture of the esophagus following typhoid fever. The case was one of typhoid fever with severe relapse, symptoms of stricture immediately following. The patient was treated by sound. There was gradual tightening until swallowing even of water was impossible. Under anesthesia an unsuccessful attempt was made to pass the stricture. A gastrostomy was performed; there was relaxation of the stricture after four months of absolute closure. Diliatation of the stricture was resorted to, and an operation made for closure of the gastric fistula.

Colloid Carcinoma of the Cecum.—Dr. Plummer reported this case, in which an operation was performed for appendicitis three years previously. Excision of the cecum and ascending colon was done, with lateral anastomosis by Murphy button of the ileum to the transverse colon. There was recovery from the operation, with restoration of health, followed by recurrence.

Penetrating Wound of Liver.—In this case Dr. Plummer said the injury was produced by a small missile, a portion of a dynamite cap. Laparotomy was done, but the foreign body not found. It was evidently embedded in the liver. The liver wound was closed, and the patient recovered without complications.

Gastroenteroptosis.—This patient had symptoms simulating appendicitis. The transverse colon was found in the shape of the letter V. The gastrohepatic omentum was abnormally long. The gastrohepatic omentum and transverse mesocolon were each folded upon itself and stitched, followed by permanent relief of the symptoms.

Dr. Fernand Henrotin of Chicago made some remarks concerning when and how to treat septic pelvic affections of women by vaginal incision and drainage.

Diagnosis and Pathology of Neoplasms of the Brain.—Dr. Hugh T. Patrick of Chicago in discussing the pathology, said that the most frequent tumors were glioma, sarcoma, and solitary tubercles. He enumerated the less frequent forms. Stricture, the manner of growth, and the physical properties of more frequent tumors were pointed out. As to diagnosis, the determination of intracranial neoplasms was generally easy. Exact localization was generally difficult, frequently impossible. He mentioned the classical symptoms of brain tumor and the points of differential diagnosis. Tumor might simulate apoplexy. General paresis, arteriosclerosis, nephritis, migraine, etc., were discussed in connection with brain tumors; also the symptoms indicating the seat of growth.

Insanity Following Skull Injuries.—Dr. E. Mammen of Bloomington spoke of contusions, concussions, location of injuries, fractures, and symptoms following skull injuries. The symptoms were sometimes slow in development. He spoke of the changes in tissue at the site of injury, also operation, relief from pressure, relief by the removal of changed tissues and of cirrhotic bone. He cited cases and gave the results.

Cerebral Infection from Middle-Ear Disease.—Dr. Norval H. Pierce of Chicago referred to the anatomical paths by which suppurations within the temporal bone reached the contents of the calvarium. He discussed the character of the primary inflammations which produced intracranial complications, as well as the influence of locality of the primary inflammation on the different intracranial complications. Purulent inflammations of the dura and the extradural abscess were discussed. He referred to meningitis and meningoencephalitis serosa following suppurations within the temporal bone; also to phlebitis and thrombosis of the dural sinuses and the jugular vein. Reference was made to isolated thrombosis of the jugular bulb, also to otitic brain abscess.

Prophylaxis of Syphilis.—Dr. Alfred Schalek of Chicago said there was renewed activity in this direction among the medical profession in recent times. The reasons were not an increase in the number of cases, nor a more severe course of the disease, but better statistis, and the present improved prophylactic measures against other infective diseases. The spread of syphilis could be limited by means which applied to the general public and to the individual. The former included control of prostitution, but had proven a failure. Impracticable also was the suggested compulsory report of cases by physicians. A better measure was the education of the public as to the nature of the disease. Instructions should be given how to avoid infection innocently. He made a plea for increased facilities for treatment in hospitals and dispensaries. The author thought that at the present time the most valuable prophylaxis against syphilis ought to be practised by the medical profession in their relations with their patients. Since no methods were known to abort the disease after infection occurred, the most important duty was a thorough treatment.

Some Cases Demanding Removal of the Eye of Interest to the Physician and Surgeon.—Dr. J. Brown Loring of Chicago discussed the responsibility resting on the physician and surgeon, as well as the ophthalmologist, with regard to the treatment of blind eyes. Reports were given of three cases of sarcoma, one of glioma, and five of iridocyclitis of various origin, causing or threatening sympathetic ophthalmia. The first four cases indicated danger to life, the others danger to sight. Statistics were given as to the frequency of sympathetic ophthalmia. Attention was called to the unsatisfactory and at times contradictory manner in which the subject of treating eyes blind from iridocyclitis was discussed in modern textbooks. A plea was made for a more radical treatment of these cases from every standpoint.

The Commerce of Surgery.—Dr. Fernand Henrotin of Chicago, in selecting this subject for his address, said he did not wish to apologize for the prevailing forms of commercialism which tended to degrade the medical profession. He spoke for the future, and bespoke an unbiased, calm decision upon the best methods of eradicating or minimizing existing evils. A considerable part of these might rightly be attributed to the course of life of the very men who condemned them so strenuously. In the keen competition of the battle of life they had forgotten that for ethical function equity should be supplemented by kindness; omission and a lack of perception, not commission. Within the bounds of law they had lost sight of negative beneficence. They often began by being commercial until beyond want, and now they were moralists. They held more positions than they could fill satisfactorily; they performed more operations than they could do full justice to, or overlooked the care of. They often opposed the rise of their peers and particularly their superiors on their faculties; they boasted of their large fees and their annual income, exciting the cupidity of their fellows, all of which was properly within the law, but was an element in the development of present conditions. Add to that the elements which he had shown and one would have the reason for commercialism. All of this writing was a plea for the exercise of negative beneficence on the part of the profession in regard to this whole question. While proven violations of the law of ethical conduct should be given publicity and be visited by just penalty, wholesale denunciations should be decently omitted as tending to disorganize the ranks and doing injury to men whose mistakes had resulted from force of circumstances and surroundings and the strenuousness of the age they lived in. Let those who were successful make it their duty to help others to a firm footing beyond the need of dubious methods. To eradicate impure commercialism entirely might be impossible, as it was founded on man's inheritance of original sin and because reasonable commercialism was an incentive in life, but it was not impossible by harmonious cooperation to cultivate a desire for a higher standard by combining justice and beneficence. The practice of self-restraint and renunciation was not happiness, though it might be something better.

Dr. George E. Shambaugh of Chicago discussed the indications for opening the mastoid process in cases of acute empyema of the cells when there was an absence of signs over the external surface of the mastoid.

Dr. George Schmauch of Chicago discussed the diagnosis and treatment of rupture of the uterus.

Dr. L. H. Nickerson of Quincy followed with a paper in which he discussed the diagnosis and treatment of laceration of the vaginal portion of the uterus and fornix vaginae.

Immediate Diagnosis and Treatment of Lacerations of the Vagina and Pelvic Floor and Perineum.—Dr. C. S. Bacon of Chicago classified these tears as external and internal. In both there were many grades, and either might be simple or combined with those of the other class. Diagnosis concerned both the finding of these lacerations and determining their extent and importance. Both touch and inspection were employed. The pain caused could be disregarded, but the risk of infection was considerable and should be carefully considered. Hirst's proposed delay of all examination and operation till the end of a week was not practicable, and the author favored immediate examination and repair, but only with as careful asepsis as would be employed in a secondary operation. In a non-operative labor, when there was no hemorrhage with the expulsion of the head, and no severe external tear, there would be no internal laceration, and an internal examination was unnecessary. Hemorrhage was rarely an indication for operation in vaginal and perineal tears. The bad results of unrepaired lacerations were generally the reasons for operation. Spontaneous repair was a delusion. Proper preparation was very important in all repair operations. Especial attention should be given to vaginal lacerations that involved the pelvic diaphragm and extended into the central attachments of the accessory diaphragm, but did not implicate the skin surface. Here the skin bridge might be cut and the repair made as in a combined vaginal and perineal laceration, or the internal suture could be applied so as to bring in opposition the divided structures. The perineal sutures of silkworm gut must not be tied too tightly. In a complete rupture the method of restoring the rectal tube by passing the suture through the rectal mucous membrane was preferred to the passing of the suture from the perineal side. The author preferred cutting the ends of the perineal sutures short, and discarded powders. Catheterization was unnecessary. A wide occlusive dressing, fastened by the four corners to the abdominal bandage, was much better than the ordinary dressing held by the T bandage. Chief stress was laid on attention to details in preparation for and technic of operation, without which poor results and total failures furnished grounds for discarding immediate operations.

Pelvic Infections in Women.—Dr. T. J. Watkins of Chicago said that pelvic infection was preferable to pelvic inflammation as a name to designate the disease, as infection injured and destroyed tissues, whereas inflammation tended to conserve tissue. The author limited his paper to a discussion of some of the practical points of pelvic infections. He spoke of the importance of the disease, and said that the same principles were involved in pelvic infections as in infections in other parts of the body. He considered the etiology, pathology, symptomatology, diagnosis, prognosis, and treatment. The importance of prophylaxis was pointed out. Topical applications were often of little or no value. Conservatism during the acute stage was of great importance. Spontaneous and complete recoveries sometimes ensued.

Dr. E. Wyllys Andrews of Chicago discussed perigastric adhesions after gallstone operations, pointed out their surgical importance, and described a new operation for their relief.

Intussusception in Infancy and Childhood.—Dr. J. H. Hess of Chicago read a paper with this title, in which he had collected 1,028 cases with statistics. (1) Intussusception demanded an early diagnosis and immediate treatment. (2) Abstinence from all food; and, far more important, purgation must absolutely be prohibited. The question of sedatives in the form of opium, etc., must rest with the physician. (3) Irrigation might be tried once or twice under the propor conditions and in properly selected cases. Preparation for immediate laparotomy should be made in case of failure; complete anesthesia. Hot salt solution or plain water might be used under a pressure of not more than three feet, the fluid being allowed to remain in the bowel not less than ten minutes. He pointed out the contraindications to irrigation, as follows: "(1) Recurrence after a previous complete or partial reduction. (2) The very acute and severe types of this disease which result in early destruction of the bowel wall, but which cases are fortunately not the most frequent type. (3) Where there are signs of beginning gangrene or ulceration evidenced by subnormal temperature, profound toxemia, and other septic symptoms. (4) Enteric intussusceptions. (5) Laparotomy should follow failure of irrigation without delay." One should attempt simple reduction from below upward. In irreducible cases, resection within the bowel in selected cases, or when this is not feasible, resection with end-to-end anastomosis should be attempted if the patient's condition makes it practicable. An artificial anus or simple packing about the bowel requires a secondary and only too frequently a fatal operation.

Bronchoscopy for the Removal of Foreign Bodies from the Lung.—Dr. E. Fletcher Ingals of Chicago mentioned previously reported cases of the removal of foreign bodies by the upper and lower routes. He described the instruments used in removing these bodies, with illumination by electric lamps, as in urethroscopy. There was danger when the tube was introduced into the bronchus of the affected side, owing to the fact that it might shut off the air from the other lung. He spoke of the use of a small opening in the tube to keep the tube free from pus and mucus. He reported recent cases, and exhibited an emergency device for removing foreign bodies.

Dr. James W. Twitchell of Belleville reported a case in which recovery occurred following a perforated wound of the intestine without surgical interference.

The following papers were also read and discussed: "The Value and Place of Duodeno-Choledochotomy in Gallstone Surgery," by Dr. John C. Hancock of Dubuque, Ia.; "Inversion of the Uterus, with Report of Cases," by Dr. P. L. Markley of Rockford; "Pathology and Diagnosis of the Lesions of the Spinal Cord and Peripheral Nerves," by Dr. Frank P. Norbury of Jacksonville; "Malignancy in Uterine Myomata," by Dr. Henry F. Lewis of Chicago.

Officers.—The following officers were elected for the ensuing year: *President,* Dr. H. C. Mitchell, Carbondale; *First Vice-President,* Dr. W. K. Newcomb, Champaign; *Second Vice-President,* Dr. M. S. Marcy, Peoria; *Secretary,* Dr. E. W. Weis, Ottawa, re-elected; *Treasurer,* Dr. E. J. Brown, Decatur, re-elected. Springfield was selected as the place for holding the next annual meeting.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a stated meeting held May 10, Dr. S. C. Burns presented for Dr. W. L. Rodman "A Case of Gastrostomy" occurring in a man about 50 years old, with obstruction at the cardiac extremity of the stomach, with ability to swallow only small amounts of fluid. The patient was greatly emaciated and debilitated, and a fistulous opening was made into the stomach through an incision close to and parallel with the left costal margin after the viscus had been attached to the parietal peritoneum and included within the margins of the divided rectus muscle. In this way a sphincteric action was obtained, preventing the leakage of gastric juices and excoriation of the cutaneous surface surrounding the fistula. The patient gained in weight and strength after the operation. Dr. H. Emerson Wetherill presented a centrifugal apparatus operated on the principal of the whirligig. The device was simple and portable and the cubes were graduated so that the amount of precipitate could be read from a scale etched on the glass. Dr. M. H. Fussell read a paper entitled "Two Cases of Malignant Endocarditis." One occurred in a lad with a history of previous typhoid fever anl later presenting symptoms suggestive of appendicitis. There was severe pain in the right illac fossa, with distinct leucocytosis and a somewhat hectic temperature. In addition, murmurs were audible at the aortic orifice, and on this account operative intervention was refrained from. Death resulted and examination disclosed the presence of ulcerative endocarditis involving the aortic valves. In the second case also there was a history of typhoid fever, but typhoid bacilli were not agglutinated and rendered immobile by the blood-serum. On account of the size of the heart and especially the enlargement of the right side of the viscus, the presence of leucocytosis, of enlargement of the spleen and of a presystolic murmur at the mitral orifice a diagnosis of malignant endocarditis was made. After death the mitral valve was found the seat of large vegetations and the spleen contained several infarcts. Dr. Fussell dwelt especially on the resemblance of the first case to one of appendicitis and the history of typhoid fever in both cases, the apparent symptoms of the latter being merely due to the endocarditis. Dr. Norman B. Gwyn read a paper entitled "Typhoid Fever; Accidental Infection with the Bacillus of Malignant Edema or the Gas-bacillus, with the Symptoms of Intrathoracic Irritation." Hypodermoclysis was employed in the course of treatment and was followed by the development of subcutaneous emphysema in the vicinity of the needle puncture in one situation. Large bacilli suggestive of hay-bacilli were isolated from the fluid present. Dr. G. Betton Massey read a paper entitled "Some Aspects of the Cancer Problem," in which he dwelt upon the primarily local origin of the disease and the need of early recognition and prompt removal by the cautery, by cataphoresis, or by the knife. Patients thus treated must subsequently be kept under frequent observation for a long period of time, in order to guard against recurrence.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 17, 1905:

	Cases	Deaths
Measles	746	31
Diphtheria and Croup	281	31
Scarlet Fever	142	5
Smallpox	.....	.....
Chickenpox	108	.....
Tuberculosis	373	162
Typhoid Fever	45	13
Cerebrospinal Meningitis	68	42
Typhus Fever	.....	.....
Yellow Fever	.....	.....
Cholera	.....	.....
Totals	1,765	284

Dangers of Illuminating Gas.—The perils of the domestic use of modern fuel and illuminating gas, now so generally used, are pointed out by Dr. H. Leffmann. The coal gas formerly employed was comparatively non-toxic, and its characteristic odor was a danger warning, but the modern water gas that has so largely replaced it in common use, with its larger content of carbon monoxid and its comparative lack of odor, is far more dangerous. Accidents from this cause are far more frequent than formerly, and carbolic acid and illuminating gas have replaced for suicides and accidental poisonings, the arsenic and laudanum of the Civil War period. A sleeper can easily absorb a fatal amount of modern water gas without being aroused, and Leffmann shows by a simple calculation how a very small percentage of carbon monoxid—less than ½ a grain, for example, to 100 c.c. of blood—can render useless the hemoglobin of the latter. Gas stoves for cooking are used generally only in warm weather when natural ventilation is good, and the danger from them is therefore lessened, but their burners are seldom furnished with a collar to regulate the air supply, and the combustion is therefore liable to be irregular, and deleterious gases are given out. Gas "stoves" or heaters connected with the gas pipes by rubber tubing are objectionable on account of the liability of leakage, which is very great unless the very best tubing material is used. The stopcock on the heater is especially objectionable, as it is the one most convenient to use, and when used the leakage through the tube can go on unchecked. The precautions recommended by Leffmann are: Prevention of sale of inferior tubing; having no stopcocks on heaters unless they are connected with house mains by metal pipes with tight joints and such construction as will prevent the rubber tube, even when of the best quality, remaining in free connection with the house main when the gas is not lighted. He would also have heaters constructed so as to give a larger radiator effect with a given gas consumption, and would have them placed only where the products of combustion can escape freely into the chimney. All burners on the Bunsen principle should be provided with collars to regulate the air supply, and purchasers should be instructed in their use. The commonly used illuminating mantles may also be objectionable by interfering with combustion, especially when worn or displaced, and the flexible tube of the ordinary drop-light be also a source of danger like that of the heater.—*Journal of the American Medical Association.*

Folliculitis Necrotica is designated by Pernet ("Syphilitic and non-Syphilitic Affections," London, 1904) as acne necrotisans et exulcerans serpiginosa nasi and described as a rare condition which requires to be differentiated from syphilis. It occurs acutely about the end of the nose as small papules, which become purulent or necrotic, leading to numerous scars with fresh papules forming at the borders.

Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending June 17, 1905:

			Cases.	Deaths.
SMALLPOX—UNITED STATES.				
District of Columbia, Washington	June	3–10	2	..
Florida, Jacksonville	June	3–10	1	..
Illinois, Danville	June	1–8	5	..
Indiana, South Bend	June	3–10	16	..
Louisiana, New Orleans	June	3–10	16	..
Massachusetts, Lowell	June	3–10	1	..
Michigan, Detroit	June	8–10	2	..
" Grand Rapids	June	3–10	44	2
Missouri, St. Joseph	June	3–10	5	..
St. Louis	June	3–10	3	1
Nebraska, Omaha	June	3–10	1	..
New York, New York	June	3–10	1	..
Pennsylvania, Lebanon	June	3–10	1	..
York	June	3–10	3	..
South Carolina, Charleston	May	20–27	1	..
	June	3–10	1	..
Tennessee, Memphis	June	3–10	3	..
Wisconsin, La Crosse	May	26–June 10	2	..
Milwaukee	May	26–June 3	5	..
SMALLPOX—FOREIGN.				
Brazil, Rio de Janeiro	Apr.	23–May 7	26	12
Santos	Apr.	9–16	..	1
Chile, Valparaiso	May	10	15 daily.	..
China, Shanghai	Apr.	30–May 6	2	..
Ecuador, Guayaquil	May	11–18	..	1
France, Paris	May	20–27	12	1
Great Britain, Birmingham	May	20–27	4	..
Bristol	May	20–27	2	..
Cardiff	May	20–27	1	..
London	May	20–27	1	..
New-Castle-on-Tyne	May	20–27	11	..
Southampton	May	20–27	1	imported from South America.
South Shields	May	20–27	1	..
Italy, General	May	11–19	40	..
Turkey, Constantinople	May	14–21	..	2
YELLOW FEVER.				
Brazil, Rio de Janeiro	Apr.	23–May 7	96	35
British Honduras, Belize	May	24–June 1	4	4
Ecuador, Guayaquil	May	11–18	..	3
Guatemala, Livingston	June	10	1	..
Honduras, Puerto Cortez	May	25–29	5	3
Panama, Colon	Jan.	23–May 31	19	6
Panama	Jan.	1–May 31	70	23
CHOLERA.				
Russian Empire, Ashabad	May	2–4	1	..
Zarazyn	May	2–4	1	..
PLAGUE.				
Africa, East London	Apr.	29–May 6	1	..
Port Beaufort	Apr.	29–May 6	2	1
King Williams Town	Apr.	20–May 6	2	2
Port Elizabeth	Apr.	29–May 6	1	..
Brazil, Rio de Janeiro	Apr.	23–May 7	..	1
Sao Paulo	Apr.	16–23	..	1
Egypt, Port Said	Apr.	29–May 6	1	1
Tukh	Apr.	29–May 6	4	3
Peru, Callao	Apr.	30–May 10	1	..
Chiclayo	Apr.	30–May 10	1	..
Lima	Apr.	30–May 10	2	2
Mollendo	Apr.	30–May 10	4	2

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